

WOMEN SOFTWARE ENGINEERS IN PRIVATE COMPANIES OF KOLKATA: A SOCIOLOGICAL STUDY

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Submitted by me for the award of the Degree of Doctor of Philosophy in Arts at Jadavpur
University based upon my work carried out under the Supervision of

Dr. PIYALI SUR

And that neither this thesis nor any part of it has been submitted before for any degree or
diploma anywhere/elsewhere.

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ABSTRACT

Title of the dissertation: **Women Software Engineers in Private Companies of Kolkata: A Sociological Study**

This research is undertaken to highlight the everyday realities of women software engineers. It has attempted to explore whether their experiences are gendered. There are three main objectives of this study. Firstly, it attempts to understand the changes brought about by their employment. I have tried to understand whether their economic independence has enabled them to challenge the dominant familial ideologies which constructs women primarily as self-sacrificing mothers, good wives and economic dependents. Secondly, it attempts to explore whether there is a gendered division of labour in software industry as a consequence of work being socially constructed as masculine and feminine. Thirdly, it attempts to explore the kind of gender issues that women encounter at work and whether these affect their career mobility, compared to men. The study has adopted a mixed-methods approach, where major weightage has been given on qualitative aspects. I have also used some quantitative data, in the form of percentages to denote the responses of women. For the purpose of study, fifty women software engineers from three renowned IT companies of Kolkata have been chosen, through purposive sampling and snowball sampling. Data has been collected through face-to-face interviews and these have been recorded and later transcribed for analysis and interpretation.

My findings have indicated that employment in the IT companies have made them consumers of the new economy. It has given them increased economic power and self-confidence as they decide in matters of marriage. Yet they have not challenged the dominant ideas of womanhood and uphold 'respectable femininity' in the course of navigation between work and home. This was evident in the 'gendered balances' which women undertook of prioritizing family over work. They were guided by familial norms and ideologies of a 'good wife' and 'good mother'. The study further highlighted that women are largely concentrated in lower-end software tasks (like: testing, debugging, quality assurance) while they are under-represented in higher-end software tasks (like: architecture, design or consultation). I have explored that skills and technical knowledge are socially constructed and the fact that high-end software work is marked by a masculine culture. The findings have also suggested the different kinds of gendered practices at work and how marriage and family stereotype women as 'inflexible

workers' which affects their growth in companies and their recruitment. A major highlight of the study was that women software engineers had to adopt masculine style of work in order to survive or cope in the IT companies.

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List of Abbreviations

IT:	Information Technology
NASSCOM:	National Association of Software and Service Companies
ICTs:	Information and Communication Technologies
ICTEC:	Information Technology, Electronics and Communications
SDLC:	Software Development Life Cycle
NASA:	National Aeronautics Space Administration
ITeS:	Information Technology Enabled Services
R&D Services:	Research and Development Services
BPO:	Business Process Outsourcing
DPIIT:	Department of Promotion for Industry and International Trade
FDI:	Foreign Direct Investment
STEM:	Science, Technology, Engineering and Mathematics
CEO:	Chief Executive Officer
WFH:	Work From Home
ODC:	Offshore Development Centre
HR:	Human Resource
RMGs:	Resource Management Groups
ICC:	Internal Complaints Committee
EU:	European Union

CHAPTER I

INTRODUCTION

In neoliberal¹ India, the state has strongly encouraged the flow of foreign investment into India. One important consequence has been high rates of economic growth and development of Information Technology (IT) sector, exemplified in the rise of high-tech cities, such as Bangalore and Hyderabad in south India. It has become emblematic of India's entry and integration into the global economy and have placed India at the centre of discourses about globalisation². This IT industry boom celebrates the educated workforce of 'knowledge professionals'³ who are said to be the beneficiaries of the new globalised economy. They are a part of 'new transnational capitalist class'⁴ (Radhakrishna, 2011) and constitute a socially significant segment of the 'new middle class'⁵ in India. In fact, the popular media in India and abroad are replete with accounts of this growing high-tech industry, the emergence of new urban spaces of consumption and its smart, young, educated, hyper-mobile workforce of knowledge professionals. These software professionals have a social and symbolic significance beyond their numbers for various reasons like: they earn salaries that are much higher than other professional or technical or managerial employees with comparable educational qualifications and hence command high disposable incomes; their work is 'global' in the sense that they primarily work for customers located abroad and their work involves frequent travel to other countries; and as the key 'resource' for an industry that claims to have put India on the global economic map, they partake of the hype and the hope that has been created about the IT industry by the media, the state and the IT business class.

In the neoliberal economy, the nature of work has undergone transformation. Young workers do not merely cater to the domestic market, but is expected to participate in global commodity chain through on-shore and off-shore practices⁶. Moreover, this category of professionals has been growing due to the relatively high wages of the IT sector and the increasing number of women joining sector. In fact, it remains one of the best prospects for the urban educated middle class Indian women in terms of salary, career-rewarding, office based environment and intellectually stimulating work (Patel 2005, Mukherjee 2008). The entry of women into the IT industry became vital for both the corporate sector and the Indian state as a symbol of modernity, attracting foreign multinationals and justifying a neoliberal economic reform.

Although the proponents of the new economy talked about the entry of women into the workforce and prevalence of woman friendly policies, yet there are processes of exclusion operating within the industry. Both in India and in Global North, there are evidences of gendering within IT industries. The studies in this domain, in India, by Carol Upadhy and A.R. Vasavi (2006), Shanker (2008), Kelkar and Nathan (2002) among others have noted the skewed distribution of women across tasks in the IT companies and the relative decrease of women in higher-end software tasks like architecture or designing. The National Association of Software and Service Companies (NASSCOM) in its 2017 report noted that the overall representation of women in the software engineering workforce of IT firms is around 34%. Moreover, about 65% of women software professionals in IT belong to a large pool of young unmarried women while only 7% senior women software engineers are found in IT companies (Raghuram et al, 2018). In terms of ratio, it is said that for four men software engineers, there is only one woman (NASSCOM, 2017). This skewed distribution of women in IT companies may be explained by the historical association of technology and masculinity, as theorised by Judy Wajcman and Cynthia Cockburn. Moreover, the decreasing number of women in higher-end IT jobs suggest the gendered nature of organisations. My dissertation is a part of an attempt to look into the everyday realities of women software professionals and analyse the issues, as gathered from their perspectives. I have used a mixed methodology approach, with more weightage on qualitative data, to understand the everyday realities of women software engineers.

In the first chapter, I have reviewed the literature in this field regarding Information technology and the kind of work it entails. I have also reviewed the studies with special focus on India and Global North. After this, I have discussed the rationale followed by stating the objectives and then a detailed discussion on methodological parameters including sampling and data analysis. Finally I have given the outline of the rest of my thesis.

1.1 Relevant literature

Information Technology (IT) is a technology which uses computers to gather, process, store, protect and transfer information. The term ‘Information Technology’ can be defined as “technology that facilitates communication between individuals through computer-based hardware and software, Internet access and networking” (Miles, 1997). It includes among other practices: e-mail, virtual communities, online social networking or online games. The explosion of IT applications across our economies and societies seems to provide strong

evidence that a new revolutionary technology has indeed emerged, and that we are already well into a technological revolution. My objective in the study, to understand the subjective experiences of women software engineers in the IT industry, calls for focussing particularly on the IT industry which is a major part of the Information Society. This cannot be accomplished without acknowledging previous research in this area of study. Hence, the literature review has been organised in certain distinctive phases. Firstly, I have given an overview of existing literature in Global North. Here, I have showed how Information Society and Information Technology have been conceptualised. I have also discussed the kind of work it entails in the new economy, the gender inequalities that prevail and how software work is marked by masculine domination. Secondly, I have discussed the relevant literature on women in IT industries with reference to India. Here, I have spoken about the structure of the Indian IT industry along with the gendering of work within IT companies of India.

1.1.1 A Review of Existing Literature in Global North

Information Technology and Organization of Work in the New Economy

The ICTs have brought about great changes in the reorganization of work. The introduction and application of ICTs are a part of the consequence of technological change that has heralded the era of “Information Society” (Webster, 1995). The most common definition of the ‘information society’ lays emphasis on spectacular technological innovation. This new age society is marked by five major characteristics: technological, economic, occupational, cultural and spatial (Castells, 1996). Technology is considered as the major distinguishing feature of the new order. The key idea is that breakthroughs in information processing, storage and transmission have led to the application of information technologies (IT) in almost all corners of society. Following Castells (1996), the sophisticated versions of this technological route to the ‘information society’ involves paying attention to the convergence of telecommunications and computing. Another popular measure of the emergence of the information society is focussing on the occupational change, i.e., the predominance of information work. This shift in the distribution of occupations from industrial work to service oriented work is at the heart of what Daniel Bell (1973) calls the “*post-industrial society*”⁸. He talks about the emergence of ‘white collar society’⁹ (hence information work) with the decline of industrial work, end of class-based conflict, more communal consciousness and development of equality between the sexes.

The explosion of IT applications across our economies and societies seems to provide strong evidence that a new revolutionary technology has indeed emerged, and that we are already well into a technological revolution (Miles, 1997). In the Information Society or 'knowledge-economy', the dominant form of work is information and knowledge-based. Wajcman (2006) says that IT has three features that can change the way service work is organized:

- Automate: Automation means replacement of manual labour by the IT system to do menial tasks.
- Informate: It refers to '*informating*' ability. It is the capability of IT to generate detailed information about the work process.
- Networking capabilities: refer to the use of company wide Intranets to coordinate work-tasks, disseminate information and exchange options between employees in different ranks and functional departments.

These three capabilities of IT have been widely acknowledged. However, there is little consensus regarding their impact on work organizations and how they affect the experiences of women in employment.

Information Technology and Gender Inequalities

There are different ways in which information technologies have affected the sexual division of labour, women's employment, gender relations within workplaces and labour processes. These concerns have been thoroughly investigated by feminist researchers and others concerned with changes in work and technology (Webster 1996, Jasanoff 1995, Wajcman 1991, Kirkup & Keller 1992). The relationship between technologies and gender relations is a two-way relationship in which each helps to constitute the other. The gender relations must be regarded as a context within which Information technologies are evolving, assuming the mark of their social and gendered context and in turn acting upon this gendered social context. Many of the feminist studies demonstrate that gender relations and divisions are firmly embedded in the creation and development of Information Technologies. Firstly, gender divisions of labour are central to the processes of technological development in the occupational segregation of the IT industry and in the deployment of female labour in particular parts of the IT production process. Secondly, the products of technological developments carry a gender imprint on another level- they are designed for particular category of work which are sexually segregated (like secretarial work). Thirdly, information technologies are introduced in particular industries

and firms within specific contexts of male and female labour use and differentiated managerial control (Webster, 1996).

The processes of production and application of information technologies are marked by sexual division of labour (Mackenzie & Wajcman, 1985). The extent and meaning of sexual divisions operating in the creation of IT can be understood by considering the influx and representation of women within the different jobs involved in developing the IT systems. IT systems are developed and hence IT workers are found in the computer industry and other sectors like: banking and finance, public services, government and so on. Historically, women have been noticeably absent in the design of IT systems. For instance in 1991, in Britain only 10% of the professional membership of the British Computer Society were women and only 3% of data processing managers, 20% of senior systems analysts and 25% of programmers were women (Beech, 1991). A survey of women in the industry carried out by the Women into Information Technology Foundation in 1995 found that 27% of female employees are trainee programmers, 28% are junior analysts or designers and 20% are analysts or designers. Only 20% of development managers are females and while men constitute about three-fourth of computing professionals, women occupy nearly two-thirds of electronics assembly jobs (Glogau 1985, Webster 1996).

Regarding the impact of IT on women's lives, the focus of much of this literature is on whether IT can be a driving force for women's empowerment and more generally have a positive impact on development (Wajcman, 2006). Much optimism has been expressed about the new employment prospects for women in the expanding digital economy. Indeed, a common claim among mainstream social theorists and popular commentators is that IT is dramatically changing the character of capitalism and the nature of work itself. It has had profound implications for changes in work reorganization and work location in particular industries that are central to the information society. For example, Manuel Castells (1996) argues that in the network society, labor and capital, the central variables of the industrial society, are being replaced by information and knowledge. As a result, entirely new fields of work are being created while, at the same time, gender relations and gender identity are being redefined it is particularly interesting to consider women's position in software work, as it is a cutting-edge sector of rapid technological change and has experienced extremely rapid growth. While many areas of employment have well-established patterns of gender segregation, IT work might be seen as potentially less bound by traditions.

Over the past twenty years, significant changes have taken place in IT and consequently in the organisation of work in the computer industry. Now, there is a wide range of IT functions which have emerged within user organisations, including that of a new type of IT manager, the network manager. Moreover, there has also emerged a distinction between systems analysis (which is business oriented) and programming (which is technical). Most of the data entry jobs which were women dominated in the past have now slid into obsolescence while software engineering work is now carried out by women in India as well as in the West and other parts of south-East Asia (Cast, 1995). Work is now sub-contracted by the big IT companies to local software houses and organised along regimented rather than craft lines. In such a situation, the conventional justifications about the work being unsuitable for women due to its technical content is used. Although companies recruit women labour and see its advantages, yet it does not appear to signal the implementation of equal opportunities in the industry overall.

One of the significant changes in the Information Age, is the ‘feminization of labour force’¹⁰ (Wajcman, 2006) because of the decline of manufacturing sector and creation of new jobs in services. The sharp separation between work and home has been eroded by this development. A crucial change in women’s access to paid employment has been the increase in labour market participation of married women and those with small children. Wajcman (2006) notes that although the causes for feminisation are complex yet they clearly link to the substantial growth in service-sector activity and employment. In spite of the changes in the organization and location of computing work, women’s position remains marginal and problematic. In fact, the theorists of information society have mostly shown little interest in the question of changing gender relations. Research is indicative of the gender segregation in computing work and may have even worsened since the early days of computing. A recent report about women in Information technology, Electronics and Communications (ITEC) sector noted that few women were entering technology related careers (Millar & Jagger, 2001). Even after they enter, they often have to compromise in terms of pay, conditions, training opportunities. It is seen that skills and competencies are perceived and labelled in stereotypical ways. This affects the ability of women to participate in and benefit from the knowledge-based economy. This implies that skills like: social and communicative skills are traditionally associated with women and as ‘feminine attributes’, and seen as ‘technically unskilled’. Thus, women tend to be excluded from skilled work. Wajcman (2006, 1995) explains this in terms of the enduring association between technology and masculinity which continues to be predominant and is reflected in

most skilled jobs. Women are deemed as ‘unsuitable’ for certain jobs. It is precisely in this way that the gender division of labour continues to be reproduced.

Masculine Domination in Software Work

Information technology is one area where women’s participation has been increasing steadily. However, literature shows in many cases, jobs in software tasks within information technology are perceived as masculine or feminine (Wajcman 2006, Dermaiter & Adams 2009, Kirkup 1992). This is related to the nature and construction of the work. Winograd says that IT design starts in visions and dreams about something different and better than the existing, based on particular understandings. Software design is referred to as the process of conceptualizing the software requirements into software implementation. This is the initial phase within the software development life cycle (SDLC)¹¹—shifting the concentration from the problem to the solution. When conceptualizing the software, the design process establishes a plan that takes the user requirements as challenges and works to identify optimum solutions. The plan should determine the best possible design for implementing the intended solution. Taking charge of software development is a complex task and requires close communication with all parties. Handling such projects entails a good experience and expertise of designing software based on pre-established requirements, followed by writing the actual code and its inspection, compilation and testing. In case of IT industries, the task of coding is allocated to junior software engineers. The planned software is split into specific supplements that are delegated to specific individuals to develop. The whole process is coordinated by project managers who are in regular and direct contact with other teams and the client. Thus, software developers need creativity, analytical skills, technical abilities and communication abilities to design, test the software (Webster 1996, Oost 2000). They must have good amount of experience, knowledge of technical expertise and have to stay long hours at office to complete a project. Thus, the dominance of men in software creation or designing can be understood from the kind of skill set, work practices involved and how men derive pleasures in playing and working with technology, which tend to give it a masculine image. This kind of pleasure in technology, skill and knowledge operates to maintain a working environment which systematically excludes women. Paradoxically, the involvement of women in high end technical tasks in the IT industry also serves to undermine their ‘femininity’ (Oost, 2000).

Woodfield (2002) notes that the field of computer or software traditionally has a reputation of being insular and largely a male preserve. In order to understand the under-representation of

women in computing, Game and Pringle (1984) argue that it is important to examine the culture of computing and its alienating effect upon girls and women. As Henwood (1993) says just increasing the number of women in computing is a little solution to the issue of ‘women and technology problem’. The culture of computing is alienating for girls and advantageous to boys from primary education onwards and even before. Game and Pringle (1984) suggested some explanations for the absence of women from computing. Firstly, the field of computing has maths and science images which restricted the entry of women, unlike men. Secondly, it was assumed that computer represents power and control which makes computing alien to women and particularly attractive for men. Thirdly, the industry although relatively new has quickly developed its own sex-typed jobs and these jobs once sex-typed have tended to stay that way. However, it was not so if we look at the history of women in the field of computing. In mid-twentieth century, when the use and development of computer was in its infancy, women had a higher representation in this domain and they were primarily engaged in tasks like: programming that were considered to require keyboard skills, patience and consciousness. In fact, starting from Ada Lovelace, the first programmer in this world (who worked on “Analytical Engine”- the very first mechanical computer by Charles Babbage, popularly known as the father of computers), in 1800s to NASA in 1970s, programming was thought to be a feminine profession. Grace Hopper, a pioneering programmer, in a 1967 *Cosmopolitan* article said that “*women are naturals at computer programming*” and it was just like “having dinner” as it required advance preparation, patience and attention to detail (Millar, 1998). However as the century progressed, programming later became recognized as activities that involved complex processes of analysis, planning, testing, and debugging. Men programmers created professional associations as they wanted to elevate their job out of “women’s work” category. Thus, programming and operator work became segregated and women were concentrated in the operator roles. However, given the changes in the nature of skilled roles in the IT sector it was predicted that opportunities for women would increase. (Dermaiter, 2009). It was thought that these organizations require a different type of leadership as well as ‘hybrid skills’¹² like a combination of technical and ‘soft’¹³ skills. As the IT sector has transformed itself via outsourcing¹⁴ and offshoring, new occupational roles have evolved including consultancy¹⁵, client services and project management¹⁶. Although these new roles are varied and difficult to characterize, these need a different range of skill sets like: being creative, business-oriented, marketing and interpersonal skills and not purely technical expertise. There has been a ‘technicization’ of IT sector (Dermaiter, 2004), implying that there has been a growth in the demand for technical experts in sales sector in IT and a growing dependence on

social and interpersonal or communication skills because the technical experts or software professionals interact with clients. Such skills are a feature of ‘agile computing’¹⁷, a development in computing and particularly software engineering and it requires a high level of communication skills both within teams and between the professionals and clients. Within these new contexts it was predicted that new gendered identities would emerge. On the face of it, the new roles would challenge the constructions of gender roles within the industry. Yet, as evidence suggests, this is far from practice (Dermaiter, 2004).

The gender segregation in software work is firmly established in various studies. In IT occupations, women tend to be segregated or concentrated in testing, database analysts¹⁸, web designers¹⁹ or system technicians²⁰ which are characterized by low pay and high unemployment rates compared to other IT occupations; while specification and systems design²¹ is men’s territory (Wajcman 2007, Webster 1999). Hence, within different occupational categories, women have tended to be located in low paid grades, doing low level tasks. Rowbotham (1995) identified the existence of sexual division of labour in software industry sector. It is infested by male-dominated capitalism and mired by male prejudices and attitudes, having entrenched even within the families, educational institutions and of work. Giao (1995) conducted a study on software industry in Brazil and found that women contribute to ‘soft technical skills’, dealing with communication and interaction tasks, while men do their bit in tasks requiring hard skills.. Wajcman (2004) and Raymond et al. (2007) showed an under-representation of women in high skilled IT jobs. They are found to be concentrated in less technical project management and constructed as requiring the sort of skills that women ‘naturally’ have. Czarina’s (2005) study of the Philippines’ ICT industry found system analyst jobs are associated with men whereas programming jobs, which earn 30 percent less, are associated with women. She argues that this is because programming has ceased to be the main job in the Philippines software industry. Some fields in the ICT industry increasingly require a business background and it has provided women with an entry point into the high-skill end of software development. Her analysis, then, is based on comparing women and men with different skills: men have technical skills and women are good at business and communication skills. Wajcman et al. (2004) studied software industry in Vietnam and found that women are mostly concentrated in jobs involving low-skilled works (like: debugging/coding and testing), while men occupy majorly high-skilled jobs (specification and design phases) resulting in variation in pay packages, training facilities and promotional scopes for women employees.

She goes on to say that women's skills are still 'saturated with sexual biases' in the newly emerging IT sector in Vietnam.

Skilled IT work is now a masculine domain where women are a minority (Dermaiter 2009, Wajcman 2007). Hence, in a number of studies it has been noted that IT as an enlightening field for the study of gender inequalities, such as glass ceiling. While inequalities in more established industries might be considered a more historical leftover of obsolete gender stereotypes, the newness of the computing industry gives researchers the chance to examine how gender relations develop in an industry which is apparently less fettered by tradition. The IT seems to present a good case study to examine whether the dynamics of disadvantage have their roots as deeply in today's employment settings. Studies have showed that certain occupations in IT show a larger inclination towards men as the norms and behaviours of that occupation reflects masculine norms and behaviours and are less comfortable and supportive for women (Dermaiter 2004, Watts 2009). The way in which masculinity is constructed within these IT workplaces is also of significance. The type of behaviour that are identified in these studies as being masculine includes an assumption that work must be the main focus of one's life leading to long hours of working culture, an aggressive and competitive way of working and an emphasis on technical rather than interpersonal skills (Cooper, 2000). The IT worker is seen as an 'antisocial geek', with taped glasses, locked in a tiny dark corner with a computer throughout the day. 'The computer geek'²² is usually depicted as a young male with poor social skills and such images do not fit easily with femininity. An IT 'geek' spending long hours in front of a computer, totally engrossed with almost no attention to family and other needs, with poorly developed skills in terms of working with others is considered to be an extreme example of 'masculine' behaviour in this context (Kleif & Faulkner 2003, Wajcman 2006). Men are being expected to pay attention to appearance and to demonstrate empathetic and 'soft' skills (Dermaiter, 2004). While men are rewarded for the performances of femininity, women are not necessarily rewarded for performances of masculinity (Holmes 2006). In a study of IT worker in Sweden, Peterson (2007) showed that women were more vulnerable to redundancy as they were perceived as having lesser 'tough' technical skills which provided a safe career path. Hence women find themselves in support areas where they have to help customers manage their problems, again something which is regarded as a low status and female role.

1.1.2 A Review of Existing Literature in India

Structure of Information Technology Industry

In India, the field of Information Technology & Information Technology Enabled Services (IT-ITeS) includes software development, consultancies, software management, online services and business process outsourcing (BPO)²³ (Upadhya, 2006). Primarily, a knowledge-based industry, the IT sector in India has recorded significant success due to the huge availability of skilled personnel in India. According to the literature, the industry structure of the IT sector can be divided into six main components, that is: IT services²⁴, ITeS/BPO (IT-enabled services/Business Process Outsourcing), Software Products²⁵, Research and Development (R&D) services²⁶, Hardware²⁷ and e-commerce²⁸ (Ilavarsan 2007, Upadhyay 2008). Of the above, the two most important sectors of the Indian IT industry are software and services, and business process outsourcing (BPO). Software and services companies (hereafter software companies) supply and maintain the IT systems used by large companies and other organisations, including the systems required to outsource work to offshore locations, where it is carried out by BPO companies. In the Indian context, IT industry is almost largely devoted to software services and hence I have used the term ‘IT’ to refer to software sector in my study.

Following the nature of service work in the new economy, we can identify some major characteristics of work and employment in the present IT industry. Upadhya and Vasavi (2006), summarises three distinct characteristics in the Indian scenario that are relevant in this study:

- *Mobility*: the workers in the new economy are highly mobile. The phenomenon of ‘virtual migration’ (offshore) can be seen as a form of ‘immobile mobility’ in which the workers moves without the body of the worker.
- *Individualisation*: the emergence of individualised employment is seen in the absence of collective identity among workers, the high level of attrition and a tendency to build career by job-hopping. This is linked to the volatility of the global IT market, the lack of job security and the emergence of the ‘entrepreneurial employee’ who can constantly upgrade her or his skills so as to remain marketable.
- *Flexibility*: a flexible workforce is one of the basic requirements of the IT industry given its highly competitive and global nature. Flexibility is reflected in the software labour market and its emergence of new forms of employment like: use of temporary contract labour or high level of fluidity in the job market. Even within the IT companies in India,

the flexibility is maintained through ‘resource management’²⁹ systems such as the ‘bench’³⁰.

The cultures of work and forms of organization and management that have emerged in the software outsourcing industries are different from those in ‘old economy’³¹ companies although there are significant continuities. The new IT companies have imported a ‘new age’ management ideology based on flat structures, lack of bureaucracy, openness and flexibility and employee empowerment. There is a strong corporate culture as a motivational strategy which is used as a mechanism of control over labour (Mello & Sahay 2008, Upadhya & Vasavi, 2008).

Information Technology and Gendering of Work

The software industry in India originated in 1970s and grew at significant pace in the last ten to twelve years. Today, the Indian IT industry has emerged as one of the most important industries in the Indian economy contributing significantly to its growth. Since 1991, India’s software exports have grown at an annual rate of more than 50% (Mukherjee, 2008). Between 1996-1997 and 2002-2003, the Indian software industry grew more than five times from five crores to 13200 crores (Pattanaik, 2013). During the same period, software and software service exports from India grew by almost twelve times. Till the last decade the IT industry in India grew about 19%-25% (Raghuram, 2018). According to data from the Department for Promotion of Industry and Internal Trade (DPIIT), the core competencies and strengths of the Indian IT sector have lured substantial investments from major countries. Between April 2000 and March 2019, the country’s computer software and hardware sector clinched around US\$ 37.23 billion and ranks second in inflow of Foreign Direct Investment (FDI) (NASSCOM, 2018).

In India, the IT industry is an important source of employment and increasingly, for women in particular. As women in India enter the rapidly expanding (IT) workforce, it could be predicted that their active participation in this sector will change their socio-economic status within the employing organization and the communities in which they reside. For example, Peter Drucker (2001) called this technology a “great equalizer” as it can be used by both men and women. Kelkar and Nathan (2002) suggested the positive potentials of IT for redefining traditional gender roles. In Indian context, Varma (2002) asserted that IT work remained one of the best prospects for women in terms of salary, career path, and rewarding due to the office-based environment and intellectually stimulating work. Data illustrates that women are working in the IT sector in

India (and outside India) in increasing numbers (Upadhya & Vasavi 2008, NASSCOM 2017). However, women software engineers constitute only 34% of the IT workforce and that there is one woman for every four men software engineers in IT (Raghuram et al, 2018). Although the number of women software engineers in the most senior roles has shown a marked increase from 2012- 2017, yet there are constraints to progression. This reinforces the assumption that STEM (Science, Technology, Engineering and Mathematics) attracts fewer women. Only a handful of 7% women reach the top levels (Raghuram et al, 2018). Among the software professionals in India, more women are found in software testing roles (which is generally a less sought-after skill). Hence, they largely found to be concentrated at lower end tasks (as they correspond to generic software services for customers) and there are fewer women in higher-end ones (corresponding to products, consultancy as well as research) in IT companies (Upadhya & Vasavi, 2006). After analysing the career trajectories of techies, who moved into managerial positions and data, studies found that the transition of men on an average to managerial positions is usually after six years of experience while women move to these roles after eight years of experience (NASSCOM 2017, Raghuram et al 2018).

The IT companies in India face a significant problem of retention of women following maternity leave and are concerned about the number of women not returning to work or ‘dropping-out’ (Raghuram et al, 2018). Rothboeck et al. (2001) studied 143 Information Technology (IT) professionals in Bangalore and found the evidence of gendering of work in this industry. There is over-representation of women software professionals at the entry level of low-skilled jobs of programming, testing etc., but they are under-represented in the higher level of managerial jobs such as architecture and consulting project management compared to men. High-intensity work pressure at the workplace in middle and upper-rung positions and domestic responsibilities in the home front render women employees difficult to sustain themselves in this industry. Ilavarasan (2006) rightly raises the question: ‘Are opportunities equal for women in the IT workplace?’ To understand this, he undertakes a quantitative study based on a sample size of 114 respondents from two software firms in Bangalore and finds out that gendering in software work is mainly due to lesser supply of women workers at the base level being constrained by their domestic obligations. Kelkar and Nathan (2002) also noticed the existence of biased gender relations at the workplace. Upadhya (2006) also studied the causes of marginalisation of women engineers in software industry in Bangalore through quantitative studies. She found that gender stereotypes and domestic responsibilities bar them from participating in informal networking, not putting in longer hours at the workplace, or

willing to take up on-site jobs by married women—in contrast to unmarried women or men—and consequently hampering their career growth prospects or promotions. In fact, most married women prefer to stick to lower-end jobs of testing or quality assurance segments having the scope of almost regular work hours. They do so even at the cost of career growth, forgoing the chance of going abroad and even by accepting lower pay package. Hence even though, men and women start their careers in IT companies in India at similar ages, women have a lower rate of progress than men and men at senior positions are often younger than women at a similar level. Anthony and Gayatri (2008) observed that women are in majority in information technology enabled sector (ITeS), where the end-user and low-skilled jobs are done. These jobs relate to word processing, data entry, banking, insurance, finance, printing, publishing, etc. There is a small percentage of women in the managerial position or in job roles of maintenance or work as design personnel³² in network operating systems³³ in software industry. Shanker (2008) also corroborated gender demarcation and gender differential in access, recruitment, foreign assignment and finally in sustaining or retrenchment in IT sector in Bangalore despite its professed motto of equal opportunity for all. The gender inequality at the workplace is conspicuous by the presence of fewer women in decision-making domain. Kelkar et al. (2002) studied ITeS/IT industries located in Bangalore and Delhi. They observed that the familial barriers are chief reasons behind the inability of women techies to spend long hours or the late-night hours in the workplace. Incapability to build networks, lack of mentor support and, above all, deficiency in bargaining power affect their career advancement to higher positions. Consequently, they stagnate to lower rung positions involving often repetitive, boring and stressful work schedules. Bhattacharya (2018), Upadhyay (2006) in their respective studies on software employees in IT industries pointed out the marginalisation of women software employees in IT industries. The persistence of biased gender relations arising out of multilevel intersectional factors like gender, marital status, capitalism³⁴ and patriarchal ideologies creates exclusionary strategies that debar women from getting salary, promotions etc. at par with male colleagues of equal status. This results with fewer women at the top level of the industry and most concentrated in lower strata of jobs in the industry.

1.2 Rationale of the Study

There has been a generous flow of literature on Information Technology and women in India. Various studies have noted the increasing employment of women in the IT industry. The economic independence of women and how their employment in this sector has had its impact

on them has been documented. Although the IT has opened up a variety of opportunities for women, it did not necessarily eliminate conventional expectations that families have of them and their response to it. At one level the challenge, in my study, was to address the fact that being professionally qualified and engaged in meaningful employment does not necessarily imply that women challenge the constructionist ideal of womanhood. With the feminist perspective on Foucauldian concept of power, I have attempted to explore that women are not only self-confident, have access to independent income and are consumers of the new economy, but they internalize ideas of 'respectable femininity' which creates gendered subjectivities. This is reflected in the 'choices' or 'balances' that they make in the course of navigation between work and home.

Judy Wajcman (1991) and Wendy Faulker (2007) noted engineering as a male dominated profession. They spoke about the social construction of skills, and perception of masculinity and femininity in technical and non-technical tasks. Thus, the masculine culture of technology was strongly established in the literature of science and technology. However, another strand of feminists i.e. cyberfeminists spoke of the positive potential of Internet and how it can benefit women. Information based work was supposed to be an arena where women engage in new forms of work, where technology is not based on physical strength and hence are able to experiment with identity and gain new avenues for claiming power and authority. This has been seen by the large influx of women software engineers in the Indian IT industry. However, Saskia Sassen (2002) notes that gendered hierarchies and power relations are embedded even within cybertechnology and it does not necessarily lead to emancipation of women. Studies have noted the evidence of gendering within IT workforce. There are fewer number of women in IT compared to men and there is decreasing number of women as one moves up the organizational ladder (NASSCOM 2017, Raghuram et al, 2018). Childbirth and family act as obstacles for women in the competitive IT market and sometimes they are even labelled as 'inflexible workforce'. Much of the research, in India, in this area is at a descriptive level and lacks an in-depth qualitative approach to the study. Quantitative studies, using a positivist approach, fail to capture the perspective of the people they are studying. Surveys and structured interviews, in quantitative studies, lead to a 'problem of meaning' (Bryman, 2001). In this sense, meaning is something that is worked at and achieved simultaneously. In fact, critics note that, structured interviews, in quantitative researches presume that both the respondents and interviewer share the same meanings of terms used in the interview questions and answers (Biber, 2010). The data from such interviews are not detailed and often does not give the

respondents the scope to understand the problem from their perspective. Hence, using mixed methods approach I have attempted to highlight the experiences of women software engineers who are working in the IT companies. I have used a feminist approach to understand their lived realities. The social construction of skills, ideas of masculinity and femininity have been helpful in understanding their perspective and the survival strategies adopted in male dominated domains.

1.3 Objectives of the study

With a large number of women entering the IT industry and this sector being one of the important areas for women's employment in the neo-liberal economy, my objective in this research has been to understand whether their employment has brought any change in their everyday lives. I have also attempted to explore whether their experiences in IT companies are gendered. For this study, I have interviewed fifty women software engineers from three renowned IT companies of Kolkata, the names of which have not been disclosed to maintain their privacy protocols. To gain a male perspective into the research, I have also interviewed ten men software engineers from the same three IT companies. There are three objectives that have been addressed in the study:

Firstly, it attempts to understand the everyday experiences of women software professionals and how they deal with their work commitments and home. I have further tried to explore whether the employed women have been able to challenge the dominant familial ideologies which constructs women primarily as self-sacrificing mothers, good wives and economic dependents.

Secondly, it attempts to explore whether is a gendered division of labour in the software industry as a consequence of work being socially constructed as masculine and feminine. Here, the focus is on whether Information Technology is gendered.

Thirdly, it attempts to explore the kind of gender issues that women experience at work and whether these affect their career mobility, compared to men. I have attempted to identify the explanations behind decreasing number of women in higher levels in IT companies. I have tried to

1.4 Methodological parameters

1.4.1 Research Design

In the present study, I have used a mixed methods approach in order to explore the gendered identities of women software engineers in IT industries of Kolkata. The mixed methods approach has emerged as an alternative to the dichotomy of qualitative and quantitative traditions during the last twenty years. It has been called as the third path or third research paradigm or the “third methodological movement” by different individuals in the field of sociological inquiry (Teddlie & Tashakkori, 2003). The mixed methods approach is defined as a type of research design where qualitative and quantitative approaches are used in types of questions, research methods, data collection and analysis procedures and/or inferences (Teddlie & Tashakori, 2003). It is also understood as a form of research design in which investigators collect and analyse data, integrate the findings and draw inferences using qualitative and quantitative approaches in a single study (Creswell, 2009). According to Biber (2010) mixed methods help in developing a research project by creating a synergistic effect whereby the results of one method help to develop or inform the other method. I have used mixed methods, in the study, because as a set of interpretive activities, it does not privilege one single methodological perspective over another. Mixed methods enables researchers to simultaneously ask confirmatory and explanatory questions and thus verify and generate theory in the same study (Denzin & Lincoln, 1994). The research questions in mixed methods guide the investigations and are answered with information that is presented in narrative as well as numerical forms.

The mixed methods research falls on a continuum from not mixed, i.e. monomethod³⁵ designs, to fully mixed methods, with fully mixed methods designs. Leech and Onwegbuzie (2007) have devised a three dimensional typology of mixed methods research designs:

- a) The level of mixing: which is either partially mixed or fully mixed
- b) Time orientation: which is concurrent versus sequential
- c) Emphasis of approaches: which is equal status vs dominant status

A research design is said to be ‘partially mixed method’ when quantitative and qualitative phases are not mixed within or across the stages (Leech and Onwegbuzie, 2009). In the study, I have used a partially mixed concurrent dominant status design, with major weightage given

on qualitative data. According to Nancy Leech and Onwegbuzie (2009), a partially mixed concurrent dominant status design is one where the researcher has conducted a study with two facets which occur concurrently such that either of them has the greater emphasis.

In my dissertation, I have emphasized more on the qualitative aspects in order to provide a detailed description of the meanings that the respondents give and to gain a contextual understanding of their social experiences. I have also used some quantitative data like percentages to denote the responses of women. Qualitative research is a reflective, interpretive, descriptive and reflexive effort to describe and understand actual instances of human action and experience from the perspective of the participants who are living through a particular situation (Denzin & Lincoln, 1994). Researchers relying on qualitative data study things in their natural settings to make a sense of or interpret phenomena in terms of the meanings people bring to them. Qualitative research tends to be oriented towards discovery of new phenomena and newer ways of understanding. It provides a naturalistic, contextual and holistic understandings of individuals in society. Biber (2010) says qualitative methodologies are particularly sensitive means of capturing the lived experiences of groups or individuals. In this study, the focus being more on qualitative aspects has provided a detailed and in-depth understanding and exploring of the lived realities or experiences of urban-educated women software professionals in IT industry.

In addition to a qualitative approach to mixed methods research design, I have also used feminist research method in the study. Feminism studies women's issues by listening to their voices, exploring and thus empowering their experiences and examining the connections between power and knowledge. Feminist research deals with power, difference, silence and oppression and tries to develop an understanding of women's lives and those of other oppressed groups. It seeks to promote social justice and social change (Biber, 2007). Feminist researchers are mindful of the relationship between researcher/researched and the power/authority imbued in the role of the researcher. In my work, I have found the "feminist standpoint" theory relevant to understand the subjective positions of women software professionals in their personal and professional life. The term 'standpoint theory' was coined by Sandra Harding () to categorize epistemologies that emphasise women's knowledge. The perspective was shaped by Dorothy Smith in her book 'The Everyday World as Problematic: A Feminist Sociology' (1989), where she argued that sociology has ignored and objectified women, making them the "other." She claimed that women's experiences are fertile grounds for feminist knowledge and that by grounding sociological work on women's everyday experiences, sociologists can ask new

questions. According to Nancy Hartsock (1983) the feminist standpoint theory enables women to have greater insight as researchers into the lives of other women. It argues that the domineering position of men in social life leads to partial and perverse understandings of society whereas the subjugated position of women provides the possibility of a more complete and less perverse understanding of society (Biber, 2007). The standpoint theory acknowledges the significance of women building knowledge from their own experiences and lived understanding as foundational for a certain feminist epistemology. In my study, the standpoint theory has been useful in understanding the everyday experiences of women and their position from their point of view.

1.4.2 Methods adopted for the Research

The primary methods used in the study are face-to-face interviews and observation in order to study women's experiences from their standpoint. I have also used narratives of women as they are also important strategies of data collection in qualitative studies and feminist research. Narratives are seen as a telling, a performative event and a process of making or telling a story. According to Gibbs (2007), narration or story telling is one of fundamental ways in which people organise their understanding of the world. It gives insight into the way human beings understand and enact their lives through stories. The narratives include a temporal ordering of events and an effort to make something out of those events (Reinharz, 1992). Participants are often encouraged to be active agents, exploring subjective meanings and experiences that have been ignored or silenced in previous researches allowing for new insights and awareness into social processes. I found that narrative method of interviewing suits the exploratory nature of this study. It made the interview process more like story telling sessions which made it interesting for both me, as a researcher, and the respondents. It helped me to explore the subjective meanings and experiences of women that have not been documented before in the literature of women software engineers in IT. In doing so, narratives allowed for new insights and awareness into social processes and gave women a voice to talk about their work experiences in the high-tech workplaces.

The next tool used in the research is the interview method. Denzin and Lincoln (1994) believe that interview method is considered as "one of the most favourite methodological tools in qualitative research". DeVault and Gross (2012) said that interviewing is powerful because it

involves relatively direct exchanges of views and perspectives among researchers, participants, and readers. The feminist theorists and researchers of the 1970s and 1980s embraced interviewing as a method of making experience hearable and subjecting it to systematic analysis. Shulamit Reinharz (1992) explains the way interviewing is a way in which the feminist researchers have attempted to access the hidden knowledge of women. She says that the process of interviewing offers researchers to access ideas, thoughts, and memories of respondents in their own words rather than in the words of the researcher. This quality or asset is particularly important for the study of women because in this process, learning from the experiences of women is an antidote to centuries of ignoring women's ideas altogether or having men to speak on behalf women. I have used face-to-face interview method as a primary tool because it offers researchers to access people's ideas, thoughts and memories in their own words rather than in the words of the researcher. It has helped in understanding the lived experiences of women software professionals in their work life and domestic life.

There are three types of interviews in social research: structured interview, unstructured interview and semi-structured interview. A structured interview, or sometimes called standardized interview, involves administration of an interview schedule by an interviewer. Questions are generally specific and very often the interviewee provides a fixed range of interviews. This style of interviewing is largely used in quantitative research. Unstructured interviews do not rely on a list of predetermined questions. The interviewers just go with the flow with no predetermined ideas. In contrast, semi-structured interviews use a written guide to focus the interview on a particular topic. Bryman (2001) says that semi-structured interview schedules are where the researcher has a list of questions to be covered and this is generally called the "interview guide". It provides a clear set of instructions for interviewers and provides reliable and comparable qualitative data. Unstructured interviews do not have any interview guide or scripted questions. There is no preconceived idea about what data will be collected. I have used semi-structured in-depth interview as a tool to collect rich data from the respondents about their lived realities and subjective experiences, that often lie hidden and unarticulated. The questions were largely open-ended to allow the respondents to express their opinions freely. Such questions were without presumptions and can be used to uncover varied and in-depth views of all the interviews. Hence the interview process was more or less flexible as the respondents had amount of leeway of how to reply.

In my study, I have used a feminist approach in the qualitative research to make it enriching. A feminist perspective regarding in-depth interviewing would consider the interview process as a ‘co-creation of meaning’ (Biber, 2011). This reveals that a feminist approach to in-depth interviewing is more of a conversation between co-participants than merely a question-answer session. Information flows back and forth throughout the interview, but it is important to underscore the role of the researcher in this process. Qualitative researchers have been attentive to the structures and organization of language, talk and discourse. Qualitative interviewing helps to understand human talk and its dynamics which includes: the flexibility and productive powers of language, the subtle shades of meaning conveyed through the nuances of speech, gesture, and expression and so on (DeVault and Gross, 2012). As Bryman (2001) says, qualitative interviews encourage ‘rambling’ or going off tangent because it provides insight into what the respondents see as relevant and important. DeVault (2004) urges researchers to pay attention to the language with which a respondent expresses his or her reality. She is interested in not just what is said but what is not said or might come across as “muted” language. De Vault (2012) harps on interpretation of those moments in women’s speech when they begin to falter. In “Talking and Listening from Women’s standpoint” (DeVault, 1990), he adopts an analytic approach to examine closely the interview talk – a kind of textual representation of listening, constructed retrospectively. This kind of approach allows the researcher to attend to silences and difficulties of communication produced by the lines of fault in women’s lives. DeVault (2004) notes the sharpening our ‘listening’ skills during the interview process. This is important in the study of women’s issues because it speaks about women’s attitudes or ideas. Being a qualitative researcher and realising the importance of talk, I paid close attention to what the participants said with minimum interruption. I have been an ardent listener to their talk which gave me an insight into their experiences and everyday reality. It has helped in addressing the silences and difficulties of communication of my respondents and going beyond what was being said.

Researchers during qualitative interviews may want to ask specific questions that relate to their field or area of study, but it is important that their questions evolve as cues from the researched. This keeps the researcher from asserting his or her own agenda while emphasizing the researcher’s role as a listener. In order to gain insight into their lives and experiences of women software professionals and to keep them engaged in the interview process, I asked them questions that came up during conversations and probed for more information or understanding. Sometimes I also departed from the given schedule and asked new questions

that followed from the cues. This shows that the researcher is engaged with the respondent and it is shown by listening and providing signs of engagement. These include gestures like: nodding or asking the respondent to clarify a point or term. According to Biber (2007), probes are critical to a good interview as they provide the respondent with support and encouragement without pushing their own agenda of information. Probing is the researcher's way of getting a respondent to continue with what they are talking about, to go further or to elaborate. Sometimes probes can also be a sign of understanding and interest that the researcher puts forward to the interviewee. I have used a combination of probes like silent probes, '*uh-huh probes*' during the course of the interview so that the respondents remain encouraged and continue with their stories and experiences. Sometimes, in the study, probing has been also been used by leading the respondent so that the interaction centres on the objective of the study. The perspective of a feminist, reflexive researcher begins with an understanding of the importance of one's own values and attitudes in relation to the research process. This is understood as a process of reflexivity. As a qualitative and feminist researcher, I have practiced reflexivity throughout the research process. This deepens the self-awareness of the production of valid and reliable information. According to Biber (2007), reflexivity means taking a critical look inward and reflecting on one's own lived reality and experiences. It is the process through which a researcher recognizes, examines, and understands how his or her own social background and assumptions can intervene in the research process. Introducing a reflexive practice into qualitative and feminist study enables an examination of the grounds which claims to know the social world are based as well as an exploration of the strengths and limitations of forms of knowledge. Being reflexive has kept me mindful of my personal positionality and that of the respondents. This allows researchers to sharpen subsequent research practices and correct an instrumental approach to knowledge which is informed by a desire to control, rather than understand, the social world.

In quantitative researches, the importance of validity has been accepted since long. In qualitative research, the discussions about validity and reliability have been more contentious and different terms and typologies have been produced. However in mixed methods research, which involves combination of both qualitative and quantitative, discussions about issues of validity are still in its infancy. Onwuegbuzie and Johnson (2006) note that assessing the validity or reliability of mixed methods is complex and they call it the "problem of integration". Since the study is a mixed research design with major focus on qualitative aspects, I have addressed the issues of validity and reliability as done in qualitative research. Qualitative research has

faced criticisms in issues of external and internal validity and reliability. Validity does not carry the same connotations in qualitative researches as it does in quantitative research, nor it is a companion of reliability or generalizability (the external validity of applying results to new settings and people). In my study, I have not focussed on generalizing the results and there has been little attempt in establishing external validity³⁶. Some writers have suggested that qualitative studies should be judged according to different criteria than those used by quantitative researchers (Bryman 2001, Flick 2009). Qualitative studies use trustworthiness, authenticity or credibility to establish validity of their studies. Qualitative validity means that researchers check for the accuracy of findings by employing certain findings; while qualitative reliability indicates that the researcher's approach is consistent across different researches and different projects.

Internal validity is one of the strengths of qualitative research and it is based on determining whether the findings are accurate from the standpoint of the researcher, the participant or the readers of an account (Cresswell & Miller, 2000). According to Bryman (2001), internal validity entails that there is a good match between researcher's observations and the theoretical ideas they develop. One of the ways of internal validity established in my study was respondent validation. After the analysis of results, I communicated the findings of the study to the respondents. This was done to seek corroboration or otherwise of the account that I arrived at. Respondent validation is common among qualitative researchers because they frequently want to ensure that there is a good correspondence between theory findings and perspectives and experiences of their research participants.

The validity strategies in qualitative research are discrepant information or disconfirming evidence, prolonged time in the field and providing rich and thick description to convey the findings (Cresswell, 2009). With regard to discrepant information, a researcher can accomplish this in discussing evidence about a theme. In fact, Creswell and Miller (2000) said that the search for disconfirming evidence provides further support of the account's credibility. In my study, I ensured this by first developing preliminary themes and then search for data that did not fit into this theme. In doing so, I attempted to ensure that any disconfirming evidence was ruled out. Another procedure for validity used in the study was spending a prolonged time in the field. Initially I developed a rapport with the respondents informally via conversations over phone and in some cases after a first meeting with them where we had few casual discussions about their work and workplace culture. After that, I interviewed the respondents for an hour

or sometimes more for detailed information about the objectives of my study. Sometimes, I even went back to them to clarify few other issues that came up while discussing similar issues with other respondents. In this way, a prolonged time was spent with the respondents to develop an in-depth understanding of the nature of software work and gendered work culture of IT companies. The third procedure of validity used was rich and thick description of themes supported by the narratives of the respondents. According to Cresswell (2007) this kind of detailed description makes the results more realistic and richer.

1.4.3 Unit of Analysis and Composition of the Sample

Women software engineers in the IT industries were the unit of analysis in the present study. Fifty women software engineers were interviewed working in three renowned IT companies of Kolkata, the names of which have been not been disclosed in order to maintain anonymity. I have referred to them as Company A, B and C respectively. All the women were computer science engineers from recognised institutes from either Kolkata or outside. The age composition of the sample varied between 24-45 years. Since IT companies are dominated by young men and women software engineers (who are in their early 20s), most of the female respondents belong in the age group of 21-30 years that is 58%. Only a small portion of women, that is, 10% belong to the age group of 41-50 years. The lowest age was 24 years and the highest age was 45 years because we see a dearth of senior women in IT companies. Not all senior women were willing to participate in the study, given the fact that IT companies maintain high level of confidentiality with information being shared to outsiders. Also, not many senior women are exclusively software engineer graduates. Quite a few have done courses in computer applications and have been working in this industry for several years now. My study primarily being on women software engineers ruled out other women who were not graduates in computer science engineering. So, women above the age of 40 years were few.

Of all the women, 50% of them unmarried while 48% of women were married. There was one woman who was divorced and lived with her parents along with a child. Of all, there were eleven women (that is, 23%) who had children. Two women were pregnant when the interview was conducted. Few of them were also planning for a child and hence were able to share their thoughts about childcare and work.

Most of the women, that is, 38% came from the families where monthly income was between Rs 1,75,001- Rs 2,00,000 which is a high income category. With regard to individual income, most of the women, that is 37% and 27%, belonged to the income categories of Rs.75,001 – Rs. 1,00,000 and Rs.50,001- Rs. 75,000 which are middle income categories. Equal categories of women, i.e 4% belonged to two upper income categories of Rs.1,25,001- Rs. 1,75,000 and Rs. 1,75,001- Rs. 2,00,000 . The detailed demographic profile is given in Appendix-B.

To have an understanding of the perspective of men software engineers in IT, I have interviewed 10 men software engineers in the same three IT companies of Kolkata. Their age varied from 26 years to 50 years.

1.4.4 Sampling Technique

I have used the method of purposive sampling and snowball sampling to select the respondents. According to Padgett (2008) purposive sampling is a non-probability sampling method and it occurs when elements selected for the sample are chosen according to the judgement of the researcher. Snowball sampling³⁷ method involves primary data sources nominating other primary data sources to be used in the research. I started my field work with contacting my friends and acquaintances who are working in IT companies. After that, I used their recommendation to get in touch with other women in IT. Women in senior positions were difficult to get access initially as I did not know them personally. Also, some of them did not want to comment upon the gender issues and showed little interest in the study. Some middle aged women who have worked with women team leads or are working as women managers have referred to senior women they felt would participate in the study.

The same procedure was followed for men as well. Initially I contacted some of my male relatives and friends working in IT. They recommended more men in their company who could be contacted for the interview.

1.4.5 Data Collection

Some of the respondents, whom I personally knew as friends, were given a brief description about the study over phone. They recommended other women (and men) whom I contacted over phone and had a brief discussion about the study. They were informed about the objectives and we kept regular touch on social messaging site like: Whatsapp. It helped in establishing an informal rapport. I met some women (and men) initially in their office campus to have a have a talk about the study. It enabled in 'breaking the ice' and made the eventual interview sessions interesting and informative. All the respondents were informed that their answers would be confidential and their names would remain anonymous. Prior consent was taken about recording of the interview. Once the respondents agreed to these, a face-to-face interview was conducted either at their Salt lake sector V office campus (during lunch break or their free time) or at their homes or at cafes depending on their convenience.

Since in-depth interviews attempt to explore detailed description about participant's lives, the participants were made to feel at ease and I ensured not to interrupt when they were narrating experiences or sharing personal instances. I only stopped to ask or clarify certain things when they left off at some places abruptly. The interview schedule was constructed in a way that would have questions relating to the research objectives and explore diverse views of women. The interview began with few general questions like: their age, occupational details, work experience, educational qualifications, family composition and household income. These gave them a sense of comfort with the interview and helped them to open up. Gradually, I moved to more specific questions. The interview schedule had two main parts: one part dealt with demographic details, details of organisation and nature of work. The second part dealt with work related issues in IT and managing work-family relationships.

Through the process of interviewing, I have attempted to explore different dimensions of the women software professionals. I have attempted to understand what women feel about their financial independence and increasing earning power and whether it brought about any change in their individual lives and choice making abilities. I further wanted to understand the experiences of women regarding maternity issues at work; their feelings about working and managing home. I gathered narratives of women by asking them questions like: *"how do you feel about your employment in a renowned IT company of Kolkata?"* or *"What are your views on managing home and work given the long working hours of IT?"*. Such questions gave women lot of freedom to answer in their way. The open-ended questions gave them the liberty

to share their life stories and how they have been managing both private and professional life. The interviews were also meant to explore the gendered nature of software work in IT. This was accomplished by asking them the kind of software work they are involved in, ratio of men and women working in teams, their interpersonal relationships, distribution of women across different software tasks and their explanations. Questions about the patriarchal nature of organizations was approached quite cautiously, given the fact that men (sometimes even women) would not acknowledge it. I did not ask specific question about 'patriarchal' culture of organisations. Instead, they were asked questions like: *"how would you explain your journey in this company in terms of your career growth?"* and *"what do you feel about the growth rate of men and women in IT companies?"* to get an idea about the kind of gender dynamics involved in workplaces. Such questions elicited rich narratives from lives of men and women. The latter drew from their life stories about their career growth and hurdles they faced. These gave me the cues to ask specific questions, especially to men, like: *"why do you think women become fewer as you go higher in the organizational structure of IT companies?"*. Such a pattern of placement of questions helped me to uncover deep into the kind of gender issues existing in the IT companies. During the process of interview, I remained focussed on the objectives of my study - looking at whether IT work is gendered, analysing the factors affecting women retention in IT as we find its mention in the literature. The narratives shared by women (and men) helped me to support the broad themes derived from the study.

1.4.6 Data Analysis

The process of qualitative data analysis is to find patterns and produce explanations. It is an on-going process, which involves collecting and organizing the open-ended data, develop themes and moving deeper into the understanding of the data, representing it and making an interpretation of the larger meaning of it (Gibbs 2007, Cresswell 2003). Qualitative interviews and narratives generate large volumes of data. The description is "rich and detailed" and contributes to an understanding and eventual analysis of the setting studied.

I have used qualitative analysis in my study to analyse the collected data. Data gathered from the interviews and narratives were thematically coded and analysed. The process of data analysis began with the process of transcription. According to Gibbs (2007), all the social scientists involved in qualitative research must carefully attend to the phase of setting down the verbal research material in writing by means of transcription. Qualitative researches are

interested in knowing not only ‘what’ people say but also “the way” they say it. In approaches like narrative analysis or conversation analysis or discourse analysis, the recording of conversations of all interviewees is purposeful and mandatory (Cresswell, 2009). With the feminist goal of asking questions and exploring issues that are of particular concern to women’s lives and give them a voice, I recorded the interviews so that their content is exactly retained. I transcribed them as early as possible after each interview was over and each respondent was given a pseudonym. The transcription of interviews helps in correcting the natural limitations of our memories and allows more thorough examination of what people say. The repeated examinations of the responses helps to counter the accusations that an analysis might have been influenced by the values or biases of the researcher (Bryman, 2001). Since the process of transcription is an interpretive one and keeping in mind the dangers associated with it like: superficial coding, de-contextualization, missing what came before and after the respondent’s account, I went back to the audio-recordings several times to check the interpretations and also to obtain a structure of it.

After the process of transcription was over, I went through it multiple times and began to create an order from the large mass of data and created codes. Coding is a key process in grounded theory which entails reviewing transcripts and/or field notes and giving labels or names to component parts. According to Gibbs (2007), codes form a focus for thinking and its interpretation. In my study, the codes were derived from and grounded in data. The study of literature gave an idea about the kind of codes that would be relevant. During the arrangement of the data into codes, the process of coding was in a constant state of revision and fluidity. At first, the responses of women were grouped according to the questions and initial coding was done. One data was compared with other data and I remained open to exploring what is interpreted is actually happening in the data. These codes were kept short, precise and active. The codes underwent changes with time as they developed. While the codes were being developed, I paid attention what the respondents were saying and ensured that the codes developed reflected their experiences. Descriptive codes and analytic codes were gradually developed, as I read and re-read the transcripts word-by-word and line-by-line and understanding the participant’s view of the world. The re-reading of transcripts often helped to refine the actual codes. This refining helped me to revisit the passages to see whether it is better coded in another way and whether there are examples elsewhere in the same transcript or in the transcripts that need coding using the new codes. This also provided a chance of making initially descriptive codes more analytic. The process of coding and recoding has helped me to

generate the different themes for the study. These themes appear as major findings in this study. Each theme has been described, in detail, with “rich” information. They contain multiple perspectives from the respondents and are supported by their narratives.

1.5 Chapter Distribution

In chapter two, the theoretical framework of my thesis has been discussed. The findings of the study have been analyzed and interpreted drawing from a number of sociological theories.

In chapter three, I have highlighted that although women are economically independent and manage their own finances, yet they are guided by the dominant notions of femininity as they navigate between work and home.

In chapter four, I have explored whether Information technology, especially software work, is gendered. From the responses of women, I have highlighted how skills and technical knowledge are socially constructed in IT companies in terms of masculinity and femininity.

In chapter five, I have discussed the kind of gender issues that women encounter in IT companies. The focus in this chapter has been on the gendered implications of work-from-home policies, how factors like marriage and family make women labelled as ‘inflexible’ workforce and the kind of gendered practices or behavior women face in their day to day life in IT companies. The chapter also highlights survival strategies adopted by women in IT companies.

CHAPTER II

THEORETICAL OVERVIEW

Historically, there has been a great deal of research on gender studies in technology and organizations. The early efforts to theorize gender-technology relations took different stances as to whether technology is male dominated as it demands some essentially male traits or because technology is where the power is. Since the early 1970s, feminist studies have questioned the historical and social relationship between gender and science. Judy Wajcman (1991) has been a fundamental figure in conceptualizing the link between gender and technology. The growth of feminist perspective has led to a shift in understanding the meaning of technology and broadening the concept to include not only artefacts but also the cultures and practices associated with technologies. The wider links between gender and technology in structures, symbols and identities have been long acknowledged by feminists. Because technology and hegemonic masculinity¹ are historically associated with industrial capitalism², they are symbolically linked by themes of control and domination. In fact, achieving control and domination over nature was a vital feature and the “mastery of nature” (Wajcman, 1991) remains a powerful emblem of technology within the field of engineering as well as in a wider culture. Thus in this sense technology is understood as a masculine domain. This pessimistic attitude about the inherent masculinity of technology was replaced by optimism during the 1990s, with cyber-feminism, which espoused the liberating potential of technoscience for women. However, as Sassen (2002) says, even the electronic space is inflected by the values, cultures, power systems, and institutional orders within which it is embedded. This embeddedness of cyberspace is also gendered at least in some of its components, and, further, that so is cyberspace itself.

In the industrial countries, women are still few in top leadership positions inspite of a substantial gender equity in education and the fact they are entering in relatively large numbers into technical professions and corporate companies. The organization theory has traditionally neglected gender issues, that is, employees have been viewed from a supposedly gender neutral perspective. In organizational literature, the manager is mostly assumed to be a ‘he’ (Acker 1990, 1992). At the national and world level, power is located in ‘all-male enclaves’ at the pinnacle of large state and economic organizations. Most of the studies on organizations and organizational theories include some consideration of women and gender. However, their

treatment is cursory and male domination largely remains unexplained. Such masculine dominance in academic life as well as in the organizations has had an important influence on the kinds of questions raised and the answers subsequently produced in management and organization studies. Hence it is maintained that it is always the life and work of men that has been considered the yardstick or research standard, both within the human relations school³, strategic management research⁴ and cultural theory⁵ or any other known schools and fields of organization theory. Thus, there emerged feminist perspective of organizational theory to explain how gender-based hierarchies operate in workplaces.

In my study, relevant theoretical perspectives from various sociological traditions have been used to analyse the issues of women software engineers. In the first section of the chapter, I have discussed the feminist theorisation of gender and technology with special reference to Judy Wajcman and Cynthia Cockburn's perspective. After that I have elucidated the feminist perspective on organizations in trying to understand how organizations are 'gendered institutions' and how they practice gender through different processes. Following this, I have discussed the sociology of power and how feminists have used Foucauldian idea of power to explain the internalisation of gendered selves and ideologies of womanhood. Lastly, I have discussed about the social construction of motherhood with focus on 'intensive mothering'.

2.1 Feminist Theorization of Gender and Technology

There has been a great deal of preoccupation with the relationship between technology and social change. The debate that has been existing is identifying whether technology would liberate women or whether they would further oppress women. Western technology embodies patriarchal values and like science, technology is also seen as deeply implicated in the masculine project of domination and control of women and nature. Scholars like: Judy Wajcman and Cynthia Cockburn have theorised on the culture of technology, that it has a strong association with masculinity.

2.1.1 Masculine Culture of Technology

Technology is a paradigmatic masculine ideology in which women are represented as non-technical, as incompatible with machinery (Mellstrom, 2004). Technology, always, tends to be thought of in terms of industrial machinery and military weapons, the tools of work and war,

overlooking other technologies that affect most aspects of everyday life. For Wajcman (1991), technology is more than a set of artefacts. In fact, it is a cultural product which is historically constituted by certain kinds of knowledge and social practices as well as other forms of representation. Thus, it is largely understood as a male activity. The initial challenge for the feminists was to challenge the enduring identification between technology and 'manliness' as inherent in biological sex differences. The binary opposition in western culture, like culture vs nature, reason vs emotions and hard vs soft, have privileged masculinity over femininity. Wajcman (1991) said that feminists pointed out two vital things: firstly, the problem does not lie with women (their socialisation, their aspirations and values). It is essential to understand the broader questions of whether and in what ways techno science and its institutions can be reshaped to accommodate women. Secondly, along with gender structures and stereotyping, engrained cultures of masculinity are still ubiquitous within these industries. Many young women are forced many to reject careers and even older women are seen to leave these fields. This is fundamentally because women are expected to exchange major aspects of their gender identity for a masculine version, while there is no similar 'degendering' process prescribed for men.

Biology has been used as a powerful tool to make sex as basis for roles of men and women (Wajcman, 2010). Women are viewed as incapable of doing certain activities, that is, carrying out 'technical' and scientific work. Understanding technology as culture reveals the extent to which masculine identities are embedded in the idea of 'technology'. Wajcman (1995) says, the symbolic representation of technology is gendered and this reinforces the fact that ideology of masculinity is connected with technology. She identifies the cultural factors that are essential in understanding the masculinity of technology. It is the result of the social constitution of male gender identity which revolves around 'technical prowess'. Wajcman (1995) and Cockburn (1981) note that masculinity or 'masculinities' are central to the construction of technologies and also technological know-how⁶. The 'ideology of masculinity' is highly flexible and it is seen as in the case of engineering where only a relatively small proportion of women are visible. In fact, Wajcman (1991) views engineering as an epitome of 'cool' reason and antithesis of 'feeling' or 'emotion'. It is an unique example of an archetypical masculine profession since it goes beyond physical and intellectual work and still maintains strong elements of mind/body dualisms. Men and women have different attributes. Women are perceived as more closely associated with nature, emotions, less analytical and hence 'weaker' than men. The advanced industrialised economies, specially the Western, conceive women

ideologically constructed as ‘inferior’ and more value is placed on scientific technical rationality which is associated with men (Cockburn 2009, Wajcman 1991). Thus masculinity is expressed both in terms of muscular physical strength and aggression and in terms of analytical power. The construction of masculinity is such that it re-establishes the connotation that women are ‘ill suited’ to machines.

The taken for granted association of men and machines is due to the historical and cultural construction of gender (Wajcman 1991, Cockburn 1981). The technologies are created through social processes and negotiations and so is the expertise which some people have access to. For instance in crafts work, men’s jobs have come to be defined as ‘skilled’ work because they have historically organised strongly in defence of their interests and have striven particularly hard to restrict entry. Irrespective of the skill and nature of task involved women’s work is not conventionally defined as ‘skilled’ precisely because it is women- who have been excluded from skilled status- who perform it. In this regard, Cockburn argues that technical know-how has been similarly acquired and largely monopolised by men at the expense of women. This is primarily due to the assumption running in our culture that men are more ‘technologically able’ than women. Webster (1996) argues that even in Information technology, using technical dexterity or having knowledge about the operation of computers or IT technologies does not ensure conferring power on women as they are still the property of men.

The construction of masculinity is a complex process. There is no “monolithic masculinity”⁷ (Wajcman, 1991) and all men are not equally competent with technology. However, technical competence is central to dominant cultural ideal of masculinity and its absence is one of the primary feature of being ‘feminine’. Hegemonic masculinity (Connell, 2005) is the dominant cultural ideal of masculinity which is reflected in technical professions. In contemporary western society, hegemonic masculinity is strongly associated with aggressiveness and ‘capacity for violence’. For Wajcman (1995), the machine related skills and physical strength are fundamental measures of masculine status and self-esteem. These traits are translated into technology which is a source of masculinity and power. In fact, there is a complex relation between knowledge, power and technology (Faulkner 2009, Wajcman 1991). Machines evoke powerful emotions and sensual delight for men. Men identify with technology and it is through this identification that they form associations with each other. The mastery of technology gives them a certain sense of power and make them “heroes at the frontiers of technological progress” (Wajcman, 1995). For Wajcman (1991), “the cult of masculinity” that rests on physical toughness and mechanical skills is strong and seen in the shop floor culture of working class

men. Thus, technical expertise is a key source of power among men and it does not override other sources of power like: position in the class structure. Sherry Turkle (1984) describes the masculine workplace culture of passionate virtuosity typified by the hacker⁸ style work. Her ethnographic research said that the world of computer hackers is the epitome of this male culture of mastery, individualism and non-sensuality. She spoke about the “macho culture” of hackers, their characteristics like: professionalized, calculative rationality, non sensuality and individualism. According to Turkle (1984) and Weizenbaum (1976), they are elite technologists who are unattractive and pathological. Their worlds are not open to women due to their preoccupation with winning and carrying out tests and finding errors. They are ‘losers’ and ‘lovers’ who immerse themselves in the world of machines and stripping off themselves from other parts of social life. Thus, they harbour a sense of masculinity that is constructed in their work culture. Wajcman (1991) notes since the hackers are in an intimate relationship with computers it gives them a ‘refuge’ from the uncertainty and complex relations that characterise social life. This nature is linked to playing with the issue of control, about mastering to exert power and control in the world of machinery. Faulkner (2007) says that their obsession with technology is a compensatory relief for people in their social failures or skills. Their superior status in technology demonstrates their physical and mental capacities. I have used Wajcman’s ideas in my study to show how the technology in software work embodies a culture or set of social relations that consist of certain sorts of knowledge, beliefs, desires and practices, which are expressive of masculinity. The association of technology with masculinity helps in understanding the male dominated work culture where men view themselves in relation to technical activities. Men software engineers in most IT sectors dominate access to and have expertise about the inner workings of the machines – in this case the core of computer software like: software designing, architecture or development. Although women may use considerable technological competence and technical dexterity in operating information technologies, yet the association of technical skills with masculinity leads to higher end software tasks being seen as masculine while women are seen as ‘suitable’.

The masculine nature of technology has also been theorised by feminist sociologist Wendy Faulkner. According to Faulkner (2001), the feminist scholarship on technology has an inherent debate- whether technology is male dominated because it demands some essentially masculine traits or simply because technology is where the ‘power’ is. Both modern technology and hegemonic masculinity are historically associated with industrial capitalism and therefore they are linked culturally by themes of ‘power, ‘control’ and ‘domination’ (Faulkner, 2001). There

are tensions existing between the structuralist emphasis on the historical roots and durability of cultural equation between masculinity and technology on one hand; and on the other hand, the anti-essentialist refusal to see either technology or men as necessary about control and domination. According to Faulkner (2007), there is the emergence of 4 streams of work in the area of feminist work in gender-technology relations/ feminist studies in science:

- *Women in technology*: deals with why there are so few women in engineering or technological industry
- *Women and technology*: deals with the relationship that women share with technology. It looks at whether women encounter technology as users rather than designers
- *Gender and technology*: It signifies 2 things: firstly, it is important to understand the relations between women as well as relations between men and women to understand the position of women. Technology is to be understood as socially shaped and potentially re-shapeable. From this point of view feminist technology studies (FTS) is to be looked at as two way mutual relationship between gender and technology where technology is both a source as well as a consequence of gender relations.
- *Men/masculinity and technology*.

Faulkner (2007) notes that engineering is an interesting site for investigating gender and technology because it is an important locus for the social (and thus gender) shaping of technologies, and because engineers represent a particularly visible instantiation of the still durable cultural equation between masculinity and technology. In fact, Wajcman (1995) notes that engineering as a profession is understood as a social construction. It deals with the binary categories between 'hard and soft' and 'science and sensuality' and between 'things and people'. Wajcman (1991) even gave an account as to how the engineering culture became strongly associated with masculinity. During the late nineteenth century, mechanical and civil engineering increasingly came to define what technology is. Thus, engineering profession became an elite class with exclusive rights to technical expertise. It involved certain identifications: firstly, the creation of a male professional identity that is based on educational qualifications and the promise of managerial positions which was sharply distinguished from shop-floor engineering and blue-collar workers⁹; secondly, it also involved an ideal notion of manliness marked by the cultivation of bodily prowess and individual achievement (Wajcman, 1991). Femininity was thus being reinterpreted as incompatible with technological pursuits.

Faulkner (2009) notes that in order to understand the association between masculinity and technology, it is important to look at the three gendered dichotomies. The first is the mutually exclusive distinctions between being 'people focused' and 'machine focused'. One version of this distinction can be found between feminine expressiveness and masculine instrumentalism. Arguing along this line, Sherry Turkle (1988) shows that women starting out in computing are often reticent about computing, because they see hobbyist hackers as the only model for intimacy with computers, and so many hackers appear to eschew or be incapable of human intimacy. Keller (1985) and Cockburn (1981) say that it is assumed that if women work very closely with technology then they are said to 'reject any meaningful association with the social world' and thus face 'gender inauthenticity'. Feminist technology studies points out that the association of women with technological artifacts is hardly recognized as such. Therefore, we come to the dualism of 'hard' and 'soft' technology. The second is "hard vs soft dualism". Hard technology is understood as inert or 'real' technology like: industrial plants, weapon systems and so on. 'Soft' technology is understood as small scale, like: kitchen appliances or drugs. Thus, the world of technology is made to feel so overwhelmingly powerful because the 'hard' and 'soft' dualisms factors out those technologies which we meet on a daily basis and can relate to in some sense. The third is that, hard-soft dichotomy extends to the styles of thought in technology because of the association of engineering with scientific methods, which brings with it the longstanding gender dualisms. On the masculine side of those dualisms there is an objectivist rationality associated with emotional detachment and with abstract theoretical, especially mathematical, and reductionist approaches to problem solving. On the feminine side there is a more subjective rationality associated with emotional connectedness and with concrete, empirical, and holistic approaches to problem solving. Evelyn Fox Keller (1985) also talks of this in the field of science. They are widely held as truths by technical and nontechnical people, both men and women. The fact that popular images of both science and technology are strongly associated with the masculine side of these dualisms is one of the reasons why, in a deeply gender divided world, do not always consider engineering as the first choice. Thus, there is a huge mismatch between image and practice. There are three significant aspects to it. Firstly, all the dualistic epistemologies found in engineering practice coexist in tension. They are mutually dependent and interactive activities, perspectives and approaches, rather than mutually exclusive ones. Secondly, in most cases, the two sides of these dichotomies are not equally valued. There is a hierarchy implied symbolically and materially, in the organization of technical work which often serves to eclipse or play down the significance of the less-valued half. Thirdly, many of these dichotomies are gendered, that is to say, they are socially coded

'feminine' and 'masculine' - often in quite contradictory ways. In my study, I have used the hard vs soft dualism to show that technical and mathematical skills are 'hard' and masculine; whereas communicative or interactional skills are 'soft' or less technical and hence 'feminine'. This has been helpful in my study to understand why women are perceived to be 'suited' in some jobs over others in IT companies. It sheds light on gender segregation and explaining the reasons behind fewer women or women being informally excluded from technical areas.

2.2 Feminist Theorization of Gender and Organizations

The early radical feminists criticized bureaucracies being male-dominated structures of control to subjugate women. This relationship (between masculinity and organizational power) was obvious and hence no debate was needed. The nature of concepts and models at hand of organizations and managerial questions never dealt with women being concentrated on lower ranks of organizations. In this regard, the feminist project wanted to create non-hierarchical and egalitarian organizations that would demonstrate the possibilities of non-patriarchal ways of working. However, many debates regarding organizations were not much encouraged due to women failing to cooperate with each other, taking power and using it in oppressive ways, creating their own structures of status and reward were at odds with other images of women as nurturing and supportive (Acker, 1990).

2.2.1 Hierarchies, Jobs and Gender

Feminists have described gender as a concept which means more than a socially constructed, binary identity and image. Thus, gender has become an analytic category. This is useful in finding new avenues into the problems of explaining the extraordinary persistence through history and across societies of the subordination of women. A significant understanding of gender was given by Scott (1986), who referred it as a constitutive element of social relationships based on perceived differences between the sexes. She conceptualised gender as a primary way of signifying relationships of power. The new approaches to the study of waged work, particularly studies of the labour process, see organizations as gendered, not as gender neutral. In fact it was Joan Acker, one of the most influential figures in the theory of gender and organizations, who noted that organizations are seen as one of the locations where both gender and class relations are inextricable interlinked. According to Acker (1992), to say an organization is gendered means that advantage and disadvantage, exploitation and control,

action and emotion, meaning and identity, are patterned through and in terms of a distinction between male and female, 'masculine' and 'feminine'. She denotes institutions as 'gendered institutions' (Acker, 1990). It refers to the fact that gender is present in the processes, practices, images and ideologies and distribution of power in various aspects of life. Different social institutions like law, state, economy, academy and religion have been historically developed and dominated by men. Thus, they are also symbolically interpreted from the perspective of the males. Family is the only sphere where women have been 'seen' as an active agent. Such fundamental divisions can be understood as a result of the differentiation between reproduction and production. In the industrial capitalist societies, production has always received more privilege over reproduction and this can be explained by the fact that business and industry are 'seen' as vital and the source of well-being and health; while childcare and education are seen as 'secondary' and wealth consuming. Thus, although family has been idealised, reproduction as the domain of women's responsibility is relatively invisible and devalued and it is this which contributes to the problems faced by women in workplaces, even in IT.

According to Acker (1990), gendering occurs in five interacting processes in organizations. The first one is the construction of divisions along lines of gender. It includes division of labour, of allowed behaviours, of locations in physical space, of power, including the institutionalized means of maintaining the divisions in the structures of labour markets, the family, and the state. Men are almost always in the highest positions of organizational power. Often it is found that managers' decisions initiate gender divisions and organizational practices maintain them, although they also take on new forms with changes in technology and the labour process. For example, Cynthia Cockburn noted the introduction of new technology led to a reorganization of the gendered division of labour; such that men controlled the technology and skilled work and unskilled work was left to women (Webster, 1996). The second is, construction of symbols and images that explain, express, reinforce, or sometimes oppose those divisions. The sources of these are in language, ideology, popular and high culture, dress, the press, television. For example, Moss Kanter (1977) pointed out that the image of the top manager or the business leader is always an image of a successful man; thus representing masculinity. Cockburn (1991) has said men workers' images of masculinity linked their gender with their technical skills and the possibility that women might also obtain such skills represented a threat to that masculinity. The third one is interactions between men and women, women and women and men and men. Conversation analysis¹⁰ shows how gender differences in interruptions, turn taking, and setting the topic of discussion recreate gender inequality in the flow of ordinary talk. It is viewed that

men are the actors, women the emotional support. The fourth one states that these processes help to produce gendered components of individual identity, which may include- consciousness of the existence of the other three aspects of gender: in organizations; choice of appropriate work, language use, clothing, and presentation of self as a gendered member of an organization. The fifth process is that gender is implicated in the fundamental, ongoing processes of creating and conceptualizing social structures.

An important aspect of organizational strategies that is used by feminists to identify the gendering of organizations is “job evaluation”. According to Acker, job evaluation is a “is a management tool used in every industrial country, capitalist and socialist, to rationalize the organizational hierarchy and to help in setting equitable wages” (Acker, 1990). Job evaluation is based on the assumption that, the workers see, hierarchy as an ‘acceptable principle’ and the final test of the evaluation of any particular job is whether its place in the hierarchy looks reasonable or justifiable. Although there are various systems of job evaluation, yet the underlying rationales are similar enough so that the observation of one system can help us to understand a common organizational mode of thinking and practice. In job evaluation, the content of jobs is described and jobs are compared on criteria of knowledge, skill, complexity, effort, and working conditions. When job evaluation is done, the characteristics of the job is evaluated, and not the incumbents who vary in skill, potential or capability. Thus, every time job evaluation is used, a particular gendered structure is created or reinforced.

After discussing ‘job evaluation’, Acker, in her organizational theory, then goes on to talk about the idea of a ‘job’ and how it is constructed. The concept of a job is inherently gendered even though organizational logic presents it as gender neutral. It contains the gender based division of labour and the separation between the public and the private sphere. Acker notes the essential nature of a job, that is, its abstract nature and she notes it is similar to an ‘empty slot’. Thus it is the job which moulds a person and is expected that the person doing a job will have those ‘skills’ or capacity. Similarly, the hierarchy of a job is also abstract and taken-for-granted by both the workers and the organizational authorities. The hierarchies are gendered because they also are constructed on these underlying assumptions. Those who are committed to paid employment are seen as ‘naturally’ more suited to responsibility and authority; those who must divide their commitments are in the lower ranks. The principles of hierarchy, as exemplified in most existing job-evaluation systems, have been derived from already existing gendered structures. Moreover, the ranking of jobs within an organization must make sense to managers. Simultaneously, most workers must accept the ranking as just if the system of evaluation is to

contribute to orderly working relationships. The gender-neutral status of a 'job' and of the organizational theories of which it is a part depend upon the assumption that the worker is abstract, disembodied, although in actuality both the concept of 'a job' and real workers are deeply gendered and 'bodied'. The ideas of Joan Acker on gender and organizations have been useful in my study to show that the work culture of software firms have an underlying masculine connotation- long working hours, culture of prioritising work life over family life, focus on competition and growth. The understanding of a job being gendered has helped in understanding that although a worker is assumed to be abstract, disembodied, yet both the concept of 'a job' and real workers are deeply gendered and 'bodied'. The hierarchical construction of a job helps in explaining how certain software tasks are seen as higher-end and others lower-end. It explains the informal exclusion of women and how they cope up in a male dominated environment. The idea of job evaluation has also been useful to show how certain software tasks or positions in the IT are seen embodying certain presumed attributes of the 'worker'.

2.2.2 Gendered Practices and Processes

Joan Acker noted how organizations vary in terms of practices and processes that are used to achieve their goals and practices and processes of class, gender as well as racial inequalities. Acker (2006) points out some of the organizing processes or practices by which inequalities are reproduced in organization:

- *Organizing the general requirements of work:* The requirement of work varies across organizations and among organizational levels. Work is generally conceptualized as a man who is fully dedicated to work and has no responsibilities for children or family demands other than earning a livelihood. The work expectations that constitute a dedicated worker include: eight hours of continuous work away from home, being punctual at work, paying total attention to work and ready to do long hours if requested to do. In the organizational culture of today, the professionals and managers are often evaluated on their "face time"¹¹ at work and their willingness to consider work and organization prior to family and friends. In spite of the heavy career demands and increasing involvement of women in child care, women have the pressure to manage the home-front. This becomes burdening for many women professionals and managers as they carry a heavier work load than their male counterparts – a 'triple burden' of

home, career and often sexist workplace. The prevalence of family friendly policies acts a double-edged sword for women. They are often undermined, if they avail these policies and are labelled as ‘relatively unproductive’ and ‘not very committed’. Thus, the organization of work and work expectations are based on the assumptions of a male worker and thus the unequal distribution of men and women in organizational class hierarchies, especially in upper managements.

- *Organizing class hierarchies:* There are various techniques for organizing class hierarchies inside work organizations. Acker argues that bureaucratic, textual techniques for ordering positions and people are created in order to reproduce the existing class, gender and racial inequalities (Acker, 1989). Structural barriers to the movement of women into management are embedded in job and wage classification systems that reproduce hierarchy. Therefore, Joan Acker says that class hierarchies in organizations with their embedded gender and racial patterns are constantly created and renewed through organizing practices.
- *Recruitment and hiring:* Recruitment and hiring refers to a process of finding the worker most suited for a particular position. The images of appropriate gendered as well as bodies influence perceptions and hiring. For instance female bodies are appropriate for some jobs while male bodies are fit for other jobs. At the managerial level recruitment, hiring and promotion processes are influenced by images of the successful manager which is stereotypically ‘masculine’. The successful organization and successful leader share some common traits like: strength, aggressiveness and competitiveness. This kind of stereotyping has been noted for the last thirty years and till the twenty-first century, thus forming a major barrier for women’s entry into top level management, especially in the private sector. Women do not fit into the image of this ‘masculine’ leader. Hence, women managers face a “double gender bind”, which implies they are either too masculine and assertive or they are too feminine and soft. However, the flipside is on one hand, if women are too assertive and masculine then they may be seen as competent but not likeable and on the hand if they are too assertive then they may be perceived as ‘likeable’ but incompetent (Acker, 1992).
- *Informal interactions while doing the work:* It is seen that as men and women do their everyday work they routinely tend to use gender based assumptions about those with whom they interact. What is appropriate varies in relation to the organizational culture and history, situation, and standpoints of the people judging appropriateness. Masculine

stereotyped patterns of on-the-job behavior in team-organized work may mean that women must make adaptations to expectations that interfere with family responsibilities with which they are uncomfortable. Thus, the interactional practices create gender inequalities that are often subtle and unsaid and thus difficult to document (Acker, 1992).

Increasingly there is a consensus emerging among social sciences on the definition of 'practice'. It is referred to as an array of human activities that are centrally organized around shared practical understanding. It implies that practices are embodied and that a 'skilled body' is basic to its accomplishment. Understanding practice as an entailing activity, shared practical understanding, and the skilled body (or embodiment) is useful for exploring gendering practices at work. Patricia Martin in her seminal work "Saying and done versus Saying and Doing: Gendering Practices and Practicing Gender at Work" (Martin, 2003) has theorised about gender and organisations in terms of "gendered practices". Viewing gender as practice means to view it as a "system of action" (Martin, 2003) that is institutionalized and widely recognized. It also refers to seeing gender as something which is dynamic, emergent, local, variable, and shifting. According to her, there are three essential points that are essential in understanding and theorizing about gender and organizations. Firstly, men and women socially construct each other at work by means of a two-sided dynamic of gendering practices and practicing of gender. This dynamic significantly affects both women's and men's work experiences. Secondly, gendering practices produced through interaction impair women workers' identities and confidence. Thirdly, attention to the practicing of gender will produce insights into how inequalities are created in the workplace.

Martin bases her theory of gendered practices on certain assumptions. The first one is that gender is a social institution. Along with other social constructionists, she also views gender as having a social structure and related practices that entails opportunities and constraints and a plethora of meanings, expectations, actions/behaviours, resources, identities, and discourses that are fluid and shifting yet robust and persisting. She argues that framing gender as an institution focusses on only one aspect of things while the 'practicing' dimension acknowledges another part of the story. The concept of gendered practices or practicing gender form one aspect of the gender institution and are key to its perpetuation. Secondly, it is not assumed that everything women and men do at work signifies gender. Rather, she tries to know when, where, and how men and women interpret each other and themselves as gendered and when they do not. Thirdly, she argues that men and women are situated within a gendered

institution and they construct themselves as gendered. She takes up R.W. Connell's claim that when enacted within a gender order¹², (that is, an institution) it gives its meaning as gendered. Fourthly, gender at work is 'gender infected' because paid work is conceived, organized, and practiced from and is shaped by gendered conceptions. This is similar to Acker's theory which claims that the so-called empty position for which organizations recruit assumes the body and life of a man, not a gender-free person. Fifthly, it is assumed that gender is present at work because bureaucratic organizations, the predominant form of workplace in developed economies, are fundamentally constructed with gendered assumptions (Martin, 2003).

Patricia Martin (2006) conceptualizes gender dynamics in terms of 'gendering practices' and 'practicing gender'. Practices and practicing are understood as a set of activities and actions regarding a particular content about which people have practical knowledge. The terms "gender practices," "gendered practices" and "gendering practices" implies a certain class of activities that are available-culturally, socially, narratively, discursively, physically etc for people to enact an encounter or situation in accordance with the gender institutions. Practices are conceptually distinct from people who practice them. They are available to be done, asserted, performed or practiced in social contexts. According to Connell (1995), they are potential actions that people know about and have the capacity or agency to do, assert, perform, or mobilize. The concept of "practicing gender" also draws attention to the literal activities of gender, physical and narrative, the doing, displaying, asserting, narrating, performing, mobilizing, manoeuvring. Practicing is, actually, the means by which the gender order is constituted at work (Martin, 2003).

People practice particular kinds of 'gender'¹³. One of the important ways in which organisations practice gender is masculinity. Organizations practice and perpetuate masculinity by portraying a particular form of masculinity – "hegemonic masculinity" (Connell, 2005). Hegemonic masculinity and 'emphasized femininity'¹⁴ are essential to understand the relations between and among masculinities and femininities in the patriarchal societies. Thus, it is the idealized pattern of masculinity in patriarchal societies, whereas 'emphasized femininity' is the version of femininity that is considered as the ideal model of womanhood in most societies across the world, especially patriarchal societies. Connell (1987) argues that both hegemonic masculinity and femininity patterns are embedded in specific social environments and therefore dynamic. In patriarchal societies, the culturally idealized form of femininity, i.e. "emphasised femininity" is produced in relation to male dominance. Martin talks about focussing on practicing femininity or femininities and practicing masculinity or masculinities rather than

practicing gender. Connell (1987) also follows this line of thought as he says that multiple masculinities and femininities exist, and people practice, and are held accountable to, specific kinds depending on their bodies' class, race or ethnicity, sexual orientation, age, nation, and other social statuses. It is argued that dynamics at work is associated with varying forms of masculinities-for example, competitive or controlling or paternalistic or affiliating. The ideas of Martin and Acker have been influential in understanding that the problems faced by women in IT companies, in terms of child bearing or maternity issues or marriage are gendered 'practices'. Women being questioned regarding marriages, men being preferred over married women in some tasks, women being topics of gossips if they get better ratings or being 'watched' by men during chai-breaks are instances of gendered practices which often go unchallenged and unquestioned. A gendered perspective on organisations helps to understand how gender stereotypes are carried into workplaces and function as gendered 'practices'. As Martin (2001) says, these are learned and enacted since childhood and later on in schools and workplaces.

Martin (2003) has also studied masculinism and showed how evaluation and interaction are inextricably linked and processes of evaluation play an important role in the reproduction of gender divisions and of organizational culture. Masculinism is understood as an ideology that naturalises and justifies men's domination over women and patriarchy¹⁵ is the structure of unequal power relations that is sustained by this ideology (Kerfoot & Knights, 1996). Martin (2001) attempts to show the various ways in which they are entangled, or conflated, in the 'masculinist discourse', perceptions and practices of organizational participants and in the patriarchal relations that this discourse justifies. Moreover, men are found to dominate powerful positions and often reproduce their power/authority, cultural values and sense of identity, as men and as managers, in segregated work environments. Masculine values permeate most of the organizational cultures. In this situational context, the evaluational dynamics associated with the managerial relations of men and its practices are important to understand. Managers reward, select and promote the employees through the conduct of routine evaluations that are apparently 'gender free'. Procedures like selection and promotion are central features of managerial discretion and power and are difficult to study as managers are loath to expose what they do to outsiders. Martin (2001), in her analysis, notes that managerial evaluations are dominated by men, embody masculinism and reproduce varying masculinities. The works of Connell (2005) and Martin (2003) have been significant, in my study, in order to understand that IT companies practice masculinity while recruitment to projects in terms of

one is 'suited or not'. They also practice masculinity when they question technical skills of women, unlike men. Understanding the practice of masculinity has been helpful in analysing that IT companies are gendered in the sense that women working in male dominated domains have to be like 'one of the men' in order to be accepted. Thus practicing gender or masculinities often translates into marginalisation of women from tasks of technical expertise in the IT industries as well as construction of workplaces as inherently masculine.

2.2.3 Inequality Regimes

The phenomenon of few women at the top managerial levels is understood as the process of 'glass-ceiling'¹⁶. Few women climb the organizational ladder to powerful positions. It is important for understanding this due to certain reasons. Firstly, the difficulties in explaining the persistence of this pattern shows our lack of understanding of the persistence of gender and race or ethnic inequalities. Secondly, the absence of women at the top arguably makes the work life more difficult for women further down in the organizational ranks. It is seen that when women fill the top jobs other women also feel easier to work. When women occupy high managerial positions the gender wage gap at lower hierarchal levels tend to be lower. Other manifestations of gender discrimination may also be reduced when women hold managerial positions. Thus, it can be suggested that breaking the 'glass ceiling' can lead to more general gender equality goals. However, the concept of 'glass ceiling' has come under criticism arguing that it implies orderly upward progression that is then obstructed by an invisible barrier. Critics point out that barriers come at various points along the route to the top level of management (Hearn & Parkin, 1987). Thus, a broader definition of glass ceiling would include the cumulative disadvantages of blocked opportunities that causes women's under representation at higher ranks. Acker uses the term "inequality regimes" (Acker, 2006) instead of glass ceiling to show the gendered nature of organizations. She says that inequality exists in organizations over goals and resources, pay and other monetary rewards. According to her, inequality in organizations is understood as the systematic disparities between participants in power and control over resources, goals and outcomes, workplace decisions like: how to organize work, opportunities for promotion, work security and benefits, pay and other monetary rewards, respect and satisfaction in work and work relations. From this she goes on to define inequality regimes, as "loosely interrelated practices, processes, action and meanings that result in and maintain class, gender and racial inequalities within particular organizations" (Acker, 2006).

There are different components of inequality regimes (Acker, 2006). The first one is bases of inequality. Acker argues that the bases for inequality in organizations vary although class, gender and race processes are primarily present. Gender, as socially constructed differences between male and female and the beliefs and identities that support inequality and difference is also present in all organizations. Until in the recent past, gender was almost completely integrated with organizational class. It implied that the managers were mostly men and lower level white collar workers were women while blue collar production workers were the males. Acker says that gendered assumptions play an important role in obstructing the paths to higher management for women. The second is steepness of hierarchy. This is a very important dimension of variation in the shape and degree of inequality. The traditional bureaucracies have very steep hierarchies in contrast to the flat organizations with team structures in which most of the responsibilities and decision making authority are distributed among the participants. In between these types of organizations, there are ones with varying degrees of hierarchy and shared decision making. Acker is of the view that hierarchies are gendered, and racialized, especially at the top. For instance, in most of large and influential organizations of US the top hierarchical positions are occupied by white men. In most cases across the world, the image of successful organization and image of the successful leader are expected to have characteristics like: strength, competitiveness and aggressiveness. The third one is degree and pattern of segregation along the lines of race and gender. It is also an aspect of inequality that varies among organizations. In this regard, Acker calls for differentiating between ‘occupation’ and ‘job’. An occupation is understood as a ‘type of work’ whereas a job includes a particular cluster of tasks in a particular work organization. Research shows that sex segregation at the job level is more widespread than sex segregation at the level of occupation. Moreover, it is also seen that even when men and women are in the same occupation, they are likely to work in different firms and jobs. Acker (1990) further points out that jobs and occupations were internally segregated by gender as well as race. The statistical representation of women in managerial jobs may have increased through a process of reclassification where jobs previously designated as non-managerial have been converted to a managerial category. This happened mostly in mostly clerical and service occupations, occupations with a high proportion of women. For example: a recent study of former welfare clients consisted of interviews with a number of working women in retail establishments who were classified as “managers” although their management responsibilities were minimal and their pay was very low. The fourth component involves the difference in wage gap. It is also an important factor of inequality regimes. The last one is that severity of power which also varies according to gender.

Inequality regimes are present in all organizations. It is an analytic approach in order to understand the ongoing creation of gender inequalities in organizations. This approach is useful in order to identify the inequality producing practices and their locations in particular organizing processes. It has helped in analysing organizational inequality in terms of gender, emphasizing those processes that result in the relative absence of women at the top.

2.3 Sociology of Power

In my work, I have used Foucauldian concept of power and a conventional understanding of patriarchal power, as explained by radical feminists. Radical feminists see family as the key instrument of oppression of women, through sexual and maternal obligation, as is male control over bodies of women. One of the key areas of concerns of radical feminism is the extent to which women themselves become oppressed by patriarchal ideologies that they perpetuate men's control over women's bodies themselves. One of the bases of radical feminism is that gender inequalities are a result of the outcome of an autonomous system of patriarchy and is the primary form of social inequality. Radical feminists argue that the sexual division of labour has always been underpinning and reinforcing a system of male domination. They are concerned with socially constituted nature of gender which restricts women's identity and leads to their oppression.

Radical feminists rely on the concept of patriarchy in order to explain the universal and trans-historical oppression of women. In fact, patriarchy is one of the key concepts in radical feminism which is an essential tool in analysis of gender relations and is used to explain the subordination of women in society. It is central to a feminist understanding of society and is indispensable in order to understand gender inequality. The central tenet of radical feminism is that gender inequalities are the result of an autonomous system of patriarchy and that gender inequalities are the primary form of social inequality. Walby (1991) notes patriarchy as an essential tool in the analysis of gender relations. Patriarchy is believed to have played a role historically in keeping women out of well-paid work and gendering categories of work as 'male work'.

In my study, I have used Foucauldian concept of power to show how discourses produce subjectivity such that individuals themselves 'voluntarily' create their disempowerment. The concept of power has been helpful in understanding women software engineers' internalisation of ideologies of femininity. There are many aspects of Foucault's analysis of the relations

between power, the body and sexuality that have stimulated feminist interest. Firstly, Foucault's analyses of the productive dimensions of disciplinary powers which is exercised outside the narrowly defined political domain overlap with the feminist objective of exploring the micropolitics of personal life and exposing patriarchal power at the most intimate levels of women's experience. Secondly, Foucault's treatment of power and its relation to the body and sexuality has given feminist social and political theorists some useful conceptual tools for the analysis of the social construction of gender and sexuality and contributed to the critique of essentialism within feminism. Finally, Foucault's identification of the body as the principal target of power has been used by feminist scholars to analyze contemporary forms of social control over women's bodies and minds.

Foucault's analysis of power emphasizes micro level power relations. In the 'History of Sexuality' Foucault defines power as "the multiplicity of force relations immanent in the sphere in which they operate and which constitute their own organization" (Rainbow, 2010). He argues that in medieval society power had been consolidated largely through the existence of a sovereign authority who exercised absolute control over the subjects through a display of open violence. However, in the modern era power is exercised in a different way and this new mechanism of power is more dependent on the bodies. In the modern era, Foucault says, power is constantly exercised by 'surveillance'¹⁷. His idea of power is neither force nor capacity nor domination nor authority. Rather Foucauldian conception of power is impersonal, purely relational and blind. It is impersonal primarily because it is neither possessed nor exerted by individuals or groups or institutions. He termed power as a complex set of relations. Power is understood as the sum-total of influences that actions have on other actions. Foucault's notion that power is constitutive of that upon which it acts, has led feminists to explore ways in which women's experiences and self-understandings are constructed in and by the power relations which they are seeking to transform.

Foucault argues that modern power is bound to knowledge, as in the age of free subject, and power cannot be exercised through prohibition, but is exercised through the production of discourses that shapes individuals' selves and self conceptions. Since modern power plays a vital role in shaping the social body, it is best grasped in its concrete and local effects and in the everyday practices which sustain and reproduce power relations. In fact, the power is significant in understanding how femininity disempowers us and how the values of a system that oppresses us are able to stay within our minds. It is 'hidden' in the social body (Bartky,

1988). As per Foucault's conceptualisation, individuals should not be seen merely as the recipients of power but as the place where power is enacted and the place where it is resisted. Thus his theorizing of power re-conceptualizes not only power itself but also the role that they play in power relations, whether they are simply subjected to oppression or they play out an active role in the form of their relations with others and with institutions (Rainbow, 2010).

For him, power exists everywhere and comes from everywhere. It was a key concept because it acts as a type of relation between people, a complex form of strategy, with the ability to secretly shape one another's behaviour (Munro, 2003). For Foucault, the importance of power lay in the effect that power has on entire networks, practices, the world around us, and how our behaviour can be affected, not power itself. Foucault saw the significance of power as it created the 'reality' - it is something that produces domains of objects and rituals of truth. He ascribed the term 'docile body' to a historically specific type of body borne out of a form of modern power called the 'disciplinary power'. It is 'disciplinary' power that makes human subjects more obedient and "unthreatening as political subjects" and is exercised through the techniques of surveillance (Bartky, 1988). One of the regulatory modes of power/knowledge, Foucault cited (that 'disciplines' human behaviour) was the Panopticon, an architectural design developed by Jeremy Bentham in the mid-nineteenth Century for institutions like: prisons, insane asylums, schools, hospitals, and factories. It was used to monitor or regulate the behaviour of the inmates of the institutions. Instead of using violent methods (such as torture and placing prisoners in dungeons) that were used for centuries in monarchical states around the world, there was surveillance and observation. The Panopticon was powerful and sophisticated, such that appropriate behaviour was internalized through continuous observation of inmates. Constant observation acted as a control mechanism- a consciousness of constant surveillance is internalized (Bartky, 1990). The importance of knowledge in Foucault's thought is that knowledge further categorises people, sets norms for society and the subjects are 'expected' to follow the rules. In this way, society produces institution and its people. Hence goes Foucault's view that power becomes more efficient through the mechanisms of observation, with knowledge following suit, always in search of new objects of knowledge over all the surfaces on which power is exercised. The Panopticon was a metaphor that allowed Foucault to explore the relationship between systems of social control and people in a disciplinary situation. It marked the transition to a disciplinary power, with every movement supervised and all events recorded. The surveillance resulted in the acceptance of regulations and docility - a normalization of sorts, stemming from the threat of discipline. Bordo (2008)

says that power comes from the knowledge, the observer has accumulated from his observations of actions in a circular fashion, with knowledge and power reinforcing each other. For Foucault, the real danger was not necessarily that people are repressed by the social order but the fact that they are "carefully fabricated in it" (Bartky, 1988), and because there is a penetration of power into the behaviour of individuals. It is the emphasis on the regular everyday practices through which power relations are reproduced and has converged with the feminist project of analysing the politics of personal relations and altering gendered power relations at the most intimate levels of experience in the institutions of motherhood, marriage and compulsory heterosexuality, in the 'private' relations between the sexes and in the everyday rituals which govern women's relationships to themselves and their bodies. The Foucauldian concept of power has been helpful in analysing how 'knowledge, that is, the dominant ideologies of femininity gets transferred into subjectivities of women software engineers. This perspective has helped in explaining that irrespective of being employed, women internalise the gendered identities as a 'good daughter in-laws' or 'good wife'.

2.4 Social Construction of Motherhood: Intensive Mothering

There is a good amount of feminist literature on ideology of motherhood and its social construction. Social and cultural forces play a vital role in constructing what 'womanhood' means. In other words, the categories: 'men' and 'women', are socially constructed and these social constructions come to define their social activities. The sociology of motherhood is a field which examines gender, family and parenting with primary emphasis on 'motherhood'. Simply defined, motherhood refers to mothers as a collective group, the state of being a mother and the qualities attributed to her. The ideology of motherhood posits women as producers of children and of labour power (O'Reilly 2010). It is not simply biologically defined but is a social institution which functions ideologically and politically. In this role, motherhood idealises the idea of 'being a mother'. Some of the major themes studied in the field of 'sociology of motherhood' includes: motherhood ideology, motherhood and sociology of gender, motherhood as an experience and an institution, motherhood and paid work, caregiving practices and challenging notions of universal motherhood. In my study, I have primarily focussed on motherhood as an ideology and social construction and how women professionals internalise it and face conflicting situations at work.

Motherhood is one of the many aspects of life to which social constructionist approaches have been applied. The social constructionist approach to motherhood rejects the assumption that the practices of mothering, characteristics of mothers, and meanings of motherhood are in any way natural, biological, essential or inevitable. This approach deconstructs the social and cultural constructs of motherhood that are often taken for granted. It implies that the ways of perceiving and experiencing motherhood in societies are the result of processes of social construction. In other words, motherhood is understood as something that is constantly being created by members of society (O'Reilly, 2010). This happens through everyday interactions, discourses, and social practice. Some examples of such assumptions are: that there is a natural specific bond between mother and child, biology determines the way motherhood is experienced or that there exists a universal maternal instinct. Rather than taking such assumptions 'taken for granted', contributions on social constructions of motherhood have emerged, changed and being reproduced by members of society. Ann Oakley (1972) argued that the idealized mother is one who craves motherhood 'instinctively'. It assumes motherhood as a natural course for women and that her identity hinges on her status as mother and thus a childless woman is regarded with suspicion. The idea that motherhood is instinctive has its roots in the separation of the 'domestic sphere' from 'public sphere'—when processes of industrialization and modernization drove work from the home and into factories and cities. While work then became the province of men, home became the province of women. This was justified with the social constructions of gender that held women and men as fundamentally different- the belief that women's traits made them naturally appropriate for home and childcare, while men's traits made them 'naturally' suitable for work outside home. Such an understanding of motherhood has a patriarchal connotation. Patriarchy draws upon a dominant ideology that attributes male dominance to inherent and natural differences between men and women. Under patriarchy, mothers are continually defined in terms of their biological functions, and motherhood is viewed as the route to physical and emotional fulfilment for women.

Efforts to define the ideology of motherhood return to Sharon Hay's work on "intensive mothering" (Hays, 1996) as the dominant mothering ideology of our culture. This ideology of intensive mothering is a dominant one in North American mainstream culture. According to Hays, intensive mothering is "child centered, expert-guided, emotionally absorbing, labour intensive, financially expensive ideology in which mothers are primarily responsible for the nurture and development of the child and in which children's needs take precedence over the

individual needs of the mother” (Hays, 1996). Intensive mothering rests on four core beliefs: firstly, children need and require constant and ongoing nurturing by their biological mothers who are mainly responsible for meeting those needs. Secondly, mothers should rely on experts to guide them in meeting their children’s needs. Thirdly, mothers spend a good amount of time and energy on their children. Fourthly, mothers should regard mothering as more important than paid work.

The ideology of intensive mothering requires that mothers are always available for their children and commit their emotional, mental and psychic energy to their offspring. At-home parents as well as employed mothers have internalised this ideology. Hays argued that motherhood is largely dictated by this ideology of intensive mothering. Such ideologies of motherhood arises from essentialist thinking, based on the notion that all women ‘naturally’ possess female qualities that drive them to pursue maternal goals above all others. Galvanised by the women’s movement of 1960s and 1970s, scholars began to challenge essentialist arguments which considered gender as innate and biologically determined. Rather than treating differences between men and women are ‘natural’, feminists started interpreting gender as a socially constructed set of social expectations that are attached to a social status, male or female. Feminists and other critical theorists pointed out various ways in which the ideas of motherhood flourish. Their objective is to question and challenge beliefs and practices that are normalized and taken for granted about women, mothers and families; to show that current definitions and practices of mothering, those emerging from dominant ideology, are not inherently natural, or inevitable; and to foster different or new ideas that could function as more liberating for women, children, and larger societies. The social construction of motherhood and concept of “intensive mothering” has been helpful to explain the mental strains women face in trying to look after children’s needs and balancing career demands. While the women software engineers are economically independent yet they internalise the essentialist notion of a ‘mother’ that they should be the primary caretakers of the children. The internalisation of this ideology is strong enough to make some women opt out of IT work, to look after the child and then plan to join work later on.

Summing up, the different perspectives discussed in this chapter have helped me to understand the lived realities of women software engineers in the IT companies. The feminist scholarship of gender and technology has helped to analyse how work in software industries is socially constructed. Arguments of Wajcman and Cockburn regarding technology, masculinity and

femininity shaped my analysis in highlighting the reasons behind the skewed distribution of women in IT industries. The feminist theory of organizations have helped in understanding the various gender issues faced by women and fewer number of women in higher positions. Acker's understanding of organisations as 'gendered institutions' are significant in explaining how IT companies perpetuate or uphold a certain image of masculinity- hegemonic masculinity. These lead to 'informal' exclusion of women and even expects them to be 'one of the men' in order to survive in this industry. The Foucauldian idea of power has been significant in understanding how employed women internalise the gendered constructions of a woman- as 'good wives' or 'good mothers' or 'good daughter-in-law'. It is the knowledge that 'discipline' women in terms of dominant notions of femininity. Similarly, the ideology of motherhood, specially intensive motherhood has been helpful to understand that women believed that they should be the sole care-giver of children and face much dilemma over childcare and work. This belief translated into making women suffer from feelings of 'maternal guilt' or leaving work temporarily or permanently.

CHAPTER III

WOMEN, WORK AND FAMILY IN THE NEW ECONOMY

3.1 Introduction

Different scholars have juxtaposed the rise of the new middle class with economic liberalization¹, with globalization and more broadly with neoliberalism not just in India but in other locations as well. The economic liberalisation in the 1990s fuelled India's development into a hub for outsourced IT work, creating an upwardly mobile class of educated professionals in urban India whose numbers have been close to doubling every year. In the early Nehruvian² model of Indian nation building, the 'old middle class' comprised of government workers who served the nation by working for it. However, in a globalized model of the Indian nation, the 'new' middle class engages in a global economy of work and consumption, serving the nation by 'directing itself' away from it (Fuller & Narsimhan, 2007). This new middle class is most often described as comprising of those who are employed in high end service sector jobs. The 'newness' of this class is not in its composition. Entering the limelight of globalization it is characterised by conservative cultural or nationalist values, a hunger for global goods and a conscientious integration into the global political economy. The symbolic privilege of the old middle-class formation in representing the nation is produced in a new socio-political climate, constituting the "new" middle class (Radhakrishnan, 2011). People of this class have specific practices, attitudes and beliefs that foster and give rise to a socio-cultural formation that Radhakrishnan (2011) calls "new transnational" class. This class is full of ostensible contradictions. On one hand it embraces individuality, development and change and on the other hand while it encourages women to be "empowered", yet it places limitations on such empowerment³. Although it claims inclusivity by thinking of itself as "middle class" yet the boundaries in terms of who enters into its fold are remarkably limited.

The emerging consumerism of the new middle class made an additional income essential to the comfort of the family and economic stability. It may be argued here that the realities of economic life destabilised the cultural notion of women as anchored within the home (Beliapa, 2013). The conflict between cultural notions that situate women in the home and the economic realities that require her to enter job market became the foundation on which the constructions of womanhood emerged in the post liberalization and globalized period of 1990s and the new

millennium. Thapan (2004) argues that the ‘new’ woman in the rapidly altering social and cultural imagery of the nation need not necessarily always be constructed in the context of a charged and transformed modernity as it were. Rather, the new Indian woman⁴ should be viewed in the fluid and marked nature of her identity as a woman which is shaped and redefined in the everyday experiences of women as they contest and submit to the images and constructs that impinge on their sense, their emotions and social conditions. Social class⁵, status⁶ and education are the significant markers in the construction of the embodied identity of the ‘new Indian woman’ (Fernandes, 2000).

My aim in this chapter has been to highlight that on one hand women are having access to independent income, are self-confident and engaging in consumerist attitudes but at the same time they have not been able to dissociate themselves from the familial ideologies. I have divided the chapter into three themes. In the first theme, I have explored their socio-economic background with the ‘cultural advantages’. In the second theme, I have highlighted that women are managing their income and asserting their independence by taking financial decisions, deciding about their choice of partners in marriage, on the factors of relocation and so on. In the third theme, I have highlighted that while they are employed and financially independent, yet they continue to uphold ‘respectable femininity’ in everyday life. Their employment has not led them to question the dominant ideologies of femininity, like: domesticity or being care-givers of family. This has been theoretically analysed by Foucauldian idea of ‘power’ which controls women ‘unconsciously’ and confirm to ideals of womanhood.

3.2 Socio-Economic Background of the Women

After the economic reforms in 1991, multinational companies started entering India and local companies established a transnational presence, especially in the IT industry. During this period of economic reforms and technological progress in the late 1980s and 1990s, many of the middle-classes benefited from the impetus given to higher education in that period and the growth of private industry. Fernandes and Heller (2006) have noted in the Indian context that education serves as a central field through which class segregation is perpetuated. Those in the middle to upper ranks of the middle classes have the requisite “cultural capital”⁷ (Bourdieu, 1984) to take on the high level managerial positions, thereby not only consolidating their middle class status but also moving closer to the elite. After this phase, there has been much

hype around the creation of jobs for women in this industry, especially the prestigious IT industry where one third of the workforce is considered to be women.

The socio-cultural profile of the IT workforce is less heterogeneous than it is generally assumed. A large majority of them come from urban educated middle-class families. This is largely attributed to the fact that the industry requires well-educated, well 'groomed' and English-speaking employees (Upadhya & Vasavi, 2006). This is precisely why it is suggested that the IT industry is considered to be the destination of the 'privileged', since access to it is limited to certain sections of the population (Shanker, 2004). It is largely associated with the kind of economic reforms India witnessed since the 1990s. In my study, all the women software engineers consisted of urban educated women from Kolkata. Their education and 'privilege' gave them access to the relatively well paid jobs in the transnational economy. As suggested by Upadhya and Vasavi (2006) in their detailed report on "Work Culture and Sociality in the IT industry: A sociological study", software companies look for candidates for the right kind of 'cultural capital' (Bourdieu, 1986), a requirement that tends to exclude those from weaker and socio-economic backgrounds and from rural areas. Hence, social characteristics of employees have become a key aspect of their employability which includes fluency in English, access to technical and professional qualifications as well as more intangible attributes such as cosmopolitan outlook, the ability to interact with people outside one's own caste group, exposure to metropolitan lifestyles and familiarity with a broader range of cultures and languages. Thus, the 'middle class' attributes (emphasis being given on 'good grooming' or proper communication skills) are particularly valuable in the present transnational job market apart from technical skills. The advantages of urban location, education in private English medium schools, caste and language together acts as advantageous as each of the individual components. (Mukherjee 2008, Upadhya & Vasavi 2006).

Andre Beteille (1993) notes that the transfer of cultural capital is guided by complex social and psychological processes the outcome of which is never guaranteed, still the emotional, financial and social investments made by middle class parents in their children have definite consequences for their success. The upper middle class parents willingly invest in high quality private education, extra tuitions, hobby classes, books and educational games to help children gain knowledge and skills required to succeed. The responses of women, in this study, suggested that their capacity to succeed in the labour market is more than often directly influenced by the financial and emotional investments that their parents are able to make. They

believed that having an urban, metropolitan upbringing, university educated parents, exposure outside of their home with the class and language skills are more likely to benefit from the opportunities in this neo liberal economy. They spoke about the role of families in encouraging them to pursue technical education, pushing them to have a career and being financially independent. Some of the excerpts are given below:

Meera (26 yrs): *My father has been in banking service. He always pushed me to work hard and be economically independent. He encouraged me to take up engineering like my brother did. The thought of working has been instilled in me somewhat by him and my brother who was in IT before I started my career. My father has been a constant guiding force in making my career. Even now, I fall back on him in case of any work related advice.*

Ankita (29 yrs): *Both my parents in government service in different sectors. My father never pushed me into government service, although my mother did sometimes because of the job security. I studied software engineering from a private institution and my parents worked hard to sponsor my studies. Working in one of the top MNCs, my parents are proud of me and I have fulfilled their expectations and the efforts they put in for me. They have a great role to play as to where I am today.*

Sreerupa (25 yrs): *My mother and father have been very particular about me working and being independent. My mother has been a homemaker and she always kept telling me about the importance of being self-sufficient. She was clear that I would first earn and then get married. Arranging tuitions, preparing for interviews and mock tests during my job searching, she has been my driving force. Their dream was to see me working in a respectable company.*

The narratives tell us about the emotional and financial motivations that women have received from families. Their socio-cultural ‘advantage’ have helped them acquire the skills and professional education to become upwardly mobile. It resonates along with previous work on the IT industry that privileges of the class continue to influence individuals’ life chances and that employees in the IT tend to be overwhelmingly from urban backgrounds (Upadhya 2007, Upadhya & Vasavi 2006, Krishna & Brihmadessam 2006). Most software professionals have two educated parents, suggesting that inherited social⁸ and economic capital⁹ is vital in order to succeed in the global market. The collective findings of recent studies on the IT industry indicate that family background, medium of education (English vs regional language) and parents’ occupational class status can have considerable impact on an individuals’ professions success or even the lack of it (Taeube, 2009).

The middle class, in neoliberal India, having access to a significant amount of economic capital are consciousness of the importance of schooling and have great desire to provide a global standard of education to their children. Beteille (1993) argues that parental involvement creates both the skills and the motivations to succeed. Most women (86%) uphold the value of education just like their parents, and did not think of any kind of compromise when it came children. They send their children to expensive private schools of the city in the hope that they would have the ‘privilege’ of world-class education. Some even looked forward to sending their children abroad for higher studies. Below are some of the excerpts from interviews:

Anwesha (33 yrs): *I want my daughter to get good education and be independent like me. Schooling is very important and an expensive matter these days. Higher education is expensive too, if she wants to go abroad without scholarship.*

Poonam (35 yrs): *I want my son to avail all the benefits in school which in our times some schools did not have. There are so many extra-curricular activities these days. Some schools have foreign exchange programs as well. I would want him to get exposure so that he can be enriched and know about other cultures across the world. For this, good educational institutions are necessary, although it involves more expenses.*

Anjana (34 yrs): *These days, bringing up a child with quality education is an expensive affair. They need to have access to modern technologies and be equipped with them. It’s very important to encourage them and make them competent enough. As parents we don’t want to compromise on her necessities and try to give the best to her.*

This again highlights how cultural capital is transmitted, by the middle classes, from one generation to the next which perpetuates the class differences and maintains status quo. Thus, it can be said that the educational credentials and subsequent professionalization of personal identification help in ‘masking’ the continuity of class dominance and such credentials come to be viewed as evidence of ‘merit’. Thus “merit” becomes a powerful, benevolent sounding feature of the upwardly mobile work culture and it masks the continued inequalities that it justifies (Fernandes, 2000).

3.3 Economic Independence of Women and Changes in their Lives

Involvement in the neo-liberal global economy now involves living within the individualistic ethos of global capitalism¹⁰ and consumerism¹¹. The ‘new middle class’ of post-liberalization

India has been constructed as a 'consuming class' and it is due to this that discourses about consumption have become constitutive of contemporary middle class identity. The availability of global brands, lower interest loans and salary advances have unleashed the consumerist appetites of the Indian middle class (Gupta, 2000). The retail segment has also increased phenomenally in the past decade, as seen from the rapid growth and expansion of shopping malls and global brands in apparel, electronics and home appliances. Gradually, the women IT professionals constitute an expanding section of the professional Indian middle class in the new economy jobs like IT and service sector.

As Munshi (2000) argues, the growth of consumerist culture everywhere has an emphasis on women as active consumers. The media influenced by transnational standards increasingly present women as consumers with independence who work outside the home. Derne (2008) also in his work on transnational new middle class in India noted, among other things, the rising position of women as consumers. He said, the advertisements in India, of today, often addresses women as "active and vital consumers in their own right" (Derne 2008: 107). The post-liberalization discourse on the new Indian women co-opts many of feminist ideals, choice, autonomy and freedom to recreate women as consumers and encourage their participation as workers in the transnational economy. As a rational, confident, choice-making consumer, who is conscious of her beauty and self-presentation, the new Indian woman comes to represent the resurgence of the nation and integration into the global economy. In this theme, I attempted to analyse the professional employment of women engineers and the changes it brought about in their lives. Women in this study frequently expressed their feelings of self-confidence through their involvement in gainful employment in the IT companies. For most women, their reasons for joining the IT industry was the global appeal of the software industry and the opportunities it provided, with high-tech offices and frequent foreign travels. All these added to a 'prestige' and 'social status' associated with working here. A common theme derived from the narratives was the relatively high salaries guaranteed by IT firms, than other private sectors or government sector, which made women economically strong. They noted that the attractive salary packages of IT professionals have given them access to much disposable income at a relatively young age, enabling them to engage in high levels of consumptions which included: having access to globally branded lifestyle goods -gadgets and electronic equipments, shopping from the glitzy new malls for apparels or shoes rather than at the local market; dining out in expensive restaurants of the city (even take their parents along) or going on foreign holidays at least once a year. Women used their income for self-indulgence as well as for their families (both natal

and conjugal). Purchase of a vehicle like two wheeler or sometimes four-wheeler, enabled through low interest loans and high salaries, foreign vacations – was referred to as ‘promising mobility’, comfort and status. Of all the women interviewed, 4% owned a car independently and 10% owned a scooty¹². Such ‘signs’ of wealth represent the new symbols of national progress in India (Radhakrishnan, 2011). They are the central indicators of the benefits of economic liberalization and women derived feelings of being self-sufficient and independent for their work. Below are some narratives:

Maitrayee (27 yrs): *I am working for my own fulfilment and not because of any kind of family pressure. My parents are both working in governments sectors. There is no economic need. My work gives me a feeling of self-sufficiency. IT work is highly in demand because of the pay and the benefits it has.*

Deepashree (34yrs): *in IT, we have a lot of privileges. When I bought my car, I had corporate membership due to which the interest rate was low. I did the down-payment and the loan was sanctioned in no time. My relatives were like amazed when they heard that I bought the car alone without my husband's help. In our previous generation, these were still difficult for women.*

Nilufar (28 yrs): *working in IT, as a woman you have the opportunity to spend on yourself and not just on your family. Like you see, if I want to shop for myself from exquisite brands, I can save up or manage my expenditure in some other way. This freedom and capacity to do things for your own for one's self is definitely what young women aspire these days and look up to IT workers.*

Megha (26 yrs): *Women IT professionals feel a step ahead of our previous generation. There is lot of independence because earnings are definitely more. We do not wait for our husbands to get us the things we want. We manage our own finances. For example, you see last month, I bought a Sony sound system for all of us, something which I was wanting for quite sometime. My husband was surprised. My family even feels nice that I am independent and don't need my husband to get things for me.*

The employment of women not only increased their economic power and made them feel ‘at par’ with men, but also gave them a new social and economic ‘status’ in terms of their ability and willingness to consume in the new economy. Their individualism is closely bound to their

ability to consume, choosing the right products and brands for themselves and their families. Rajan (1993) and Fernandes (2000) states that commercials on television, print media and billboards, women's magazines such as *Femina*¹³ address women as consumers, suggesting beauty, personal care and household products that they tend to consume or even wish to, holidays that they hope to take and investments that they might wish to make. Thus, different forms of media in the neo-liberal era devote spaces to discuss about the new image of these transnational professional women, their financial concerns, intimacy, lifestyle and travel. The brands and products that are made available to them and the manner in which they are represented in films and on television and the fashion trends, garments and accessories that are offered to them indicate their economically superior status (Oza, 2012).

Fuller and Narsimhan (2008) said that given the normally subordinate role of women in Indian society, the experiences of women in IT professions as a result of high earning are more significant than they are for men. Many of them (42%) noted that representing themselves as IT workers increased their confidence and that the consequent image mattered to themselves and also to 'others' (here, others implied family members). Their involvement in the competitive IT companies showed their ability to cope with 'pressure'. It brings out one's 'inner ability', which creates a sense of satisfaction and achievement for them which is otherwise scarcely found for them. Upon deeper exploration, it was evident that such feelings was often linked to the 'exposure'¹⁴, achieved in IT, which is a common term in middle class discourse in India (Fuller & Narsimhan, 2008). Exposure both inside and outside the workplace enables individuals to improve their career prospects and their overall life-chances and the family members. For many women IT software professionals (52%), it was noted that exposure comes from working in IT with diverse people as well as travelling overseas on project assignments, working in new environment with new people which enriches a person socially and intellectually. This 'exposure' and high income in IT coupled together suggest a sense of pride and shifting social status, engendered by the IT industry (D'Mello & Sahay, 2009). This gave them a sense of self-reliance and helped in earning much respect from family members because of their achievements at work. For many women (59%), this even strengthened their position in families as well as increased their 'desirability' among social circles. This is illustrated in the experiences words of the respondents:

Anwesha (33 yrs): *I have been to Boston for four months as a team lead. It was a proud moment for my family as it was my first onsite travel. My in-laws and my parents were sceptical about whether I would be able to manage everything. She explained how 'tough' it was to go and settle in a new place alone without anyone's help. She acknowledged that her travel has given her the 'big exposure' and made her confident. She said: It's a satisfactory feeling when my parents and in-laws trust me and rely on a decision I take in my family because they know that I am involved in a responsible position and hence mature enough to know what is right and wrong.*

Tanisha (37 yrs): *Being in IT, you interact with so many people and there is exposure for you to learn many things. There are international clients and sometimes there are high-profile clients. So, you have so many different situations and different people to deal with. It increases your confidence and your family knows what you are capable of. They fall back on you in case of any suggestion. There is more involvement in financial decisions at home which previously was done by elderly male members.*

Deepashree (34 yrs): *When I was sent to Toronto for one year, my extended family was amazed to see me managing everything alone. Staying there alone gave me a lot of exposure regarding work experiences, meeting new people, managing entire household by oneself, doing all housework. It was a learning experience for me in various ways. Now, I am more confident and independent. My family backs me for what I am doing and how I manage both work and home.*

Anisha (29 yrs): *Just after I got married, I had these family weddings to attend. There were my in-laws' relatives who told me if I could help her daughter with how to get through IT jobs. They were like 'you are doing so well, I heard from your mother-in-law. Even my daughter wants to work in a company like TCS or CTS. Which one do you think is better? Can you help her if she calls you for some guidance.' These days IT jobs are big attraction.*

Therefore, the exposure and experience provided women much confidence to take a call on their individual lives. As Shenoy (2003) in a study of IT managers, in India and UK, reports that the pride parents, husbands and children express of a woman's professional achievements increases a woman's sense of self-worth and in many cases obliges them to succeed further.

The gain for women under neoliberal reforms have been regarded as a consequence of an enlightened outlook of, and cultural changes within families together with a range of ongoing political initiatives (Scrase & Scrase, 2009). Rajan (1994), in her examination of the new Indian woman says that they no longer view themselves as submissive and solely involved with domestic responsibilities. In this study, it was noted that their education and professional employment significantly mattered as it made them equal partners in marriage when it came to financial expenditures or deciding over monetary matters. Women (65%) felt their gainful employment did not only make them economically independent but they also could decide for themselves, manage their own finances and make their opinion 'count' within families involving financial investments which were previously a male domain primarily. They also noted their increased economic power made them feel 'stronger' to stand up for themselves in case they had any marital issues. Some responses of women illustrate these:

Nilanjana (44 yrs): *No matter how much people talk about gender equality and equal partnerships, at crucial moments, one realises it is merely a lip service unless there is some amount of economic independence. In IT, pay is quite good and there is more autonomy from that I feel. I manage my own account. I contribute to family income and even help my parents whenever I need. I play a role in financial decision making like fixed deposits, maturity and so on too like my husband and father in law, which was not there for my mother-in-law when he was a daughter-in-law in her time. For example, today, I have a car registered in name and I bought that independently. My parents felt so proud. No one had any say in that.*

Mridula (35 yrs): *Increase in economic power gives you the 'ground' to voice your opinion. My education and my family's upbringing have enabled me to stand up for myself. Today if there are issues between us in our marriage I will not keep quiet. I am an economically independent woman of today and I have my own income as my backing. I have made a place for myself and he cannot take me for granted.*

Priyasree (30 yrs): *I take care of some of the household expenses as my in-laws do. Even I am there for my parents. My father had a major operation last year in a private hospital. It was very expensive affair. I paid the rest amount apart from medical insurance as I didn't want my father to touch his savings. I shared this with my in-laws after the surgery. This independence comes from economic power. So with economic power and education, you a greater say when it comes to family matters.*

The conversations of women implied the subjective feelings of self-reliance among women involved in the software industry. They highlighted the importance of economic power as it gave them independence for what they do with their income. This is even reflected in the ‘choices’ that women exercise or decisions they take when it came to matters of marriage. This has been taken up in the next section.

3.3.1 Decision-Making in Matters of Marriage

The cultural norms across India make marriage obligatory for both men and women. Unmarried women and their parents face the questions of curious relatives or from seeing other young women marrying. Media, in the globalised and neo-liberal age, influenced by transnational standards increasingly emphasize love rather than parental choice as a basis for marriage and present relationships between husband and wife which are not tempered by competing joint-family demands (Derne, 2008). Beliapa (2013), in Indian context, noted that while arranged marriages remains the norm, love marriages are increasingly common among the new middle classes. Derne (2008) cites a study by media scholar Melissa Butcher (conducted in 1996) where men and women coming from “consuming classes” with a high level of education and/or professional development expressed a gradual declining adherence to rituals of arranged marriages. In this study, I tried to understand whether the increasing economic power and ‘shifting social status’ of women brought about any change in the way they participate in marital alliances. Women (49%) noted that their education and employment gave them the power to exercise ‘choices’ about marriage or child bearing matters. Among the respondents, I found that the institution of marriage prevails for most of the women. Generally, women got married at the age of 28 (the demographic details, regarding marital status, have been provided at the end of the thesis). All the women I interviewed had a strongly developed sense of self-worth, often independent of family or husbands. They wished to achieve financial independence prior to getting married. Although arranged marriages was found to be prevalent, but there were significant modifications. A common point of agreement among all of them was that, being confident of their value as potential partners in marriage, young women could actively resist being pressurised into marriage when men or potential partners do not meet their expectations or when they feel it is not the ‘correct time’ to get settled. They noted that, given their economic independence, employed women have relatively more freedom in choosing their own partners. Thus, they are no longer submissive, rather view themselves ‘at par’ with men. Below are some of the views of women supporting this:

Sneha (28 yrs): *Now, when you go for arranged marriages it's not like as it used to be in our parents time. Although parents look groom for me, I will have freedom to choose if I want to settle down with him. Knowing his family and background is very important. If I don't like him after first meeting, it's over.*

Anulekha (29 yrs): *I am in a relationship since four years. We are pretty sure of our relationship. However, if there is anything that I discover about him which is not healthy for this relationship I will really think whether I can go ahead with him. My parents also know this. So, there is no thing that 'who will say what if this relationship does not culminate into marriage'.*

Oindrila (26 yrs): *I believe that now times have changed. We are not like previous generation of women, who had little say regarding their choice of life partners. I am 26 yrs old and my parents have started looking for a suitable match for me. If things work out, I wish to work for a year or so before settling down. I need to know the boy and his parents before taking the final call. My parents understand this.*

The narratives of women suggested their self-confidence by virtue of their increased financial independence. It also highlighted that the parameters of middle class marriage have expanded to include 'companionship' as a primary determinant (Fuller & Narsimhan, 2006). Thus, the advent of neo-liberal economy and globalization has intensified the celebration of autonomy and individual choice, especially for women (Munshi, 2008). Women (32%) noted that they not only had the liberty to choose partners of their choice but expressed their wish in delaying their age of marriage (upto age 32) and planning for children. Sometimes women wait for a period of minimum three to four years in IT before settling down. With marriage there emerged consequent discussions on relocation with husband in different city. To this, they noted that marital relocations to different cities depends to a large extent on their possibilities of transfer to the particular city or availability of appropriate projects. Some of the narratives are reflective of their views:

Ankita (29 yrs) is about to get married in four months. She says: *My prospective husband stays in Pune. I have applied for a transfer. But if there is no relevant project now, I will reconsider*

shifting from here until it works out. He understands this and respects my decision. Even my in-laws are very progressive that way. They do not tell me anything and know we will find out a way eventually. But my some of our relatives and his ones are not happy with this and keep suggesting me to shift with him. But I don't bother about that.

Priyam (27 yrs): I am getting married in some months. My husband is in another IT company. I will apply for a transfer but if I don't get it I may stay here until I get one. Otherwise, I would have to apply for a new job. But without a job, I wouldn't want to move out of my city.

Satarupa (38 yrs) is senior software engineer in one of the IT companies interviewed. She got married at 31 years and now it has been two years that she stays in Kolkata with her in-laws and her husband is working in Denmark. She says: I got married at 31 and after few years he got job in Denmark with a renowned pharmaceutical company. When everyone heard, they were like 'you go there too and you will find something we are sure.' I said 'no, I am happy with my job here so why do I shift without any job?'. My husband did not pressurise me. I tried applying for jobs in Denmark but did not find anything relevant yet. He might come back when he finds something suitable here. Otherwise if I get a job there, I will surely move out. Till then we visit each other once and year and that's how it has been since last some years. My in-laws have had serious reservations about this decision but have accepted this over time.

Renu (42 yrs): Being financially independent I am able to take my decisions. We had a son six years after our marriage. After two or three years, naturally everyone started having expectation given the fact that I was already thirty. But I wanted to settle down a bit before taking that plunge. So , I took my time although my in-laws and my parents were concerned about my decision. But they never enquired directly in this regard. They knew that I would not appreciate such questions and that I like my own freedom and space.

Sohini (33 yrs): It's been one year of my marriage. Ours was a love marriage. My company is sending me to UK for six months and it might as well get extended. My husband is also in IT and his project is right now with an Indian company. Some people in my family were apprehensive whether I would take this call as my husband would be here and I would be in UK.

The responses of women were suggestive of the increased independence of women, which is attributed to education and professional employment. The public visibility of women and the freedom to pursue careers are together seen as major achievements for women within their classes. Thus, the women software professionals felt 'independent' by virtue of their education,

employment and economic advantage. However, in this study, I wanted to explore whether the employment and assertiveness of women software professionals led them to challenge the dominant notions of womanhood while they navigate between work and home. Upon deeper explorations, it was found that economic independence of women does not mean rejecting the ideologies of femininity or domesticity. Their ‘choices’ were found to be constrained within a structure, which is patriarchal. This has been taken up in the next theme of this chapter.

3.4 Upholding “Respectable Femininity” in Family and Work

Respectable femininity is a gendered construct traceable to the 19th and early 20th centuries. (Fernando & Cohen, 2013). The discourse of “respectable femininity” validates a particular kind of femininity- one that is not submissive but rather confident and professional. However, her ‘personal choices’ ultimately uphold the sanctity of the Indian family. Respectable women dressed modestly, demonstrated sexual restraint or self-restraint, were sober and well-mannered, and confined themselves to mainly private spheres (Radhakrishnan, 2009). Domesticity is a central component of ‘respectability’ where women are constructed as prioritizing family and holding them responsible for preserving family’s culture as ‘good wives’/effective housekeepers and dutiful mothers and while pursuing their careers and being financially independent. The notion of ‘respectability’ plays out in women’s careers because factors like domesticity and self-restraint which confines women to private spheres are inconsistent with networking and impression management, seen as vital to developing a career in contemporary organizations. Through this essentializing discourse, the new Indian woman is someone who is economically independent and assertive while internalizing the socially prescribed gender roles as mother or wife or daughter-in-law.

A woman’s body is an over-determined site for feminists to start an in-depth understanding of femininity, as it is the surface inscribed with culturally and historically specific cultural practices and subject to political and economic forces (Thapan, 1995). The notion of the body is central to the feminist analysis of the oppression of women because biological differences between the sexes are the foundation that has served to ground and legitimize gender inequality. Bordo (2008) noted that feminism first inverted the old metaphor of the ‘body politic’ to address the issue of the politics of the body. Feminists have identified how women have been subjugated primarily through their bodies and how gender ideologies arise from perceived biological differences between men and women which are supported by dualistic paradigms

that have characterised Western thinking from the philosophers of ancient Greece to Enlightenment and beyond. The idea of men and women as opposing is supported by opposite categories like mind/body, culture/nature, spirit/matter which have been inflected with gender ideologies. Mind and reason are perceived as superior to emotions and senses and hence separate. A 'man' represents mind and culture, one who has rational thinking, while the 'woman' represents the body and nature, one who is the irrational and emotionally driven. Hence, the man with 'mind' and 'culture' must harness and control this potentially unruly 'body' of woman through the application of knowledge and willpower. Women's association with body/nature is strengthened by essentialist paradigms which defines a woman according to her reproductive physiology. Hence she is understood as 'passive', driven by emotions and instinct. In the process femininity is understood as a social organisation of relations among women and between men and women which is mediated by texts, i.e. by the materially fixed forms of printed writing and images (Thapan, 1995).

In our society, the 'good' or 'ideal' woman is considered to be a judicious blend of the qualities of domestic skills, knowledge of religious rituals and practices while having acquired education and employment opportunities. For most urban middle-class Indian women, this is a discourse that they are product of and simultaneously reproduce in turn (Thapan, 2004). Technically qualified and professional women trying to reproduce the notion of 'good woman' can be explained by feminists' perspective on Foucault's understanding of 'knowledge'/power and how it moulds the subjectivities of the individual. Women internalise the feminine notions (of family responsibilities or domesticity), in Foucauldian terms 'disciplinary practices', into their subjectivities in course of everyday lives. An evidence of this was seen in the fact that all women I spoke to expressed their belief in the institution of marriage along with the 'responsibilities' which it entailed. The professional women in IT, while being independent and confident at their work, drew upon resonant notions of family even as they reconciled those meanings with notions of individual achievements imbibed at workplace (Fuller & Narsimhan 2008, Radhakrishnan 2011). As the high status of women in the IT workplace has become established, the "time bind" between obligations at work and attending obligations to home has become an important factor in the lives of women software professionals. In contrast to public sector jobs, IT industry requires long working hours and sometimes employees must work from home or even on the weekends. That is why the divide between work and home is blurred and that's when a woman's job becomes to impinge on her family life. In a society where this kind of time bind for middle class women is relatively new, the questions about priorities between

professional and personal lives arise. In the study, women (44%) believed in the importance of family and their responsibilities. They were found to be career oriented, but rarely at the expense of the family which is almost always privileged over the stimulation of work or even the high salary a woman may receive from her IT job. In fact, they viewed career as something ‘supplemental’ to a married life with family and children. The conversations women suggested they held family values of being the priority and spoke of adjusting their work life after marriage. Some of the narratives of women illustrate these views:

Gunja (30 yrs) is a software engineer in an IT company. It’s been one year since her marriage. She is settled in Kolkata with her husband at her in-law’s house. She spoke of how she adjusted to her new lifestyle after marriage. She says: *After marriage, a lot of change is there as I am staying with my in-laws. Although I have my own space and there is no interference from them, but you know working women have to balance both. I am mindful about getting up early so that I help her around little bit. At night, I am too exhausted to do anything. So, I try to make it up in the morning. I don’t work on weekends now as I have other preoccupations.*

Anwesha (33 yrs): *I love my job. It gives me a sense of independence. But I never compromised on the well-being of my daughter and husband. I had to give up two on-site foreign travel for my daughter when she was small. Everyone told me it was a blunder. It even cost my career, I lost out on two consecutive promotions, but I stood by it with my husband’s support. It took some time to get on track because loosing on promotions creates a gap. I am working in another company since then.*

Deepashree (34 yrs) is working one of three IT companies interviewed. She is married and does not have a child. Even she reiterated the importance of ‘adjusting’ for women in IT between work and family. She says: *If I had a child today, I would have to consider many things. I don’t know the situation but I may have taken some project or would have to say no to some due to time and travel considerations. You have to make adjustments with both. Not all women are able to prioritize work over family. Many women have this dilemma. Some make it clear while rest adjust in both.*

The behaviour of women noted in these cases showed that they uphold ‘respectable femininity’, that is, unwavering in their support and orientation towards family while being employed. The

primary location of women in the private sphere, irrespective of their employment and education may be explained by the ‘power’ of gendered ideology which women have internalised. The fact that they tend to prioritize their family needs imply that women internalise the power of dominant notions of womanhood, that they are ‘naturally good’ as care-givers and nurturers of family and hence assuming domestic responsibilities. Interestingly, it is family which plays an important role in indoctrinating women to accept the power of men in both private and public realms (Rainbow, 2010). They are constantly involved in adjusting between work and home after marriage by striking a ‘balance’, which is still unheard of in case of men. The way in which women strike this ‘balance’ along with its implications have been analysed further, in detail, in the following theme.

3.4.1 Family Comes First, then Job: A ‘Gendered Balance’

In order to reproduce, reinvent and achieve the ideal of the ‘good woman’ and maintain their middle-class respectability, while retaining their economic independence, women software professionals strike a much valued ‘balance’ and it is their constant engagement in striking this ‘balance’ that lies at the heart of the discussion of masculine domination as ‘legitimate’ and ‘natural’. Both ‘masculine domination’, and its vital component - symbolic violence, are helpful to understand how women take part automatically, and are products of, in the patriarchal ideology of femininity and womanhood and thus maintain the continuity of this structure. The masculine-feminine opposition is ‘naturalised’ in a series of ‘analogous oppositions’ which includes the binaries involved in the sexual division of labour.

Masculine domination takes its power from the fact that women accept the domination as something that is ‘legitimate’ and ‘natural’. This domination, as Bourdieu (1894) says, is established historically and is internalised, naturalised and essentialized. The symbolic use of violence to women, is not physical, but is carried out by the imposition of a particular image and personality. The conditions of femininity that are accepted include: domesticity, docility, adjusting or compromising, tolerant, subordinate and being dependent of men’s expectations (Bartky, 1990). In this study, the responses suggested that women software professionals internalise the conditions of femininity, as mentioned above, which take the form of ‘balance’. The new gendered ‘balances’ recreate older strategies of cultural preservation that seek to prevent the feminized private sphere from being ‘degendered’. In this ‘balance’, most women professionals (although may not acknowledge) continued to prioritise family and its needs over

their work and this took different forms. Women who have been in the industry for more than eight years and have stayed through marriage and children expressed their views on the dilemmas balancing the demands of home and work, going beyond the navigation of the gendered division of labour in the home and hinting at the more symbolic aspect of these 'balances'. Although they are successful in their career, yet use various strategies to uphold the ideals of Indian womanhood. Sometimes women make 'negotiations' between work and home by opting to keep housemaids (sometimes full time) to compensate their absence. It is also seen that women involve in taking them out to restaurants for dinner or cooking on a day for family members to make them 'happy' and compensate for their absence at it. In spite of these, their conversations often brought out feelings of 'inadequacy' behind the negotiations and not being able to the duties towards family and home as 'expected'. It did not refrain women from thinking that their status as a bearer of 'culture' in the family is to some extent compromised due to the work culture in IT like: erratic work schedules (long working hours), staying back till late evening although rarely, working at odd hours (sometimes even on weekends); not being able to give adequate time to family, especially children and family members like in-laws. The narratives of women exemplify their way of asserting their navigation at work and home and their attempts at balancing:

Pragya is (39 yrs) is a software developer project manager in one of the three IT companies. She has a six year old daughter to whom she has not been able to give much time. Her daughter is looked after by her parents and to compensate her presence at home she has kept a full time live-in domestic worker. Her husband has a business and both their earnings are important for the family's upper middle class lifestyle. She says: *sometimes, my work gets under my skin you know. It's very strenuous. There are days I come back late at night and I see my daughter sleeping. Next morning we hardly meet for half an hour before she leaves for school. The girl who stays with her has become like our family. We take her along with us on weekends. Although I am not like other mothers who are there for their kids all the time. Sometimes I know my family members talk behind my back. But no one in my family questions me on my face because they know me and how I love them. They will consult me first regarding my daughter's needs. I am always in charge of her always.*

Poonam (35 yrs) is a software engineer in another IT company. She stays with her in-laws and they look after her five year old son and his studies. She also has a full time domestic help like Pragya and yet is at the helm of family affairs especially her son. She says: *since I cannot be*

*at home 24*7 and my in-laws are aged, I have kept a live-in domestic help. They supervise her and keep an eye on my son while the help does his work. I realise sometimes that I am unable to give him as much time as I should do and with my kind of job it is difficult to be that doting mother always with him. My relatives talk about my role as a mother sometimes to my in-laws. But, I know that am just a call away from them and they know it. Minu di (doemestic help) reports to me if anything untoward happens at home.*

Ritu (32 yrs): Working in IT gives very little time for family. For a woman it is more difficult given the responsibilities of childcare on her. When work pressure is more on a project, I can hardly have time at home. She understands that. My in-laws were initially not happy with my working style after I had my daughter because of my odd working hours. Sometimes I try to cover up my absence by taking them for dinner after my work. My husband discourages me to do it as it becomes strenuous, but I know these are important to keep them happy. I even like to cook on weekends and help my mother-in-law for lunch and dinner. I prepare a dish or two. It's not much you know but it makes her feel good and I feel content too that I am doing my duty for the family.

Anjana (34 yrs): Throughout the week, I hardly get time to help my mother-in-law at home. Managing a home is no easy task. My in-laws look after my son with a baby sitter who is always with them the whole week and do other housework. During the weekends, I am free from work and I am involved with my in-laws at home. We take them out also on weekends. I don't let them complain about my absence from home on weekdays. It feels nice when my mother-in-law appreciates these efforts of mine to our relatives.

These experiences suggested that although women are confident, strongly tied to their work and value their financial independence, yet they are products of a gendered subjectivity. The dominant notions of femininity are powerful and it has been transferred into the subjectivities of the individual thus disempowering them. Thus, women are continuously striving to fulfil such ideologies by 'adjustments' (or what is referred to here as 'balancing') failing which makes them feel 'inadequate' or 'guilty'.

The importance of this 'balance' in the lives of women could be gauged from the fact that this term was a recurring theme in most narratives, which is still unheard of in case of men. It allows for the enactment of respectable femininity, a critical symbolic performance in which the

women software professionals strive to participate (Radhakrishnan, 2009). Under masculine domination, women try to accomplish the ideas of motherhood and femininity. In IT industries, it was noted that the need to look after households, especially after childbirth, often leads to a tendency of self-selection of women in lower-end software domains like: quality assurance, testing or support (Upadhya & Vasavi, 2006). These jobs are considered to be lower-end and are usually paid less and offer fewer channels for growth, yet women prefer them as they have regular working hours with little chance of being sent abroad or long hours of work in office. Such self-made ‘choices’ of women to prioritize family over work (to the extent of choosing to remain in particular jobs in IT) while interpreted as an entirely individualistic decisions works in recreating or reaffirming the gendered notions of a ‘woman’ where the culture of the middle-class families lie at the importance (or construction) of women being the care-giver and nurturer of the family. In this study, women (38%) were found to make such voluntary ‘choices’ where they preferred to be in software tasks like: support or quality assurance or testing. Although these were lower-end software tasks, yet women did not complain as it gave the ‘freedom’ or ability to adjust between family time and demands of work. They shared diverse viewpoints on how they achieve that ‘balance’ in their own ways:

Sutapa (34 yrs) is a technical support lead in an IT company. She has an experience of ten years in this field. She has a two year old daughter and shared her views about her family responsibilities which made her continue working in support team, even when she had the option of being a software developer. She says: *When I had my daughter, I knew I would have to manage my work and family. I had good rating before I went for maternity leave because I took less leaves and did all the pending work and handed over my work charge on time. When my manager asked me for a designing project, I was not sure whether that would be appropriate at that time because my daughter was just six months old and I needed to be with her. In designing team, it would be very hectic to keep up with a small baby. I have been in testing since then and I am a team lead. I am able to balance home and family better than some of my friends who work as software architects.*

Priyanka (27 yrs): *It’s not unusual to see some women opting to work in projects that enable them adequate work flexibility even though they provide slower rate of growth in companies. They take up such tasks or projects which do not need much travelling and have more or less regular work hours so that they can be with family. It’s the choice that women make themselves to balance family and work-life.*

Anwesha (33 yrs): *I was called for a software development couple of months back. The client was high profile client and I knew there would be tremendous pressure. My son only three years old and recently has not been keeping well lately and I have to be around. He needs constant care. I informed my manager about my inability to take up the project and I made my reasons clear. Yes, these do affect our carer choices but sometimes for the sake of family your career can take a backseat for some-time. I am in a support team and I am content with what I do.*

The fact that women do not question the normative roles in marriage, prioritize family and make ‘necessary adjustments’ at work imply that their ‘choices’ are not exercised freely but are a result of the gendered selves. Womanhood and femininity become a natural and self-evident status through its inscription in the objective structure of the social world which is then incorporated and further reproduced in the habitus of individuals. By prioritizing family, the women software engineers displayed strong notions of appropriate behaviours and actions that do not undermine the family and which sets up the terms of the delicate ‘balance’ that IT women continuously make. Thus, “balancing” the desires and motivations of the individual with the duties and obligations of the family, the software professionals of the neo-liberal era hence reproduce the gendered ideals of femininity that draws upon the notions of a sacred, feminized domestic sphere while also engaging in the progress of economic and social development. They recognise the gulf between their goals and criteria, and those of their ‘nature’ - being committed to family and children. It also brings out the dilemma of balancing childrearing and work and the practical contradictions faced by individual mothers and it relates to the larger contradictions in society as a whole. This discussion is taken up in the next sub-theme.

At the core of the discourse surrounding respectable femininity, lies the issue of women’s sexuality (Phadke, 2007). In order to achieve ‘respectability’ in the service of family and work, the middle class women must respect a set of boundaries that delimit how they travel between the private sphere of the home and the public sphere of work and leisure in everyday life (Radhakrishnan, 2009). In this study, I have attempted to explore what women felt about their leisure time after office hours. To this, it was noted that generally their leisure was limited to ‘coffee-breaks’ or ‘pizza-breaks’ on working days within the office hours so that there is not much delay in returning home after finishing work. Married women rarely went out for dinner with friends or colleagues because of their responsibilities at home. Given their long working

hours, women preferred to give time to family, after work, rather than hanging out with friends. For unmarried women, although there was no such binding at home yet they felt the need to return home early after work before it gets too late. On rare occasions, (may be once in four or five months) they were found to visit near-by restaurants for a drink with their close friends or colleagues (who were also women). Such occasions were largely unknown to their guardians (parents or in-laws) at home, as they did not appreciate women drinking and hanging out with friends after office. In between conversations, women often acknowledged their family 'backgrounds'. The term 'background' not only refers to overt class markers but also to the gendered character of the domestic sphere which is implicitly linked to class standing (Radhakrishnan, 2011). 'Good family backgrounds' essentially consist of heterosexual families in which middle class women make 'appropriate' choices or decisions for their husbands and children- decisions that are enacted self-consciously and enthusiastically by most women interviewed. They noted that their employment gave them a 'respectable social standing', unlike in other professions, and that frequent going-out with friends could be misinterpreted by members of family and women did not want to transgress it. The fact that women believed in the norms of marriage and familial ideologies highlights that sexuality of women is channelized through marriage. Some of the narratives of women are reflective of their views:

Anwesha (33 yrs): *It's not that we girls do not have our hang-outs. But it's not that frequent because I am married, I have a child and I have responsibilities. She waits for my return at home. If I go out for a drink or head to a party after work, how will that do. If we plan to have fun with friends, we do it within office hours and on weekdays. For weekends, I am with my family.*

Sreyashi (26 yrs): *I don't get much time to hang-out with friends after work. My parents worry about me till I reach home. And they don't like that girls staying out of house till late evening. If there is a plan to meet up with friends or colleagues, it's mostly within office hours. If we go out for a lunch somewhere we share a drink or two but it's very rare and I don't disclose it to my parents.*

Nilanajana (44 yrs): *My in-laws anyways don't like women going out alone with their group of friends at night and let alone for a drink. They think after work, you should go back home as you have responsibilities here. It shows the background and culture. I don't have a problem with that, it's their view. It's not that we go out often but there are some occasions where we want to go out and have a good time. We plan, we try to do it near our workplace according to*

a convenient time so that it's not very late in reaching home. I have my child at home to look into at the end of the day. But, I inform my husband before-hand that I am going out and he is ok with it. So, I have no problem.

Deepashree (34 yrs): *Women generally return home after work. Office hours are as it is so long and there is no leisure time. Mostly we have our hang-outs within office hours where we go for 'pizza breaks' sometimes even a brunch with women colleagues at one of the restaurants inside the campus. Till now my mother keeps on messaging me when am I returning home after work. Our job gives has a good social standing in our families. Hanging out with friends frequently and going to parties does not give a good impressions at your in-laws house.*

As understood from the narratives, women rarely took time to 'hang-out' with friends after office and even if they did it was only with their female friends. Thus women acknowledged and avoided, as Radhakrishnan (2011) calls "too much of exposure", and maintained their 'respectability' or sexual limitations. By refusing to take part in leisure time, like going out with friends', women uphold respectability within families. In fact, in Foucauldian terms, women are guided by the patriarchal construct of a 'good woman' and they 'discipline' themselves by being self-consciously professional, competent and ready to go home to be with family on time. Their frequent references to 'good families' suggested the ways sexual limits are set, reinforced and enacted by women in IT. According to feminists, for most middle class Indian women, the boundaries for acceptability within families is to have sexual restraint. As Phadke (2007) says, public spaces are important locations for understanding the sexuality of middle class women. Here, public spaces imply IT workplaces and women reproduce respectability by maintaining a distance from opposite sex, avoiding participation with men (outside IT offices) and thus prevent any kind of violation of norms of sexuality. For most middle class women, their respectability is linked to their being able to demonstrate on a regular basis their conformity to familial norms of being a 'good' or 'responsible' woman and any transgression from this is considered 'disrespectful' in middle-class families. Thus, in case of the women software engineers, their reputation is linked with familial ideologies maintaining sexual restraint and 'honour' and 'respect' of the family.

3.4.2 The Dilemma of Childcare and Motherhood

As a social and cultural construction, motherhood is controlled by patriarchy and it ensures that mothering is viewed as 'natural' to women and therefore assigns biological mothers the responsibility of mothering without the power to determine the conditions under which they parent. Among most Indian women, the primacy of the woman as a mother and protector of the domestic sphere is not fundamentally transformed by her employment in a lucrative global industry but rather continues to be so (Rajan, 1993).

The first major problem highlighted by women was regarding childcare provisions in IT companies. Given the fact that it is mandatory to offer onsite day-care facilities for employees under the Maternity Benefits Act, 2017,¹⁵ the three IT companies studied in this case, did not have in-campus day care yet. There are 'near site day-care'¹⁶ facility which is availed by some working women. The IT companies in Kolkata are located in Sector-V of Salt Lake area and there has been a clustering of quite a few day care centres in and around Rajarhat area. Among the respondents, around 3% of working mothers said that they keep their children at day care centres near the offices. Given the long and erratic work hours of IT industries, women reported problems in picking up their children from day-care centres. Mostly, it was women who took up the responsibility of picking up and dropping children to day care centres. But in some cases, both men and women made adjustments for their children. It was noted that men (the fathers) also took up responsibility of childcare in the absence of women. These were exceptions which broke away from the conventional gendered ideologies involved in parenting and roles of mothers. Below are some of the narratives that sum up these views:

Smriti (34 yrs): *I have been keeping my son in a day-care centre since he was eleven months old. The timings of day care and office sometimes do not match. If meetings fall after 6 o'clock I am unable to pick him up from his day care on time. I cannot even leave the meeting in between as that would not look good. so I reach to pick him up at 7:30. I feel bad for him when I am the last one to pick him up from his day care and all his friends are gone by then.. but what do I do?*

Mridula (34 yrs): *It takes half an hour to reach from my office to my son's day-care. I try to leave by 6:30 so that I reach there by 7 o'clock. But sometimes superiors or leads do not understand when they ask to stay back women till 7 o'clock or 8 o'clock to wrap up work.. you cannot give the daily excuse of picking up son from day care because that would mean I more*

concerned about my family than work.. for men, it's never an issue as much it is an issue for women.

Poonam (35 yrs): My husband's office is in Salt lake, near the day care. He mainly picks him up from day care and comes to my office to take me home. But if I am up with important work, he manages it well.

These discussions lead towards understanding the importance of motherhood and how it constructs women socially and culturally. These are constructions of femininity that hold women and men as fundamentally 'different' and thus aids in reinforcing the idea that women's traits makes them naturally appropriate for home and childcare, while men's traits make them more suitable for work outside of the home. It is taken up in the following section.

Conventional notions of the good mother who places her child's need over her priorities present the new modern women with implications and complications that put their domestic lives in conflict with their professional lives. Many women (46%) in my study romanticised motherhood and the mother-child relation. Living under the 'gaze' of others often pressurises working women to adhere to these expectations, fail to develop their own standards of 'mothering'¹⁷, or to lose confidence in their own mothering practices. In my study, eleven of my respondents were mothers. All of them confirmed to the social constructions of feminine nature and that of an 'ideal mother'. Majority of them believed in the continuity of motherhood as compulsory felt responsible for the childcare responsibilities, and spread this with their own consent. They believed that mothering is the most important aspect of themselves and their lives and staying at home with their children is more important than working outside home. Most women felt that after childbirth their identities become irrevocably changed and every relationship comes second to motherhood. This could be understood when they generally agreed that after child-birth, their familial responsibilities reach a new level, such that childbirth rather than marriage by itself usually has greater impact on women IT professionals' working lives. As Hays (1996) has observed, the essential and ideological construction of motherhood puts women in a difficult situation. They cannot bring their individualism to their lives or their mothering because the institution of motherhood views them first and foremost as mothers, not people. Women (27%) were found to make uphold childcare responsibilities in different ways like: cutting down on their travels after child birth; sometimes refusing to take up projects that would require to work on weekends or on-site travels or frequent travels within the country

till their children were old enough or letting go of challenging projects that are important for career growth in IT. Sometimes, they were even found to leave work and decide to ‘choose’ full time motherhood or part time work as the best option for the happiness of family, especially children, and to meet their own emotional needs as mothers and wives. An interesting point here was the role of family. Responses of women ruled out an absence of family pressure on women to decide about their work and ‘choices’ they make. I interviewed two such women who left IT jobs after five-six years of working because of their ‘inability’ to cater to their motherly duties. They shared their experiences of the emotional conflict and ‘maternal guilt’ of not being able to provide the care and nurturance to the child as ‘expected’. One of them stayed with her in-laws and yet was unable to continue her work given the frequent absence of housemaids along with inability of elders to deal with her absence at home coupled with her long working hours sometimes extending on to weekends. Another woman spoke of her anxieties and ‘guilt’ to pick up late from day care or keeping the child alone with a baby sitter at home without anyone’s supervision. Some of the experiences of women given below illustrate their views:

Anwesha (33 yrs): *I traveled a lot when I did not have a child. But when my daughter was born, my way of balancing work and family was cutting down on travels so that I could give as much time as possible to my daughter when I am not at work. Once she becomes older, I may think of taking up on-site travels once again.*

Srijita (36 yrs) is an ex-employee of an IT company. She left her job after one year of her child-birth. She cited her reasons for quitting the IT job. She narrated how difficult it was for her to keep her son at a day care and trying to leave early. She said: *I had my son in day care near New town. Often I used to get late to pick him up from his day care. Gradually he started getting irritated and became very cranky at home. I realised my lack of time to him and his staying alone at day care is making him restless and attention seeking. I spoke to my family and decided to resign for the time being and then resume again when he would be grown up and have an understanding of my work.*

Sayantani (38 yrs) is an ex-employee of one of the IT companies. She says: *after joining from maternity leave, there was lot stress with work and keeping a child at home. There was the problem with the babysitters who used to be absent frequently. My manager would call for a meeting in the evening. I had to refuse as my in-laws would not be able to manage my child for*

long. It is very exhausting to take care of a child after a whole days' work. I could not take the stress on a frequent basis. I decided to quit for a year or two and concentrate on my daughter and then resume again.

Mridula (34 yrs): Sometimes, there are team meetings I cannot attend because I have to reach home on time. My parents look after my son and the house help leaves at 8. I have to be there around that time. I arrange my work accordingly.

Poonam (35 yrs): I make it a point not to stay beyond 6:30 because it takes one hour and a bit more to reach my house from New Town to Garia. My child keeps waiting for me till I reach home. Sometimes, I deny working late on assignments till late evening. I inform my manager and leave. It's my choice. I have been working like that.

The narratives suggested the dilemma of motherhood and the problems they pose for working women. Even reports by Upadhyaya and Vasavi (2006) noted that the dilemma of childcare and how it affects attrition in IT. The responses of women suggested that the social construction of motherhood runs strong among the professional women. The patriarchal ideologies positions a woman as the 'best' or 'sole' nurturer of the child and one who is best suited for all childcare duties. The internalisation of the belief is such that they believe in the ideology of "intensive mothering" (Hays, 1996) where they see themselves as 'best suited' to look after the emotional well-being and daily needs of the child. This underlies the assumption that well-being of children is primarily the responsibility of a mother. It explains the anxieties and remorse of a woman who are unable to give adequate time to children or pick up their children from day-care, unlike men. They feel they are not able to live up to the ideal of a 'good woman' or 'good mother' who pursue maternal goals over others. The fact that women are guided by this ideology suggests the gendered knowledge of motherhood is transferred into the subjectivities of women. It operates as 'power', which is invisible and devoid of coercion, which exerts pressure on women and moulds their thoughts such that they experience feelings of 'maternal guilt', which are unheard of in case of men.

However, it was interesting to note alternatives as well. In my study, there were few women (3%) who resisted ideal of middle-class respectability or domesticity. Women were found to resist the ideal of motherhood where they opted for frequent travels (either with their children or without them), took up projects that would demand strenuous work. Although it did not

bring full support from parents or in-laws (initially), women were not deterred from doing what they desired for. Interestingly, sometimes their actions made them appear ‘less feminine’ to their family, relatives and (few) colleagues. In one case, it was noted that a woman walked out of her marriage due to lack of support from husband and mental trauma caused by family problems. She continues to work in the IT company and stays with her parents. Some of the narratives of women are illustrative of what they feel:

Roshni (41 yrs) is a software engineer in one of the three IT companies. She is divorced with a six-year old son. She says: *after childbirth, my in-laws wanted me to quit my job and focus on my job. They were upset about my hectic schedule and used to tell what sort of mother was I to leave my child for long hours and go to work. Surprisingly, even my husband started quarrelling with me and there was lot of mental and emotional trauma for me at home. Now, I am a single mother and looking after my son alone and my husband visits him time to time.*

Sanjana (35 yrs): *After childbirth, I was very clear at home that my work won't take a backseat and I would fulfil all duties required of me in my office. I went to Chennai for three days when my daughter was seven months old. She was with my husband and in-laws. My in-laws were unhappy but I knew it was my duty.*

Amrita (38 yrs): *When my son was born, I kept a full-time maid at my house as I knew I would be joining work after six months. I travel for official purposes since he was very young, and there are times my family did not support this, but for me my work is important. There are disagreements with me and my husband till date regarding this.*

The above narratives provide interesting perspective about women resisting dominant gender constructions. Lack of support from family suggest how the subjugation of women is rooted in family, as noted by radical feminism. The fact that they are perceived as ‘less feminine’ suggest the social constructions of women in terms of dominant familial ideologies. In a culture, where sociality is presumed to be a key aspect of being a ‘woman’ and where men and women are presumed to be different, not confirming the gendered ideals make women techies something ‘unseen of’.

3.5 Conclusion

This chapter highlights that although women software engineers are confident and have access to independent income, yet they do not challenge the dominant notions of womanhood in

family and marriage. The first section deals with the socio-economic position of women software engineers and their 'cultural advantages'. In the second section, I have showed the changes that economic power has brought about in their lives. Their financial power helped in boosting their self-confidence. They manage their own finances, engage in consumption of luxury goods and items, take the decision to spend on themselves and their families (both natal and conjugal). Their employment has made them confident of themselves as 'potential partners' in marital alliances. Although arranged marriages are common, yet women exercised more freedom or 'choice' with regard to choosing partners or deciding when or where to relocate after marriages. The third section highlights that while women are economically independent yet their 'choices' are guided by ideas of 'respectable femininity' which involves primarily involves domesticity. They are continuously involved in a striking a 'balance' between work and home. For them, career is viewed as a supplement to family and have a tendency to prioritize the latter over former, thus confirming to the social construction of women in terms of domesticity and nurturance. This could be understood in different ways like: cutting down on travels after childbirth or self-selection in certain lower-end software tasks in IT companies or taking a gap of few years after child-birth. I have also attempted to show the dilemma of childcare as experienced by women. Here, I have also highlighted how women's experience leisure. Mostly, they preferred to leave for home after work and they rarely go out with friends after office hours. Their sexuality is channelized through marriage. Their respectability is linked to 'good families' and women take part in demonstrating on a regular basis their conformity to familial norms. Any transgression from this is considered 'disrespectful' in middle-class families. The Foucauldian idea of power and Bourdieu's concept of masculine domination are helpful in understanding how women disempower themselves by reproducing the feminine ideals on an everyday basis. In this section, I have also highlighted that women software professionals internalised the essentialist notions of motherhood. They believed in the idea of 'intensive mothering' which posits women as the 'best' care-giver and nurturer of children. Thus, women aspired to be the 'good mother', a social construct in itself, failing which would lead to feelings of maternal guilt and anxiety. Such feelings or apprehensions were unseen or unheard of, in case of men. However, not all women confirm to this idea of femininity and are seen to resist familial expectations. In doing so, in some extreme cases they are even found to choose their own freedom from mental strain due to lack of support from husbands or in-laws.

CHAPTER IV

GENDER AND INFORMATION TECHNOLOGY

4.1 Introduction

Interest in gender and science and technology came mainly from the field of gender studies, science and technology studies, and feminist studies of science and technology. It was the growth of feminist perspective that has led to a shift in our understanding of what technology is and then broadening the concept to include not only artefacts but also the cultures and practices associated with technologies (Harding, 1986). Feminist scholars, like Judy Wajcman, Cynthia Cockburn and Sally Hacker (amongst others) have argued that technology is a masculine construct and how technology and technical work has masculine underpinnings. This taken-for-granted association of men and machines is due to the historical and cultural construction of gender. The feminist scholarship on technology has an inherent debate- whether technology is male dominated because it demands some essentially masculine traits or simply because technology is where the ‘power’ is. There is, in fact, much more to simply male dominance of technology. It is important to look at the related links between structure, symbolism and identity in the gender-technology relations.

The post-globalised era—during the late twentieth century—promulgated a new socio-economic order which was facilitated by the spread of new Information and Communication Technologies (ICT). The expansion of ICTs generated a new far-reaching work atmosphere-involving disembodied technology, virtualised economic activities and working in a networked organisation—having its world-wide coverage and repercussion. The feminist approaches of the 1990s spoke about the arrival of ICTs and empowerment for women. With the advent of the digital age, they were optimistic about the possibilities of information and communication technologies for the empowerment of women and the transformation of gender relations within it. The cyber-feminist notion explored the ways in which the new technologies may liberate women by means of opening up new routes for reconstructing feminist politics, creating better job opportunities and outlets for creativity. A common argument in this literature is that the virtuality of cyberspace and the Internet spelt the end of the embodied basis for sex difference. For instance, Sadie Plant (1996) believed that digital technologies facilitate the blurring of boundaries between humans and machines, and between male and female, enabling their users

to choose their disguises and assume alternative identities. Industrial technology may have had a patriarchal character but digital technologies, based on brain rather than brawn, on networks rather than hierarchy, would herald a new relationship between women and machines. Wajcman (1991) even assumed that the development of microelectronics and decreasing significance of heavy industrial technology would gradually erase the gender stereotyping of technology. It was believed that since computer does not involve heavy machinery, it would be something women would be able to handle. Thus, it would break the gender stereotypes. However Wajcman said it was proved wrong since the culture of computer was that of a 'man' and hence, masculine. Therefore, IT does not seem to have led to any substantial alteration in the pattern of gendered division of labour. Mukherjee (2008) notes that, while the software industry has created new opportunities for the educated middle class women in India, it has simultaneously created new regimes of work that has created gendered identities. It is largely observed that women are less represented in middle and upper positions in the IT industry in India. (Kelkar & Nathan 2002, Upadhya & Vasavi 2006). It is marked by male dominated capitalism, male prejudices and attitudes towards work.

In this light, my aim in this chapter has been to explore whether is a gendered division of labour in software industry as a consequence of work being socially constructed as masculine and feminine. I have divided the chapter into four themes. The first theme deals with the nature of work that software engineers primarily do in IT and the way work is organised in such companies. In the second theme, I have discussed the number of men and women in IT companies chosen for the study and noted that women are comparatively less in number when compared to men. Here, I have also presented data which notes that women gradually decrease as one goes to higher levels in organisations. The third theme deals with the social construction of skill and technical competence. This has been analysed under three sub-themes, as to how and why there persists a gender-based segregation within software work. The last theme looks at software technology and masculinity. It highlights that the high-end software tasks are associated with masculinity and a 'geek culture' which make them predominantly male dominated. Here, I have also explored the problems women face in this domain.

4.2 Nature of Work Performed by Software Engineers in IT companies

At the most general level, software engineers employed in the IT and ITeS industries can be said to constitute a new 'knowledge workforce' that caters to the global informational

economy. In India, two basic kinds of services are in increasing demand- software and IT enabled services. Software engineers provide both kinds of services in the IT industry. However, in my analysis I shall focus only the services software engineers provide (women, in this case) in IT companies. Below is a tabular representation of different kinds of tasks that software engineers have to perform in IT companies. Understanding their nature of work has helped in exploring the reasons behind the skewed distribution of women across IT companies.

Figure 1

Kind of work performed by software engineers in the IT industries

Job Title	Nature of skills required/work performed
1)Software developers	They are the creative minds behind computer programs. They are in charge of the entire development process for a software program. They begin by asking the customer or client their plans to use the software. They identify the core functionality that users need from software programs. They design the program and then give instructions to programs who write computer code and test it. The developers work closely with computer programmers. There are two categories of software developers: applications software developer and systems software developer. The IT companies mainly hire systems software developer.
a)Application software developer	Application software developers develop and test software to meet the needs of consumers. They develop upgrades for existing applications and monitor the quality and performance of applications through testing and maintenance.
b)systems software developer	Systems software developers implement programs for the backend processing systems required for business houses and organisations. Thus, they develop applications and programs for client companies. They perform a number of tasks like: using development tools to write and test code to develop these solutions; write documents and operate manuals; supervising and looking into testing and modifying systems to ensure that they operate reliably and so on.
3) Programming and coding	Coding is the process of translating the writing codes from one language to another. It is the initial step of developing a software product. Coding only deals with codes and hence it is less intimidating and less intensive. Coding can also

	be called as a subset of programming as it involves implementation of initial steps of programming. It involves writing codes in different programming languages as instructed. Coders need to have a thorough understanding of the project working language. Programming is the process of creating and developing an executable machine program which performs a set of instructions. While the main aim of coding is to facilitate communications between humans and machines; programming is the process of formally writing the codes so that human inputs and machines outputs remain in sync. Typically, a programmer is responsible for an entire software product, whereas a coder is responsible for certain part or parts of software product. It involves more skill and technical expertise as programmers not only analyse and develop the codes but also engage all the different artefacts to make the system perform in a proper way. They work on a much broader aspect than coders. Therefore, all programmers are coders but not all coders are programmers.
2) IT Analyst (systems analyst)	IT Analysts work as business analysts as well as computer systems analyst. In this study, my focus is on systems analyst who are mainly engineers. The systems analysts (IT Analysts) may design and develop new systems by configuring new hardware and software or use existing systems in new ways to reach additional or different outcomes. The systems analysts are responsible for maintaining and improving computer systems for an organisation and its clients. This IT role is growing in popularity and also in demand as organisations increasingly move operations, processes and communication online. They often have to work outside standard hours to oversee or upgrade fixes, ensuring there is minimal interruption to business as usual. They collaborate with business analysts, project leads and IT team members to resolve issues and ensuring that solutions are viable and consistent.
3) Quality assurance engineer and software testing	They are the people who ensure that the application created by the developer is of the required quality. Such engineers put software to test while developers are busy writing more code. The goal of quality assurance engineer is to make every step trouble free. Hence, they monitor every phase of the software development

	process so as to ensure that the software adheres to the standards set by the development company. Such engineers need programming skills, knowledge of lower level unit tests, sophisticated load testing and test automation. The lead Quality Assurance engineers oversee the testing process, tests the current product, investigates the product quality in order to make improvements to achieve better customer satisfaction and identifies deficiencies among other related functions. Software testers test a part of the software at different stages of development. It involves the process of evaluating the functionality of a software application with an intent to find whether the developed software met the specified requirements or not and to identify the defects to ensure that the product is defect free in order to produce the quality product.
4) Technical support	The support engineers help the IT companies deal with internal technical issues or they might assist customers or clients with their external technical issues. They need to have technical backgrounds as well as a diverse skill set to find a job along that career path – a mix of hard skill and soft skills. They use their expertise about various technical and computer systems to help troubleshoot issues or maintain day-to-day operations. The support engineers troubleshoots network issues and also provides customer care. They are also highly skilled in fixing any technical problems, including network configurations and account setup, clarifying the doubts that customers raise with regard to products or services. Apart from technical skills, they also have problem solving skills as well as strong verbal and written communication skills. They should have the ability to work calmly even under pressure.

(Source: as gathered from men and women respondents, and <https://www.tutorialspoint.com/network-operating-system-rtos>)

Software work is usually tied to individual projects associated with a particular client company that sets up an account with an Indian firm. The software professionals are organised into teams under these accounts. Such teams comprise of technical and management streams. Usually the Indian firms are structured in such a way that most technical streams coalesce into management

streams as one matures in a company. The process of software production in almost all IT companies can be broken into a series of differentiated, standardised steps or stages, which follow as: identifying the problem, understanding the justification and feasibility, analysis and specifications of software equipment, designing the software, process of coding or writing software, testing the software and delivery or installation of the software. This process is called the waterfall model of software development or system development life cycle (SDLC), and is commonly used in Indian software industries (Ilavarasan, 2008).

4.3 Distribution of Men and Women in IT Companies

There were three IT companies of Kolkata which were chosen for this study. Their names have not disclosed to maintain their privacy protocols. Instead they, have been referred to as Company A, B and C. The organisational structure of all software firms were more or less similar. It usually comprised of a board of directors and CEO at the top. Under them are various vertical divisions, each with its own head like: business development¹, delivery², industry service³/practice, functions/projects, HR and administration⁴. I found that women software engineers are employed at different levels in the IT industry like: junior software engineers, senior software engineers, programmer analyst or module lead⁵, project leaders⁶ or top managers. The junior software engineers are at the entry level, having 0-3 years of experience. They work as juniors in the teams learning different things. The senior software engineers have a work experience of four to seven years. They are at intermediate levels and work as IT analysts or software developers. Programmer analyst or module leads are team leads having seven to eight years of experience. The project leaders are senior software engineers with the responsibility for leading a team or project, usually with eight to ten years of work experience. Finally, the top managers include project managers, with work experience of ten to 15 years.

With regard to the number of men and women software engineers, it was found that there were comparatively less number of women in all the three IT companies studied (see Fig 2). For instance, in Company A, there are 57% men as against 42% women. In Company B, there are 44% women and 56% men and in Company C, there are 43% women and 57% men. Within the company, there was also a gradual decrease in the number of women from junior and middle level to senior levels (see Fig 3). For instance, in company A, there is a decline from 56% in junior level to 32% in middle level to 12% in senior level. In Company B, it can also be seen

that the number declines from 61% in junior level to 30% in middle level to 9% in senior level. A similar trend is noted even in Company C, where women software engineers decline from 63% in junior level to 26% in middle level to 11% in senior level.

Figure 2

Number of men and women software engineers in three IT companies:

Company	Total number of software professionals	Men	Men (percentage %)	Women	Women (Percentage %)
A	9060	5200	57	3860	42
B	9330	5230	56	4100	44
C	10350	5850	57	4500	43

(Source: as collected from Human Resource departments of respective IT companies)

Figure 3

Distribution of women software engineers across different levels in IT companies

Company	Junior Level	Percentage (%)	Middle Level	Percentage (%)	Senior Level	Percentage (%)	Total
A	2161	56	1235	32	464	12	3860
B	2501	61	1230	30	369	9	4100
C	2866	63	1184	26	500	11	4500

(Source: as collected from Human Resource departments of respective IT companies)

The data in figures 2 and 3 are indicative of the fact that although IT companies recruit large number of women software engineers, yet they are concentrated mostly at junior levels. Their numbers start declining as one moves up the organizational ladder. This phenomenon is indicative of the fact that there is a demarcation and gender differential in access to employment

in IT sectors. The gender-based segregation in IT can be considered a reflection of the broader pattern of horizontal and vertical segregation that exists in society. Sylvia Walby (1991) theorises that women's participation in the labour market pertains to a shift away from the earlier patriarchal strategy of women's exclusion from the public space to that of segregation strategy within the labour market environment. The segregation strategy involves separating women in lower rung positions having lesser pay package and fewer promotional opportunity than that of men within the labour market. This leads to 'feminisation' or overconcentration of women in certain segments (Webster, 1999). In fact, Sylvia and Chant argues of certain points which make women situated 'disadvantaged' in the labour market of developing countries, under the following conditions: (a) exclusion from employment or from certain types of jobs; (b) confinement to marginal occupations or industries or sectors; (c) segregation and feminisation in certain type of jobs evident from predominance of women; and (d) occupational differentiation out of economic inequality in terms of wages, fringe benefits, etc., along with their working conditions. Moreover, the assimilated forces of biology and culture combine together in a unique fashion in the mind so that the process further modifies the brain circuits and cultural perceptions. By this, a sex stereotype is formed in men who play a dominant and patriarchal role in the practical world (Bhattacharya, 2018). Understanding the drivers of gender segregation is a major pre requisite in order to initiate theoretical dialogues in this regard.

4.4 Social Construction of Skill and Technical Competence

In this theme, I have attempted to show that technology and skills are socially constructed. It is reflected in the way tasks are distributed in software companies between men and women. I have talked about gendered presumptions about technical knowledge, the gender relations in software work which help in understanding reasons behind concentration of women in some jobs more than others, in the following sub-themes.

4.4.1 Perception of 'Hard Skills' and 'Soft Skills'

In the era of Information Society or Information Age, the dominant form of work is information and knowledge based. Workers in this era have a combination of both hard skills⁷ and soft skills. On one hand, the software professionals are expected to be equipped with programming skills and technical abilities, on the other hand they are also expected to be competent in

interpersonal skills, communicative abilities, creative thinking and problem solving. From an occupational perspective, the gendered division of labour has re-emerged in IT with men dominating the technical areas and women to be found in lesser technical tasks which often involve high levels of user interaction, like service and support roles (Upadhyaya, 2008). In this regard, Webster (1996) states that the kind of computing work women have access to is often the messy and concrete work quite similar to domestic work and childcare which involves matching computer systems to reality and catering to the needs of the end-users, while men monopolized tasks which are pure and abstract- a 'virtual reality' which is not tainted by the demands of the more ordinary day-to-day world. Dermaiter and Adams (2009) also note that while men command, lecture and compete, women tend to listen, talk, suggest and cooperate. In my study, it was noted that gender was not overtly present in the accounts of practices, shared by men and women. But there is a reference to a gendered division of labour, in the sense that women are seen as more 'suited' for soft skills than men. During conversations, both men and women talked about the importance of acquisition of hard and soft skills and their use in the work. However, it was found that men are usually 'preferred' in case of hard skills, while women are deemed 'better suited' for softer skills like: communication abilities, creative thinking, support jobs etc since they 'talk better'. The gendered notion of skill is more evident when women noted that, after the maternity-leave or child-care leave they are put in tasks like client management (although for a stipulated time) or client support. Married women (38%) said such random placement of women employees affected their career growth, since expertise in technical areas like designing and development is 'more valued' than client management. The narratives of women and men are reflective of prevalent assumptions about soft skills, hard skill and women:

Suman (42 yrs) is a senior software professional in one of the IT companies. He has been involved in training young software professionals since last seven years. Simultaneously, he also heads development team, travels to various places within India for work and meetings with clients. He says: *During training, I teach both hard skills and stress the importance of skills. In my years of experience, I find women are better at communication and interactional abilities than men. I don't need to teach or tell women the skills and stress handling situations. For men, I spend relatively more time in conveying them the essence of interactional skills and how they can master it.*

Mainak (36 yrs) is a systems engineer in an IT company. He shares his experience of working with both men and women software professionals. He says: *I have generally seen that when it*

comes to talking to clients, making them understand the problems or situation at hand women are more adept and make them understand better than men. Generally, I have seen men tend to get worked up and agitated. But, women are more generally more calm and patient.

Debanjan (30 yrs): In IT, both men and women handle clients and talk to them because here our top priority is the client. Sometimes I do see my lead asking my women colleague in softer skills like some innovative thinking or talking to clients talking when there is some convincing required or put across an issue at hand. Generally, it is held that women are better in talking and making things understand.

Shromona (30 yrs): In my team, there have been instances where my team lead would ask my male team-mates to do a particular task project which needs hard skills per say. When it comes to communicating with client regarding the project update and so on, I am called in and briefed and advised as to how to say and all. The crucial aspects etc. It's not that he does that purposely, but the first instance of getting things done when it comes to technical aspects, it is offered to a man, instead of a woman.

Anwesha (33 yrs): Sometimes, we see that once you join after maternity break, managers, especially men, believe you are not in tune with the skills/demands of the market. So, there is often a tendency to 'support' by putting you in tasks which mainly require client interaction and all. It depends on the temperament of managers mainly and how they perceive you.

Manisha (29 yrs): In my last project, there was a situation where it was unsure whether we would be able to deliver the project on time. Our client was a reputed banking group and we were looking into software upgradation. The client's spokesperson was constantly poking us regarding our update, pressurising us. We were tensed as we got stuck at a particular point. And when the client's call came I was told 'Manisha just talk to him and explain the situation and handle it well. Be cool headed'. None of the men were told to do it nor did the lead come forward while I struggled to cooperate with the party for about twenty minutes.

The assumption about women being 'better' in soft skills, is historically rooted in cultural systems of meanings and ideas about what is 'feminine' or 'masculine' and thus considered 'suitable' and 'appropriate' work for men and women. The concepts of 'feminine' and 'masculine' are constructed as oppositional, dichotomous and hierarchical where the masculine is (usually) privileged. Hard skills are seen as "masculine" as they deal with technical abilities; whereas 'soft' skills deal with interactional abilities and communication which is believed to

be a feminine domain. While masculinity is measured in terms of machine related skills, physical strength and self-esteem, femininity is characterised by being intuitive, cooperative and understanding. Historically and conventionally, this tends to stereotype jobs as masculine or feminine (Wajcman 1991, Faulkner 2001). The assumption of women software professionals 'better suited' for interactions and client-based relations can also be understood from the way in which engineering knowledge and practices are conceptualised and 'believed'. As Faulkner (2007) says engineering as a field is conceptualised in dichotomous terms even when there is no obvious hierarchy or gendering implied. According to feminist studies of science and technology, the 'hard-soft dichotomy' extends to the styles of thought in technology because of the association of engineering with scientific methods, which brings with it the long-standing gender dualisms. On the masculine side of those dualisms there is an objective rationality associated with emotional detachment and with abstract theoretical, especially mathematical and reductionist approach to problem solving. On the feminine side there is a more subjective rationality associated with emotional connectedness and with concrete, empirical and holistic approaches to problem solving. In the IT industries, this dichotomy translates into the gendered belief that women are 'naturally better' in interactional abilities and communication, than men who tend to outperform women in technical tasks. This tendency produces not only produces the gendered presumptions about 'hard' and 'soft' skill, but also leads to occupational inequalities in the IT work. As a result, certain jobs become socially constructed as 'masculine' or 'feminine'.

4.4.2 Biasness About Technical Knowledge and Women in IT: 'Techno-Hazing'

In the field of IT industries the social construction of women as 'technophobes', being disinterested in computers reinforces existing stereotypes, and although there is the strong evidence of women being early and important contributors to the field of information science and technology, the general opinion in the IT industry and specifically within the hacker culture still sees women as being on the 'outside' (Faulkner 2008, Wajcman 2006). In studies of work allocation in IT companies, the underlying gendered assumptions about technical competence was understood by the way in which women and men software professionals are placed in different projects and job roles. All young men and women joining as 'freshers' in IT companies undergo a training period of usually three months, provided by a senior faculty or 'trainer' (who is most cases, is a man) in all aspects of software development like: programming languages, testing, etc. through study materials and practical sessions. They are assessed

through tests and other screening procedures. After completion of training, they are put into RMGs (Resource Management Groups)⁸. RMGs are present in all IT companies and they are the ones to allocate software professionals into different projects within the company. Men and women software professionals are given project roles according to their skill, expertise and experience. Women (46%) spoke of biasness about technical competencies which determined who gets what projects and gets absorbed in teams. They (45%) noted that in their everyday interactions in the workplace, being taken seriously is a stronger challenge for women 'initially'. They face situations which question their technical skills. Women lamented that they had to strive harder to convince team leads of their capabilities, unlike men. In fact, this phenomenon of being suspected of not having enough 'technical' competence was considered a 'typical' problem for women and was mentioned by many of the young women software professionals. This tends to undermine their career. Firstly, the doubts over their engineering abilities do not merely stop after crossing the 'apprentice' or training stage. Some senior women engineers (15%) noted that they have had to establish their engineering credentials every time they encounter a new colleague, associate or client for the first time. Hence, there is an extra layer of practitioner identity work which women (unlike men) have to do throughout their career in order to be taken seriously as engineers. Faulkner noted (2009) that, a recent study conducted by European Union (EU) of women engineers in industrial research found that such pressure is aggravated by the widespread perception that women engineers benefit from 'preferential' treatment due to 'positive discrimination' - for instance the belief being, they got the job by the virtue of being a woman not because they were deserving or were 'good enough'. Secondly, there are subtle and ongoing mechanisms which undermine women's 'visibility' (Faulkner, 2009) and credibility as engineers. In particular, 'labelling' (Faulkner, 2007) as a mechanism can be significant. For instance, women (52%) noted the frequent use of 'he' while referring collectively to engineers or technicians. The gendered messages operating through all these labelling messages render women's membership as 'real engineers' more fragile than men. Few senior women also shared their experiences, of how men and women are assessed informally among men managers in their 'informal clubs', who are a majority in IT. They noted how their experiences over the years made them more confident about perception of their technical skills. Some of the narratives below illustrate the views of respondents:

Lekha (34 yrs) has an experience of twelve years in the IT industry. She started off as a junior software developer in another IT company in Kolkata. Later she changed her company, due to lack of scope for her work. She shared her experience that she was the only programmer in her

team and her task was to solely assist her lead and not giving any extra input, who was a male. She says: *You do not find many women in core software development. I was the only female junior developer and I assisted my module lead who was a male. I had to assert myself more strongly to make a point with regard to the project. I was often not taken seriously, probably because I was a junior and also because I was a woman. Because I never saw men asserting themselves the way women do. With time, perceptions change because they see how you work. But women have to strive harder than men.*

Manisha (30 yrs): *No matter how good you are at your work, I have seen men who tell you in a fit of rage that 'you can't even do this task after sitting for so many hours. And then you say women can do it like men and that we don't give you chances. This is the result!' these are things I have faced I have faced from my lead. These are sexist comments when they say in a heat of the moment and then even apologize. There will be no one here who point out these because no one wants to talk about it.*

Diplekha (30 yrs): *During team training, I remember software professionals always being referred to as 'he'. It's inevitable. Men outnumber women and it is seen as normal thing. It just passes off.*

Anwesha (33 yrs): *There have been times when I, as a fresher in this industry, have to really make my boss convince my point while men did not have to make such attempts. Once I made a different point from my peers, I would have to explain in detail why I am disagreeing. With men, there is a belief that they are not wrong about technical things.*

Such tendencies of undermining the technical capabilities of women is understood as the phenomenon of “techno-hazing”⁹. DiDio (1997) studied a number of women software professionals in the Silicon Valley and instances of women still grappling with problems of being assigned tasks not of their choice while men counterparts with similar backgrounds were given a ‘choice’ of assignments and it is here that he developed the term. The feminist explanation of such biasness can be understood by the fact that science and technology has an image problem which impairs attempts to recruit women since the classic stereotype is heavily gender marked, the ‘man’, who ‘loves’ technology but rather socially withdrawn if not socially inept. This image draws on the conventional gendering of a dualism or dichotomy between the ‘technical’ realm and ‘social’, by which men or masculinities are so readily associated (symbolically, at least) with technology and women or femininities with people. Faulkner

(2001, 2009) notes that the positing of these sides as mutually exclusive (to be technical is not be social and vice-versa), is a key reason why technically skilled women in engineering as perceived as 'gender inauthentic'.

The assumption that women are not technically able or 'confident enough' arises from the structuralist emphasis on the historical roots and durability of cultural equation between masculinity and technology which the feminist scholars of science and technology have extensively talked about. In my study, it was noted that 'techno-hazing' created a 'fragile'¹⁰ membership of women. This has an impact on the professional self-esteem and confidence of many young women engineers. They internalised a sense of their 'fragile' status as engineers- it was felt as well as 'perceived'. Hence, the impact of women engineers 'invisibility'¹¹ as engineers is more than just passing. Their responses demonstrated quite clearly their sense of lacking 'authenticity' as engineers. Shaky self-esteem and confidence tends to undermine and has damaging consequences for the retention and progression of women, especially in male dominated teams. While most women engineers are aware of their gender visibility and of the need to work harder than men to prove their credentials, few seem to be aware of the more subtle dynamics within the workplace by which their professional self-esteem is undermined. For example, the feelings of lack of confidence or 'authenticity' are rarely discussed in public and specially in the presence of men. Some of the narratives of women bring out their views:

Nilanajana (44 yrs) has been in this industry for fourteen years now. She acknowledges the gendered nature within IT industries and how skills are perceived. She says: *You see, software engineering has nothing to do with men and women. But yes, during trainings the message that is given out is that men are better engineers than women. It's about technical stuffs which men do better and 'know better'. Software designers are referred as 'he' generally irrespective of man or woman. These things are not overt but the demarcation is there. It's been so many years, but (as a woman) I still do feel as an outsider in a team where it is all men. In my struggling days, I have had to work harder to prove to men that I can be a good software engineer too.*

Megha (27 yrs): *Once in a while my words will be doubted even when I am a module lead. There was an instance one of my colleagues wanted to clarify a technical issue with me and inspite of me giving him the solution he went and clarified with another male friend of his. I*

came to know about that few days later. It did affect my self-prestige that he didn't sort of rely on me and clarified it with my fellow colleague.

Renu (42 yrs): Even if you are good at your work, there will be a judgement on your skills and knowledge. I think it affects the self-confidence (of women) and it happened with me. No matter how well I presented during team meetings, there would be some men who will point out mistakes which are not relevant. It's just to show that you are a woman and may not know everything. You are made to feel that a man knows it better. It took some time for me to get used to these things.

The narratives of women suggested the implicit gendering in IT industries. While on one hand, the invisibility of women professionals as 'engineers' implies that they have to do extra layers of practitioner identity work, on the other hand, their invisibility as women often implies paradoxically that they have to do extra layers of gender identity work. Faulkner (2007) notes that, women note this 'gender (in)authenticity' as a personal failing rather than something for which the wider community, or social constructions, bear responsibility. It is largely attributed to the notion that the definitions of skill is saturated with sexual bias and is socially constructed (Wajcman, 1991). Far from being an objective economic fact, skill is an ideological category imposed on certain types of work by virtue of the sex and power of the workers who perform it. It is the appropriation of technical skills which plays a vital role in the reproduction of inequality among men and women. This idea that 'skill' has more to do with social constructions rather than technical competence gives rise to jobs being socially constructed as 'unskilled' and thus relatively undervalued. As Wajcman (2007) says, such ideologies leads to women's jobs and skills being systematically undervalued and the long standing interconnections of gender, skill and technology still functions to men's advantage.

4.4.3 Gender-Segregation within Software Work in IT

Giao (1995) conducted a study on software industry in Brazil and found that women in the computing industry participate largely in 'soft technical skills' dealing with communication and interaction tasks while men perform tasks requiring hard skills. In India, Anthony and Gayatri (2008) and Upadhyay and Vasavi (2006) amongst others have observed that women in IT industries of Bangalore and Chennai are a majority in testing, debugging and support but they are underrepresented in the higher level of managerial jobs such as software architecture

and consulting project management. Even in my study, it was noted that women are relatively more in testing, debugging and quality assurance or support (which are relatively low skilled), while men were a majority in software development and designing. In case of the IT industry, the segregation of men and women within the IT industries is a result of blatant or overt gender bias (Upadhyaya 2008, Bhattacharya 2018). This results in variations in pay packages and promotional scopes for women employees. Women (59%) noted that one of the key reasons for gender segregation is due to the nature of work and also employer's, or specifically speaking men's, perception in skill possession between men and women and their suitability for particular type of work. Commonalities noted among the responses was that such notions arise out of the ideological and social constructions rather than technical competency possessed by the male or female employees. About 38% women pointed out that covert discrimination continues to take place because of gender based beliefs about jobs, roles, tasks and people that are communicated and indirectly reinforced continuously within organisations. Some of the responses of women illustrate their views:

Anjana (29 yrs): *It's been three years in this industry and there is a cluster of women in some areas over another. It's not about skill but just the mind-set of general people. For example, in design and consultation there are few women. Although all of us receive same training but people's perceptions definitely differ. If there is a man and a woman and the manager has to choose for a software architect, it will be a man mostly.*

Tulika (31 yrs): *No will tell you on your face that you cannot 'this' or 'that' or even rebuke you. But difference between being a man and woman is noted when it comes to who gets what kind of project or even within the project who gets to do what. Men will think 'will she be able to do it', specially if she is relatively young. But for men no such thinking will be there.*

Shibani (36 yrs): *There are underlying beliefs that women might not be able to contribute in some areas of IT than others. Some areas see more women than women, like testing or support. They see it's the trend and hence become habituated with the thinking. It's never questioned but there are perceptions about women and may be that's why there is this distribution.*

The responses of women were suggestive of the fact that gender is the predominant cultural agent which operates on the body thus constituting the concepts of masculinity or femininity. It may be understood by Keller and Harding's observation that (in general) men choose science

as the subject of study since it is hard, objective and rational whereas women prefer non-natural subjects which are considered soft and subjective. Hence, this kind of reflection is the outpour of stereotypical image and it is this stereotypical image which is the predominant reason to drive away women from the practice of science and technology (Harding 1986, Wajcman 1991). Thus, there is a “gender system”¹² (Webster, 1999) operating within workplaces and within society more broadly and this system conditions both the objective and ideological components of ‘skill’ as it implies to men’s and women’s jobs. Every occupation carries a gender label which defines it as ‘masculine’ or ‘feminine’ work – the gender order of occupations. These are constructed as such under particular ‘gender regimes’¹³ within particular organisations (Webster 1996, Connell 2005).

The fact that women are segregated, such that men are preferred over them in projects or tasks, arises from the biological explanation which has been repeatedly pointed out by Wajcman and others in the field of gender and technology. The Western discourse of science has an inherent patriarchal bias in it and biology has been used as a powerful tool to make it a basis for sex roles (Wajcman, 2007). Even Cockburn (1981) says that technical know-how has been acquired and largely monopolised by men at the expense of women. This is primarily due to the assumption running in our culture that men are technological and women are ‘non-technological’. This naturally leads to arguments, as Wajcman (1991) says, that women are viewed as incapable of doing certain activities carrying out technical and scientific work. In this study, while exploring gender segregation, I attempted to understand how or why certain jobs in IT have large concentration of women over others. Overall, all men and women expressed the view that women are equal in all respects as there was no difference noted in terms of qualifications among men and women. However, in-depth qualitative interviews with men illustrated this interconnection between gender and skills in software work. Men software engineers were asked questions like: *‘Why are there relatively more women software engineers in testing and quality assurance, in the IT?’* Their answers came in different lengths and expressions, but they all had commonalities. Firstly, there was an assumption of women being ‘better’ in testing and quality assurance than men because the former are relatively calm and patient. They said women can and usually spend hours running the same test; while system design is primarily male dominated because men have a natural inclination and they can spend relatively more time than women at work to invent ideas. Secondly, some men justified women preferring themselves to be involved in some projects over others for their own convenience and hence a matter of ‘choice’. Some of the narratives of men bring out their views:

Soumyadip (35 yrs) works in one of the IT companies for last eight years and believes that women make better testers because of their cognitive abilities. He says: *Women generally adapt to the environment quicker than men. They remember different details more easily and better. It is a strength for performing unit testing, integration testing, black box testing, etc.*

Mainak (36 yrs): *More number of women in testing and quality assurance shows their strength. Testing requires patience and lot of trials and errors methods. Women are quite eager to participate in these. They do not have to stay for extra hours as in development or designing projects. Working hours are generally fixed. It's their own work, that they do and not collaborating with others that much.*

Sanjiban (30 yrs): *Being in development project management, you have to be creative, dynamic and get involved in the project while simultaneously managing team members with varied temperaments. Women are more comfortable in support and testing.*

Nikhil (28 yrs): *If you look around, you will find fewer women in managerial level or lead positions who are into core programming or software development design. The demand of the work is such that it is not always suitable for women. Women find themselves more comfortable, and want to be, in other areas like quality assurance, testing, technical support etc.*

The responses that women are ‘naturally’ seen to be suited for certain tasks suggest the gendered assumptions held by men and the inherent politics involved in science and technology, which the feminist scholars have been trying to question and challenge since the early 1970s. To understand how the enduring identification between technical skills and masculinity happens, Cockburn’s (1981) theorization of understanding masculinity and technology as a social product is helpful to understand how the enduring identification between technical skills and masculinity happens. The affinity of men with technology is seen as integral to the constitution of male identity. In this regard, Cockburn (1981) notes that technology enters into our sexual identity, such that femininity is incompatible with technological competence, and to feel technically competent is to feel ‘manly’. Thus, technology plays an important role in the social construction of gender. It explains why it is presumed women to be ‘naturally better’ in some tasks like testing or support rather than higher-end domains like architecture or designing.

4.5 Masculinity and Experiences of Women in Male Dominated Domains in IT

The occupations or fields dominated by men will produce a ‘masculine’ culture and an ‘occupational masculinity’. The culture of software engineering has been as described as an “occupational culture of computing” or as the “occupational masculinity of computing” (Lie 1995, Oost 2000). These concepts have been linked to the cultural norms of being overly enthusiastic about and/or absorbed in computers. However, Murray (1993) has talked about another software engineering masculinity that diverges from the technically consumed and ‘narrow minded’ engineer. It is the ability to give extra effort, to often work long hours, possession of demonstrable competences in the discourse and techniques of milestones, deliverables and objectives. It is increasingly about having the right method or skills and being a software engineer. (Murray, 1993). Murray argues that such a mentality represents an elongation of the software culture of computing as a macho world, characterised by intense dedication, hardship, immense will power and extreme hours. Building on the insight what kind of materialization of knowledge software designing or programming entails or looking at the nature of association of men with technology, undermined the lack of women in these fields. This theme pays attention to the association men have with the technology (here, it implies computer) and the culture it creates such that women are strategically or informally ‘kept out’. Under two-sub themes, I have attempted to explore how masculinity is constructed and experiences of women in this domain.

4.5.1 Construction of Masculinity in Software Tasks

Several scholars and writers have addressed men’s ‘apparent’ love affair with technology, their absorption and passion. Both Sally Hacker (1989, 1990) and Samuel Florman (1976) have witnessed and experienced the sensual absorption, spiritual connection, emotional comfort and aesthetic (and even erotic) pleasures found in intimacy with technical artefacts. Sherry Turkle (1994) as well as Paul Edwards (1996) have both written extensively about the appeal of computing, to largely men. Ruth Oldenziel’s (1999) work “men’s love affair with technology” is also relevant in understanding men’s pleasure in technology, especially that of professional engineers and technological hobbyists. It is the men’s or boy’s pleasure in technology that contributed to the continued male dominance in technical fields and engineering occupations, in two ways mainly. Firstly, boys tend to get socialised into ‘hands-on tinkering’ with mechanical devices at home, from childhood. In fact as Faulkner (2007) notes, for many men engineers a childhood spent on tinkering with technology is what makes engineering a ‘natural’ choice for them. Secondly, the common assumption is that being technology focussed is

mutually exclusive with being people focussed. The fact that this dualism maps onto presumptions of masculine instrumentalism and feminine expressiveness makes engineering a symbolically “gender-inauthentic” career choice for women (Kleif & Faulkner 2003, Faulkner 2009).

All fields of engineering (both core and software engineering) attracts and creates certain kinds of people and expectations. Software engineering, like other streams, education also consists of endless drills of mathematically based analytical problem solving. This induction acts to ‘legitimise’ and habituate a reductionist way of approaching the world that is stripped of both social and emotional complexity (Murray, 1993). There are broadly two types of skills that engineers use and might derive their ‘pleasure’ from. One is “hands-on competence in tinkering” (Faulkner, 2007), by boys rather than girls. It is largely gained through leisure activities early in their lives. The second one is abstract competence in logical and analytical problem solving. It is privileged through emphasis on mathematically based problem-solving exercises (Hacker 1989, Faulkner 2007). The informal cultures of engineering are marked by shared pleasures and pride in both types of skills. According to McIlwee and Robinson (1992), the “culture of engineering” involves preoccupation with tinkering which goes beyond the requirements of the task. One should be ‘obsessed’ with technology and take joy in such knowledge. The engineers should not only be ready to engage in technical exchanges during work but also interested in participating in them during breaks. Hence, to be seen as a competent engineer one must “throw himself into these rituals of tinkering” (p 139).

In resonance with the literature on masculinity and technology, I attempted to understand the cognitive feelings of software engineers with regard to their machines (in this case, the computers). In the software industry, the engineers are associated with a visible artefact and see themselves as “hardware men”- where the design jobs hold highest status. Making software technologies is creative as it involves creative choice and aestheticity. There are aesthetic elements, for instance, in the pride many software engineers take in producing the ‘elegant code’ (Faulkner, 2004). The finished product is a manifestation of one’s technical expertise and labour. In this study, all the male software professionals were intimate with technology, in the sense that they knew it profoundly and were familiar with it. However they did not use the word ‘intimacy’ during conversations. All of them reported experiencing more ‘highs in their work’ than people in any other occupations, even though they also experience lows like: coping with corporate pressures, unable to crack a code and so on. I found that software

professionals, both men and women derived pride and pleasure from their expertise as engineers – ‘doing something innovative’. Whether they are involved in development or design work or programming work, I found that all typically feel a real thrill about something that they have helped to create – the software system – and are happiest when some part for which they have been working on (for hours or weeks) for the first time. However, it was largely men compared to women, who felt “deeply engaged” with the technology they are working. Some of the narratives of men suggested their strong attachment with technical stuffs and how this attachment translated into their love for the work they are doing:

Arkojyoti (28 yrs): *There are times during my work that I keep my eyes barely away for 25 cms from the screen to sort out a bug I just found in my code. I do not feel like going for a break. Until that thing is fixed, I cannot concentrate on anything. I do not feel like doing anything else. Once the bug is fixed, it feels wonderful. I feel that I have achieved something and want to share with everyone! But we don't do that always.*

Mainak (36yrs): *I love it when I am zeroed in on software designing. I do not get the same kind of thrill from any other part of my job other than when I am putting a program into a machine and seeing it work. It's tiring but the satisfaction I get after working for five to six hours at a stretch is immense, once the design is complete.*

Soumyadip (35 yrs) is a programmer who has been working as software developer manager lately. He describes his love for computers since childhood and how he wanted to work on them since his school years. He says: *Since my teenage years, I love to explore the different functions of computers. I am simply fascinated with the fact that an object created by human can actually run the world now. When I am working on a program in my office, I spend two or three hours at a stretch. Even during breaks, me and other team mates talk and discuss about the different things related to the project and programming.*

Such narratives suggest that men celebrate their technical competence and derive pleasure from it. The engineers' humour and stories are exclusive and they typically celebrate engineer's technical prowess. A major part of this is due to the “pleasure in technology” (Faulkner, 2007). In their eyes, technical competence is what defines engineers as powerful people (Faulkner, 2004). In fact, designing and building new technologies is inherently creative and numerous biographies say that engineers take great pride in their creations (Florman 1976, Faulkner 2004). These form an important feature of engineers' shared culture. For Hacker (1989), the creation of technology is an erotic experience for male engineers, reflecting their desires and

‘shot through with passion and excitement’, not at all the ‘epitome of cool rationality’ which it is generally supposed to be.

Paul Edwards (1996) talked about men and their association with ‘microworlds’ of computing. He suggests that the holding power of computer programming lies in the simulated nature of ‘microworlds’ so created. These microworlds are appealing because on one hand they offer power to transform, refine and produce information, and on the other hand they are free of unwanted emotional complexity. He noted that the ‘microworlds’ of computer programming offer a retreat from the unwanted emotional complexity, for whom power is an icon identity and an index of success. He further suggested, a microworld could become a challenging arena for an adult in the quest for power and control (Webster, 1996). It is commonplace to find some engineers and computer specialists who seek refuge from human relationships in technology (Faulkner 2009, Mellstrom 1995). All the men software professionals, I interviewed, not only enjoyed working but took ‘great pleasures’ in being associated with such a publicly visible technology (in this case, it is the software that they are creating) and this was generally what they chose to highlight when informing non engineers about their work. They noted their feelings while working on computers and how they felt their family members sometimes failed to understand the connection that they share with their machines or the happiness if a code works or the passion with which they spend hours behind a software. Some of the narratives below are indicative of this:

Suman (42 yrs): *When I am involved in designing a software, I think of it as my child whom I want to mould and shape as per the requirements. This requires me to spend long hours, sometimes eight to nine hours to decide the process, look at the codes, recalling the client needs. It’s not just me, but my whole team who is completely engrossed in it.*

Soumyadip (35 yrs): *I am always into computers or in my phone. at home I am on my computer till 2 o clock sometimes. I feel sleepy but I feel that I have to make this thing work. The clients at our back. and also because I having a feeling of restlessness until the software runs smoothly. Once it does so, we go out for a mini party! My parents and wife do not understand this. They can’t understand why I am so thrilled if there is no bug. Women will not get this.*

Mainak (36 yrs) says he and many of his male colleagues frequently lamented that they could not realistically share moments of joy with their (non-engineer) family members. Their

colleagues would understand in a way that non-engineers could not. He says: *When a program finally works in the software, it gives me and my team immense pleasure. I am into it for five to six days at a stretch. Until, the program runs smoothly I cannot do anything else. My mind is stuck on it. I see it as my child who is on a trail and has to be fine very soon. When it is successful. I feel like raising a toast to it, with my friends!*

These also suggest the inherent pleasures that men associate with technology. As Flis Henwood (1993) says that technology offers a symbolic promise of power, as well as the potential to compensate materially for their relative lack of class power by acquiring technical expertise and thus strengthening their gender power. Further, he says that another kind of symbolic power promised by engineering is power over wayward emotions. The drills of mathematical problem solving in engineering education described earlier be seen as encouraging a split between emotionality and rationality in which abstraction offers the promise of control or mastery over emotions. It is interesting to see the experiences of women in male dominated teams, with an obsession over technology. This has been taken up in the next sub-theme.

4.5.2 Women Encountering ‘Geek Culture’ and ‘Micro-Aggressions’

The ‘happiness’ and “*glint in the eyes*” of tech workers suggests the persistence of “geek culture”¹⁴ in software industries (McArthur, 2008). He situates the term in a historical context noting that “geek,” like the term “nerd,” was once an insult that was used to degrade and belittle intelligent outcasts, who demonstrated domain-specific intelligence and passion, but lacked social skills. Something that was formerly stigmatised, ‘geek’ now has become an aspirational identity for most software techies.

The ‘geek culture’ operates as a form of masculinity that shapes certain fields of software work in IT- as seen in cases of software development and designing. Geekness is not only measured by one’s technical skills, but also by specific personality traits, styles of dress, interests, forms of cultural knowledge, and gender presentation¹⁵. In my study, I enquired how women associate themselves with technology and their experiences in high-end tasks. Some senior women (12%) working as software designers or programmers in the IT industry noted that they actively rebelled against the type of relationship that men have with machines – the ‘geek culture’. They spoke about their rejection against the emotional thrall of the machine, and that they distance themselves from its seductive potential by insisting that it is ‘just a tool’. They discussed men’s ‘naturalisation’ of their (what women called) ‘obsession’ with machines how

it became ‘natural’ for men to be higher-end technical work in IT and hence their domination. Some of the narratives below are illustrative of the views of women:

Renu (42 yrs): *For me, the computer is a machine. It feels nice when my hardwork pays off in making the machine follow my command.. It’s not an overpowering feeling. I have seen that men tend to be think computers as their everything when they are working, and they feel that is ‘natural’.*

Depashree (34 yrs): *For men, computer machines seem to be their life. They are usually more engrossed in it, even during sutta breaks, they will have these talks.. but women are not like that. We work with computers but we don’t make it our life.*

Amrita (35 yrs) recalls her experience in another IT company where she experienced the overt preoccupation of men with technical stuffs. She says: *I was an experienced coder and in one of my projects my team lead would always tell me how to be a ‘computer-pro’. He would always advise me, lecture me, how to ‘know the software better’, what made him tech-savy and so on. Such conversations were ridiculous, thinking about it now, it’s as if meant to make me understand ‘look, you have to be like us, to stick around here.’*

Sutapa (35 yrs): *general image of computer guys or techies are men with those geek glasses, being lost in computers. Women are generally more feminine. In designing and development teams managers are sometimes like that and they are mostly men, mostly serious ones. Women are generally few in such teams. It’s a matter of choice.*

Ankita (29 yrs): *My previous lead was a male chauvinist... He would rarely take my work seriously because I just did an error once and I was told that “be like a man when working. It should be like your child. This is all you have to prove how worthy you are. Don’t let your mind get diverted”. I was not like one of those other typical computer boys.*

The narratives of women indicated the relationship or preoccupation of men with technology- the computer or the software. The job description, working cultures, temperament of men, all create a regime that systematically serves to exclude women from certain software tasks. Hence this ‘geek culture’, in IT industry creates “*a culture of engineering*” (McIlwee & Robinson, 1992) which plays a vital role in creation of gendered identifies at work. Faulkner (2007) notes

that gendered engineering culture is not only experienced among engineers but it's gendered roles are also known, produced and reproduced by society as a whole – codes that are based on male dominated courses that have been monopolizing the terrain of technological innovation. In this light of discussion, gendered culture of engineering is a discursive formation based on patriarchal ideology that equates males with rationality and objectivity and assigns them as the ultimate producers of objective knowledge. In this sense, the masculine culture within high-end software work produces a unique occupational “*inequality regime*” (Acker, 2006) within IT industries. The concept of inequality regimes informs my analysis as to how gender discrimination is normalized in technology firms and may be invisible to the men working on teams that have few or no women.

The male dominated domains in IT are marked by a culture of masculinity that is created and maintained in an unquestioned manner. These function like a ‘habitus’, specially speaking a “gendered habitus”, due to which women find it difficult to break through (Powell & Sang, 2015). In fact, the habitus is internalised by both men and women who participate, especially those who succeed, through conscious or unconscious ways. In this study, I tried to understand the kind of problems women face in male-dominated fields of software engineering. Most women experienced “micro-aggressions”¹⁶ (Russell-Brown 2009) during some point of time in their career, while working with their male co-workers. Although micro-aggressions appear as often unintended and may be invisible to the person enacting them, yet the recipients experience them as hostile or threatening. Women (31%) shared their experiences in male dominated software teams of how working culture in high end software tasks serves to exclude women ‘informally’ for instance: being reminded of being the only woman in teams or not giving priority to their views, avoiding eye contact and so on. Not being part of these circles, conventionally, women experienced feelings of isolation, alienation and despair. Some narratives exemplify their experiences:

Anusree (40 yrs) learnt computer programming because of her interest. In some projects, she used to be the only female developer in an all-male group. She says: *This was about six or seven years ago when female software designers were very few. Now at least it has comparatively increased. I was in another IT company then and during the project period, I was reminded frequently that I'm the only female developer on my team. During team meetings, no one made eye contact with me, they made eye contacts with each other. I knew this wasn't*

just in my head. I discussed it with other women who have had this issue, too. When there was discussion about project related issues, it was as if I was non-existent. I was there as if to help them out. I did not discuss these with my manager then because I did not know whether he would understand this. Moreover, these things were faced by other women too in software designing.

Anwesha (33 yrs) is a software architect. She is the sole programmer in her team of six men. She says: *During casual meetings where it's you and two other people, and men (developers) are talking to each other about your project. They discuss among themselves. If I ask one of my male co-workers about a query I have, they will be answering it with a blank face as if 'what a stupid question I asked'. These instances make you feel alienated from the rest of the team.*

Tanisha (37 yrs): *At first, I really did not care being the only one software developer. But then you started noticing certain things. There were times when I made a decision, I got way more questions than the other guys. It took me quite a few years to earn the respect of some of my peers. Sometimes, I kind of freak out that I'm going to make a mistake and they would doubt me. It's just a feeling though, these things do cross my mind.*

The above narratives pointed towards the masculine domain of high-tech software tasks which not only excludes women but makes them aware of their 'gendered identity'. In fact, it is with this bodily reference that gender differentiation becomes deeply and firmly anchored in the 'habitus'. In this case, male bodies (through the culture they create) unconsciously pursue an embodied form of 'hypermasculinity', an exaggeration of male traits and there is an embedded view in it that it is opposite to all things feminine (Powell & Sang, 2015). Thus, the male self-identity becomes an important issue in the construction of high-end software tasks like: designing or architecture, development or programming. It is based on a stereotypical male gender role that works against women and on masculinities which are closed to femininity and inconsistent with the ideal engineer or, 'geek' stereotype in this case.

4.6 Conclusion

In this chapter, I have attempted to analyse that there is a gendered division of labour within the software industry. Firstly, I have highlighted using arguments of Wajcman and Cockburn as to how skills are socially constructed. Hard skills or technical skills, are associated with

masculinity and men continue to be the first preference in technical fields; soft skills or non-technical skills (communicative skill) are associated with femininity. It is believed that while women are 'better' in client management, men are 'better' in technical things. Secondly, under the same theme I have highlighted that there is biasness existing about technical skills of women- the phenomena is termed as 'techno-hazing'. Women software engineers often have to do extra layers of work to convince their capabilities. Thirdly, work in the software industries is segregated according to masculinity and femininity. This was seen by the over-concentration of women in areas like testing and debugging. In the last section of the chapter, I have showed that in male dominated areas of IT, there is a strong identification of men with machines (here machines implying computers). They reported feelings of happiness or success in technical prowess (for example: when a software runs successfully after hours of hard work). This association of men with machines and their 'geekness' seems to get 'naturalised' and leads to high-end software tasks being male dominated or masculine. Women working in these fields are noted to face 'microaggressions' and noted feelings of being isolated or reminded of being a woman.

CHAPTER V

GENDER ISSUES THAT WOMEN ENCOUNTER

5.1 Introduction

The analytical focus of this chapter has been to explore and understand the different kinds of gender issues faced by women software engineers in IT companies. Although their numbers are reportedly increasing over the last ten years, but a large portion of this comes from a pool of young unmarried women (who are mainly in their 20s and early 30s). I have analysed the various reasons attributed to this phenomenon. In doing so, I have explored at length how family, marriage and childcare tend to create stereotypical images of women software professionals and act as constraining factors in the participation of women software engineers in the IT industry. All these are cumulatively seen to affect their career growth, compared to men.

Women in the study were of the view that gender is continually created, realised and reproduced in interactional forms among men and women in IT workplaces. They reported experiencing different kinds of gendered behaviour during interaction with colleagues or supervisors, allocation of projects, networking mechanisms. The responses of women suggested organizations harbour the ideas of masculinity and femininity which reflect in the behaviour of employees and thus gets reproduced or perpetuated in different ways in IT companies. This is suggestive of the how organizations perceive individuals (men and women) as ‘gendered’ beings (Acker, 1990). It also suggested the persistence of “inequality regimes” (Acker, 2006) within organisational culture which limits the growth of women compared to men. I have thematically discussed the various gender issues faced by women. In the first theme, I have discussed about work-flexibility in IT companies with reference to flexi-timing and Work From Home (WFH) and the problems they pose. In the second theme, I have spoken about how marriage and family creates stereotypical image of women as ‘inflexible workers’. The third theme deals with gendered interaction at workplace and the final section deals with how women survive in IT companies.

5.2 Problems Associated with Work-Flexibility in IT Companies

In order to reduce attrition in IT companies, especially women employees, the IT companies resort to various measures to ease the working conditions and provide a family friendly environment. These are '*flexi-time*'¹ and '*work from home*'². However, such policies need to be analysed from women's perspective to understand how effective they are in helping them to continue working in IT companies.

The extended working hours are facilitated by the common policy of '*flexi-time*' in most of the software companies. Although in theory, '*flexi-time*' gives the employees the freedom to choose their working hours, yet in practice they have to work as long as necessary to finish the tasks at hand and they cannot use the time in any meaningful sense. Although the software companies have a sort of '*flexi-time*' policy, they normally have '*core hours*' during which everyone has to be in the office – a policy that further contributes to the long working hours. Thus, it creates longer hours because meetings may be called for early morning or late evening and due to the need for client interface at certain times of the day. Related to '*flexi time*' in IT, another measure adopted by the IT companies to ease the longer working hours is the introduction of '*Work From Home*' (WFH) policy. With regard to flex-timing and WFH, it was noted that one of the companies (referring to as '*Company C*') is renowned for having provisions and granting it to most of its employees, including women, in many projects. In fact, there have been instances where women left other IT companies to join this particular company (company C) for the benefits it provided. Men and women are in general praise of both flexi-timing and WFH which is said to be helpful for women – in balancing work and family and avoiding long hours of stay at office.

Interactions with women suggested that the policy of WFH has ambiguities within companies as well as across companies. For some companies (here, company A and B) the policy of WFH is available for employees to work two days a week, officially. Moreover, the company offers an amount upto Rs. 2000 towards reimbursement of use of Internet at home. However, the employees are of the view that the option of working from home is not available for all projects. It depends on factors like kind of projects, the client involved or the Off-Shore Development Centre³ (ODC). Sometimes client do not want to compromise with their data or environments and ask everyone to work from the concerned ODC only. Similarly, this facility of WFH also depends on the ODC or company concerned. It also depends on project lead or project manager and the kind of relationship one shares with them. Getting access to projects, which permit

WFH is determined on the kind of networking one has and the ‘terms’ that colleagues and seniors share. Women noted (company A and B in this case mainly), being able to WFH in projects sometimes depends on such informal factors at workplace. The narratives of employees are reflective of this:

Amrita (37 yrs): Sometimes, the client says at the outset, this will be an ODC job. So, it means that we have to be there at office to do work. The data and security of the project is vital. Even the managers cannot say anything in this. So it depends on the project you are working on.

Shweta (25 yrs): It’s difficult to get work from home option always. The project you are working on might require you to stay at office. Even your supervisors need to be ok with it. If they don’t allow to WFH, you cannot do it. There are various matters in this. This is difficult for working mothers.

Anwesha (33 yrs): Work from home is there, but it depends on internal factors as well. It depends on the kind of networking and socialising you have with your seniors and team members. If you have good terms with your immediate superiors, chances are you might get it. They should be willing to allow it, because they are the ones who will help in evaluating the work you do. So it’s important to have good ties and maintain amiable relation.

Poonam (35 yrs): If your manager is ok with it, you can have WFM option, provided the client project permits so. Also, when you are senior with an experience of five or six years, it is easier for you to avail work from home because it gives you credibility. But now-a-days, many projects demand you to be here at office and work.

Anisha (27 yrs): Now, most of the projects require us to work from office. At the outset, if you get absorbed into projects that allow you to work from home, then it’s good. Otherwise, it might be difficult.

The above narratives suggested the irregularities associated with WFH. It has been noted in this study that working women avail the provision of WFM to their advantage. In fact, most women are found to valorise the policies of flexibility as it helps them to balance home and work simultaneously where they do not have to be physically present at the office at odd hours, rather they can be at home and attend calls from clients, manage projects at their convenient time. Some of the views of women, shared below, are reflective of these views:

Nilanajana (44yrs), a project manager in one of the IT companies is married and has a child. She needs to give time to her son as well while managing her career. She opts for work from

home option when her son has examinations, so that she can help him out. She says: *I feel flexi-working is convenient for working mothers like me. In my case, I feel it gives the facility to be at home while doing my official work. When my son has exams or there is some need for me to be at home, I opt to work from home. This makes things easier for me to manage as I can look into him while I work attend calls or make presentations. Our company has a good working culture, in that sense.*

Priyanka (27 yrs): *I have seen women opt for work from home, in many projects. It is easier for them to give time to family, their children as well as do work. Our office has this policy which is beneficial to many women.*

Pallavi (28 yrs) has plans of marriage in seven to eight months. Her husband often has to travel for official work. She says it would help her manage both after marriage. She says: *Work from home is convenient. When I will travel with my husband, I would not have to take a holiday. I can still work while travelling after marriage. This flexibility is very good.*

Ankita (29 yrs): *Sometimes there are projects that give you the facility to work from home. They are highly sought after, especially by women who have children, ailing parents, because the nature of IT work is such that there are 10 hours of work and then you return home and become exhausted. You hardly have time for anything else. But right now, there is hardly any such provision as our office demands one to work from office and that is difficult in the long run for women.*

5.2.1 Gendered Implications of Work from Home

The competitive and ‘demanding nature’ of IT market requires constant communication with team members, clients or managers. Failure to do so makes the employee look ‘inefficient’ and affects the image of employees. Although a section of women software engineers (about 30%) work from home and valorise it, yet they feel that the nature and pace of work may not always be the same at office and home. At office, women can devote their total attention to work because there is not much scope for distraction and other activities. However, the scenario becomes different at home as they need to have a high self-discipline to do WFH. Achieving this ‘self-discipline’ is often a daunting task for women. Elaborating on this, most of them (69%) say that, being home there are constant distractions due to household needs, including looking after children and their demands. So, there is a constant pressure on women to balance between work and domestic activities. Sometimes this becomes problematic for those with

small children without support at domestic front (absence of house help or illness of family members). However, such considerations of ‘balancing’ were still unheard of in case of men. Unlike women, they can devote time largely on their work without thinking about domestic duties and responsibilities. Some narratives of women and men are given below to bring out their views on this:

Tulika (31 yrs): *WFH has both sides. When you are working from home, you are doing two things at a time. You are looking after household activities as well as working. It's very essential to adjust between the two, because it so happens that you are sitting for a call and you have your in-laws or your child calling you. It becomes difficult to concentrate. You need a lot of restraint and patience.*

Nilanjana (44 yrs): *In office, you are giving your 100% time to work. But when you are home, you are talking to your children, doing some house work, giving them time. Domestic activities are endless. Sometimes it becomes stressful. You are always multitasking.*

Sutapa (34 yrs): *Working from home is a beneficial initiative for young mothers like us. Yet with a small child it can be demanding and even stressful sometimes. There is a constant juggling between the two. As a mother you need to be attentive to the child while you are doing work as well.*

Kaustuv (34 yrs): *Work from home is quite convenient. I avail the policy sometimes two to three days consecutively if I am unable to go to office for some reason. I am in my room for three or four hours working on my laptop. It's a lot easier.*

Rajarshi (35 yrs): *If I am able to work from home, I am at ease. I think I am able to work better. I do not concentrate on other things like talking to my colleagues, going for breaks etc. I am just on my computer, coordinating with clients, making ppt etc. So there is more input of work I feel.*

The above narratives reflected the contrasting views of men and women and how they respond to WFH. It brought out the pressure or mental anxieties which often lead to stress for working women. Their responses were suggestive of the fact that work-friendly policies provided by IT companies does not necessarily help in what it is intended to (for women), rather it increases the work load. Women software engineers constantly juggling or ‘balancing’ between work and home further aid in perpetuating gender stereotypes where women are perceived as ‘good

managers'. They are constructed as 'adept' at handling multiple domestic chores and family dynamics, which renders them well suited to 'multitasking' and managing home and work. Therefore, the flexibility at work does not in effect challenge the gendered constructions that account for women's dual burden of managing home and work. Rather it further re-entrenches the 'unique and legitimate' role of woman within the family. It underlies the narrative of 'respectable femininity' which implies domesticity as a central component. This may be explained from the feminist perspective of Foucault's understanding of power, that the dominant knowledge of femininity is internalised into the subjectivities of the individuals. The fact that women look after household needs and that of family implies that women 'discipline' themselves in terms of 'good wives' and 'good mothers'. Thus, gendered subjectivities are created and internalised, irrespective of their technical education and engagement in high-tech workplaces.

5.3 Stereotypical Image of Women Professionals as 'Inflexible Workforce'

The key characteristic of the IT workforce comes largely from its role in the global informational economy which requires workers who are mobile and flexible. In fact, a major trend in the present economy is towards 'offshoring', as in the earlier 'body-shopping'⁴ phase of the industry. Within the values of the new economy, an ideal worker is characterized as one who is flexible, mobile and willing to allow work to enter personal time zones and spaces. The workers are treated as independent entities with no personal commitments to compete with their professional goals (Beck, 2001). Also, mobility is an important factor for success in this kind of a market, where workers are expected to migrate according to the demands of management or flow of capital (Upadhyay, 2006).

There exists an inherent 'power' difference within organizations which is characterized by a hierarchical ordering of jobs due to which men generally have more power than women. Feminist theorists and researchers have shown that workplaces are infused with gender and have questioned the claim that gender is irrelevant in rational-technical-legal bureaucracies⁵ which are governed by official ends-means considerations oriented to the accomplishment of formal goals. As Alvesson and Billing (2009) notes, workplace culture is seen as constructing beliefs about and self-understandings of men and women as to what is masculine and feminine, thus shaping the gender identities. Organizations can be seen as sites of gender construction and as sites of undoing or downplaying of gender, even when equal opportunity is 'promoted'.

Following these lines of thought, it has been noted in India that women software professionals are largely stereotyped as the “inflexible workforce” (Bhattacharya, 2018) due to marriage and family and this has an impact on their career at multiple levels. The respondents of my study were of the view that IT culture demands workers who are flexible— someone who can stay for long hours in office or even late at night, are readily agreeable to move at any place and at any point of time irrespective of any issue, ready to work in the weekends and even till late nights—especially during the critical period of 24*7 support— and these seem to be compatible with male temperament or ideas of ‘masculinity’. The general point of view which came up was that a married woman is viewed as a liability because company has to take into consideration if she opts for relocation or maternity leave in future and so on. Young women reported that during interviews in IT companies, questions about their plans of marriage were common as the employers were keen to know when they plan to settle down or even their plans for family (for those women who were married). Sometimes women do not divulge issues of marriage during interviews. Some of the views of women given below illustrate these points:

Anwesha (33 yrs): During my interview in a previous company, I was casually asked ‘what are your plans of marriage?’ They basically see whether you have plans of getting married soon. No one will tell directly but married women are seen as a liability. Company has to make arrangements for relocation, work out day shifts and night and so on. So, young unmarried women are preferred. They have no bindings.

Poonam (35 yrs): During recruitment, IT companies covertly prefer young unmarried men or women and want to know their future plans of settling down. These are unsaid things. I have heard women , who are unmarried, being asked ‘I hope you are not planning to settle down soon’ during interview with managers. My friends in other companies share such instances. Sometimes, if the position requires long working (erratic) hours or late night work, they prefer not to take women because they don’t want to take any chance.

Lekha (34 yrs): When I joined this company, I was asked at the last round of interview ‘any plans of getting married anytime soon’ to which I said no. They said ‘Great! Enjoy this freedom and we would be happy to have you on board!’ I was too naïve to understand but now spending so many years in this industry I understand the implications.

The narratives are reflective of how married women and working mothers often become vulnerable to gender stereotypes at work. The way how capability of women are ‘judged’ on the basis of whether they would be deliver their work is reflective of how the concept of a “job”

assumes a particular gendered organization of domestic life and social production. As Acker (1990) notes that the concept of “job” is constructed with gender undertones of masculinity and femininity. It is like an “empty slot” and it has inherent hierarchies which are taken-for-granted by both the workers and the organizational authorities. Although a ‘job’ is essentially abstract, but when job evaluation is made, the characteristics of job is evaluated and not the incumbents and a particular structure (which is gendered) is created or reinforced. Thus, it is largely reflective of a manager’s set of values or principles or the underlying basis that provides the blueprint of the structure. These set of values are guided by masculine ideas – someone who is impersonal, devoid of family bindings, competitive and available at all times. Therefore, although the organizational logic claims to be ‘gender neutral’ yet there is a gendered substructure that is reproduced daily in practical work and activities in corporations (Acker, 1990).

In the literature of sociology of body, the concept of “body” has been an over determined site of power in feminist literature (Thapan, 1995). In fact, feminists have long identified how women have been subjugated primarily through their bodies and how gender ideologies arise from perceived biological differences between men and women which are supported by dualistic paradigms that have characterized Western thinking from the philosophers of ancient Greece to Enlightenment and beyond. In organisations, an employee is supposed to have no sexuality, no emotions, and does not procreate. In fact, the ‘bodies’ of women- their sexuality, their ability to procreate and their pregnancy, breast-feeding, child care, menstruation, and mythic "emotionality" (Acker, 1990)- are suspect, stigmatized, and used as grounds for control and exclusion. The gender issues and stereotyping with regard to childbearing and family is strongly reflected in the studies on women in software industry by Upadhya (2008) and Kelkar (2006) which show that IT firms are sometimes found to be reluctant to recruit married women with children. Women (49%) noted that factors like childbearing or marriage tend to make them stereotyped when it comes to mobility not only across companies but within as well. Women, especially those with children and family or those joining after maternity leaves are sometimes not considered for challenging projects which are important for career growth. Such non-allocation of challenging projects relegates them to marginalised positions as it affects their appraisal or even promotion. It was further noted that women did not disclose the news of pregnancy and sometimes marriage to office colleagues, specially superiors (who are men in most cases) in apprehensions of loosing out on projects. They generally reported such news after few months or in case of illness (for those who were pregnant) so that they do not stand

for not being selected into crucial projects which are essential for career enhancement in IT. Below are some of the narratives of women who have shared their experiences:

Ankita (29 yrs) is a software engineer in one of the IT companies. She has had her registry and has plans of social marriage soon. Her seniors (like: team lead, project manager and other team members) do not know about her registry yet and she has no plans to share the news with them about her plans of marriage until the date approaches. She says: *I will tell them about my marriage before a month so that I can apply for my leave. People know I am in a relationship but breaking the news of my registry will lead to usual questions like: 'what are your plans post marriage? Are you relocating?'. There is too much unwanted queries and there will be gossip where I would be staying, my work prospects and so on. I don't want to get involved in so much complications now.*

Sayantani (38 yrs, ex-employee of IT company) applied for a job change due to lack of growth in her company but eventually left it. She says: *When I applied in some IT companies, I was asked 'how old is your son? How will you manage? 'Why are you leaving your company?'. They had too much queries for me because I had a child and there was contemplation of how or whether I would be able to handle both. Mostly the candidates were young women and men. Generally managers are apprehensive about recruiting married women with children, coming after maternity leave, because there are doubts over her capability, how much time she can give or how and committed can she be, issues regarding leaves, and so on. Who wants so much liabilities with an employee?*

Amrita (37 yrs): *Times are changing and we see women's participation in IT. But the primary role of women being in the family makes them unable to give in the amount of time and pressure like a man. These play out in the minds of recruitment personnel. This creates discrimination against married women with family. That is why men are preferred for certain jobs in IT over women which require more time and commitment.*

Anjana (34 yrs): *When your seniors come to know that you are expecting, there are all kinds of speculations of you. She becomes a resource, subject to liability. Sometimes they are dropped from projects which might require travelling or frequent client meets. I have heard managers asking women 'plans of having family anytime soon?'. They want to know and accordingly resources are chosen.*

Manisha (30 yrs): *I saw my friend getting dropped from a project when news of pregnancy broke. Naturally, she won't be able to give in as such time due to health issues and company*

does not want to lose out on projects. IT is very competitive area. No one wants to take any chance with a resource who is ill. These things happen often.

The way how women are perceived in terms of their 'nature', their experiences regarding child-(leave) is suggestive of the fact that gender is one of the bases of stratification, not just in our personalities but also in the cultural rules of institutions. Organizations practice masculinity and idealise a particular 'body', that is, a male body which excludes women systematically. There is no place within the disembodied job or the gender-neutral organization for other "bodied" processes, such as human reproduction or the free expression of emotions (Acker, 1992). Sexuality, procreation, and emotions are all considered to interrupt the ideal functioning of the organization, which tries to control such interference. The feminine body is inscribed with socially consisted meanings which acts as a source of oppression for women software engineers (Thapan, 2009). The bases of femininity lie in the nature of socially constructed and culturally coded material existence of a woman's body. In this sense gender domination consists "in an imprisoned effected via the body" (Thapan, 1995).

Gender stereotyping is also evident when the temperament of management is observed with regard to maternity break in IT. Women software engineers (23%) with experience of six to seven years, who join after a maternity break of six or eight months are 'suddenly thought of as not resourceful enough'. They are initially not considered for any project because of 'assumed' reasons like: their inability to keep track of recent projects due to their absence from office; lagging behind the latest technological developments in the IT field, given its constantly changing nature; doubting whether 'new mothers' would be able to give time at work. In such cases, women were often 'benched'. This period of being 'benched' can range from few weeks to about three months. Senior women (18%) noted that the IT companies being highly competitive, this period of being 'benched' may be detrimental for an employee as it creates a 'gap' in the career graph. With no project at hand, it leads to insecurities (about being employed) of being on the 'pay-roll' without any task. Managers and leads start doubting women about their potential and abilities, unlike men. This phase act as 'test of patience' where they need to stick around and be patient. Even when women are absorbed into projects, they feel a lack of support and empathy from male colleagues. The period of maternity break is viewed as a 'vacation' by most men. There are doubts over their 'commitment' to work and constant comparisons are made with other employees regarding their work 'output'. Those failing to keep up with this 'pressure' are ridiculed or mocked. Sometimes women (27%) missed out on appraisals or promotions since that they are not 'performing well' after child-

care leave or because they are not working on any project since maternity break. This not only leads to frustration and dissatisfaction at work but becomes one of the many factors which make women opt out of work. Below I have given narratives of few senior women software engineers like Anusree, Sutapa and Sayantani who shared their experiences in this regard. Their narratives are given below:

Anusree (40 yrs) a senior software engineer in an IT company spoke about the hurdles a woman crosses to rise high in IT by citing her own experience. She says: *Coming back after you have a child is like starting a new phase altogether. It's very exhausting. I was benched for almost two months after I joined from maternity leave in my previous company. Self-confidence reaches rock-bottom because you are not working and you feel stressed because company is paying you on pay roll but there is no work. it's very important to keep yourself uptight at work. Managers take you but there is an amount of scepticism initially. Even if you join a project, the kind of response you get from colleagues initially is discouraging. You will be doubted if you leave early, or take a day off.*

Sutapa (35 yrs): *Getting back on track after maternity break is a challenge in IT. Apparently, HR and managers will be supportive to you and will tell all positive stuffs. But reality is very different. People will behave as if you have come back after a 'vacation'. They will say 'you can relax and work' but they will not take you. And once you don't have a project you won't be eligible for appraisal. Your career is stuck. It's all related you see. After my maternity-break, I was asked to take a refresher course for a few weeks and then my chances of being getting a project would increase. I had to wait for five weeks before I got a project. It was a very stressful period.*

Sayantani (38 yrs) is an ex-employee of one of the IT companies. From her experience of twelve years, she says: *I got a full paid maternity leave of six months and took one moth more unpaid leave in 2016. When I got back to work, I found managers unwilling to take me. I was told to wait for some time and brush up my skills instead. When it came to rating, I got poor rating (C), because I was not 'flexible' enough. I missed out on two consequent appraisals and it affects your self-confidence because you see others doing well. It also creates anxiety as IT companies always want fresh and new talent. If you don't perform well, they might as well terminate you.*

Poonam (35 yrs): *I have seen women wait for weeks and months to get projects after they come back from maternity break. Even if you change to other company, your chances of being hired*

is relatively low because you do not have any prior immediate experience and IT companies will prefer someone who is constantly updated with what's going in the market. The backlog of six or seven months costs on the career until you get back on track.

The lived realities of women imply how gender relations influence the fundamental functioning of organisations and our general way of thinking about aims, rationality, values, leadership and so on. In fact, during discussions women noted these are the reasons why there are fewer women in higher levels in IT companies and for the same job, in senior levels women are found to be older than men. Women being 'benched' puts them in a 'temporary' halt on the career graph of some women software engineers. The outcome of such practices is sometimes called as "*the mommy track*"⁶ (Bhattacharya, 2018). Schwartz's article in "The Harvard Business Review" first drew attention to this phenomenon of 'mommy track' and claimed that while the cost of employing women in high positions like that of management is greater mainly because of the gendered expectations of the workplace and women's duties of raising children and looking after families. This may be explained by the fact that, a woman is defined in terms of her bodily functions and therefore as an inextricable part of 'nature'. As within the Nature/Culture debate, a woman is identified with 'nature' primarily because of her bodily functions (like: reproduction and its 'natural corollary' child-rearing). Thus, a woman is essentially perceived as a vehicle for reproduction and her life, her roles, her position and status in society, are defined by this primary bodily function (Bordo, 2008). Thus, organizations widely disseminate the cultural images of gender, which are invented and reproduced in different ways. In fact, the absence of sexuality, emotionality, and procreation in organizational logic and organizational theory both obscures and helps to reproduce the underlying gender relations.

5.4 Gendered Interaction at Workplace

There is a good amount of literature which talks about reproduction of gender in interactions in organizations (Reskin 1994, Ridgeway 2001). A stream of this scholarship developed into gendered organization theory. Feminist theorist and researchers have also shown that workplaces are infused with gender. They have questioned the claim that gender is irrelevant in organizations and bureaucracies (Cockburn 2009, Martin 2001, Ridgeway 2001). In this theme, I have attempted to highlight that despite the fact that male and female software engineers work together in teams, workplaces, yet the interactions among them are marred by

gendered behaviours and identities which cannot be erased by enlightened management practices, training programmes and so on.

All the software companies have a hierarchal structure and career mobility involves movement up through the various levels or 'bands' which is accompanied by enhancement in compensation and responsibilities. This process is controlled through a 'performance management system' which is a key element of the people management function (or called, HR) function in every company. Performance and increments are based on individual performance ratings and hence the performance appraisals that are carried out every six months or one year are significant rituals in the lives of software engineers. The appraisals are used to review and pay and terms of contracts and this in turn is made possible by the fact that contracts are individualised (Upadhy & Vasavi, 2006). The fact that promotions are 'performance based' and do not take place in a fixed time bound manner is considered to be one of the distinguishing features of the IT work culture, in contrast to the 'old economy' companies, that have elaborate systems of grades and clear promotional paths based on years of experience.

Performance linked promotions and salary hikes not only reinforce the 'individualised' culture of the IT industry but also a high level of labour mobility and the need for a flexible workforce. The system allows companies to provide incentives for good performance and disincentives for those who are underperforming. The performance management system is a technique through which managements can select 'key performers' for fast-track promotions while subtly encouraging, through stagnation, poor performers to leave the company without having them to lay off. (Upadhy & Vasavi 2006, Mukherjee 2008). According to the respondents, since employment is insecure, performance ratings provide a vital clue to employees about their future. However, they look for other signs of prospect as well, for example being selected for key assignments or for onsite work is seen as a positive sign while being 'benched' is a negative one. In general, for both men and women, when their ratings and other signals suggest that they will not move quickly in the company, they start looking for jobs in other companies. However, while the ratings and evaluations are typically said to be based on the performance of software engineers, women noted some gender issues (that are covert) which influence ratings and consequent appraisals. In most IT companies, 'greasing the boss' is an integral determinant for promotion and informal networking acts a medium for it (Bhattacharya, 2018). Women in my study noted, this tends to work against their interests who are unable to network and fit into the male dominated social group in the same way as men and this in turn might adversely affects the performance of women.

Martin (2001), in her studies on gender dynamics at work talks about how masculine values permeate most of the organizational cultures. In this study, women noted how behaviours of men in IT companies are culturally and structurally embedded in gendered organizational arrangements. The number of hours one puts in at work is a crucial determinant of ratings in all the IT companies. Here, 'visibility' is a key factor as one has to be visible in the office and cannot miss team meetings because leads and managers take a note of it which get reflected during ratings. Women noted that mostly men do not leave office before their managers and they have their own social life (like *chai-adda*⁷, coffee breaks, *sutta breaks*⁸) which motivate them to stay after work. During these times, there is more of informal talks between men, regarding work, which keeps them in the eyes and 'good books' of managers and supervisors. All these create a culture in which staying late in office becomes an indicator of 'dedication' and 'sincerity'. Women rarely become a part of such camaraderie and prefer to leave after they finish their work. Given the competitive scenario of IT work culture, these cause relatively lower ratings for women which eventually might affect their appraisals, because those leaving early may be perceived as 'non performers' or as being 'unavailable' or 'not pulling their weight in the team'. The narratives of women illustrate how these factors affect their perceptions as employees:

Poonam (35 yrs): *I generally try to wrap up work and leave by 7 o'clock as I have to reach home for my son. Sometime men stay back after work and discuss about office work and this comes into the notice of supervisors or managers when they put in some mail at 8 o'clock or 9 o'clock. Sometimes they do it to show that 'look I am here till 8'. Managers become happy that this employee is so efficient and say that look women cannot stay back for work.*

Roopsa (29 yrs): *Generally men stay back till late at work. They will keep themselves engaged in some thing or other even if it is needed or not. When we say we are wrapping up they will give you a look and say 'you are done so early'.*

Anwasha (33 yrs): *As an employee you are constantly under the scanner of management, how long are you staying. Men gel with senior men easily and there is a lot of closeness but for women it becomes difficult. Last year, there was an instance I remember- I had to leave early for a few days due to my mother's health related problems. I left after finishing all my assignments for the day. During annual ratings, I found few points lower and after enquiry, I was told I was leaving early and not outing in the required time as is expected. It's so annoying but whom to complain.*

Tanisha (37 yrs): *Men socialise with each other, irrespective of seniority and they share good terms. If a woman leaves early, there are people who will say stuffs like 'you leave early, you miss out on meetings. Look at your colleagues.'* And mind you, these colleagues are men. Women generally who travel far try to leave by 6 pm. Team members discuss with leads and when it comes to ratings, sometimes if you have bad luck your points sometimes might get reduced. I just ignore such comments.

The narratives of women suggest that men socialise after work and thus 'visibility' in office becomes normalised which becomes a bias against women. It brings back Acker's argument that gender and hierarchy are important factors to understand the ways in which men, masculinism and hegemonic masculinity continue to dominate in the structure, culture and practices of work organizations. Gender at work is at work not because the workers inappropriately bring it with them and "pass it around like a virus" (Martin, 2002) but because paid work is currently conceived, organized and practiced springs from and is shaped by gendered conceptions.

It is not just 'visibility' in office, but there are other ways which suggest how gendered pattern of interaction affects men and women differently. A central feature of all IT companies is the existence of 'informal knowledge networks' and exclusion of women from them. These social networks take different forms like: (*week-end boos and after office hang-outs, sutta-breaks*) which are essentially 'male groups'. Participation in these social networks is important because it helps in gathering information (about forthcoming onsite projects, who is in consideration in the 'eyes' of managers, what leads feel about 'resources' in particular domains, whether one is performing well or not, success of projects, promotional aspects and so on) and disseminating to others about their areas of strengths, positions, roles and sometimes even their success in teams. These discussions increase their 'visibility' thus helping them to form new networks and increases their chances of being absorbed into new project. These cumulatively taken together increases chances of better ratings and better promotional opportunities. Women remained largely excluded from such internal networks not only because of their inability to participate and also because it is male dominated. As gathered from the views of women, they normally preferred to maintain a distance of the typical 'boss-subordinate' relationships in public gatherings where smoking and drinking take place. Some of the narratives of women bring out these views:

Bhavna (28 yrs): *Sometimes I have been out with men on lunch during office hours. But I do not prefer going after work, when they are out for beer at the pub. They ask managers to join often. It's a lot about office news and work related gossips. It makes you visible if you participate in such groups but generally women do not join those groups because it's all men. Somehow it is not that comfortable.*

Deepashree (34 yrs): *When work load is less, it is frequently seen that there are after work meet-ups of leads and managers at nearby pubs. They discuss about work and who is going where etc. Women generally do not go out with men. It's all about drinking and men's jokes and you know things like that. It's known to be men's association.*

Amrita (37 yrs): *When team lunch is scheduled, it is done according to convenient day and time. These are official gatherings, more formal. But when there are those sutta breaks of men it's mainly men and women are not part of it. Women do not get to socialise as much as men do with seniors.*

Mridula (34 yrs): *Networking is an important issue in IT. When you go out on team dinner, manager joins you too and there are leads even. You naturally get noticed and people know what work you are doing. This networking helps you grow and makes your impression good."* She further says: *"But men go out with their groups, they are very informal. There is drinking and fun and there is a of office related talk. They will flatter the boss in different ways to get a project. It's all common. They discuss with other colleagues and we come to know."*

The 'informal' processes or networks by which recruitment often takes place in IT companies is termed as "*hiring through informal networks*" (Acker, 2006) which act as exclusionary mechanisms. Hence, gendered characteristics are embedded in the 'ideal worker'. These processes perpetuate 'inequality regimes' in organizations where inability of women to participate in 'informal social networks' put them in a relatively disadvantaged position. The informal networks are not only organizationally powerful but they play a vital role in terms of how the job gets done and who gets promoted.

Clare Burton notes, the cumulative burden of women's trivial experiences with male bias at work (Martin, 2003). Gender is pervasively practiced in workplaces and conflated with working dynamics through interaction. It is generally seen that as men and women do their everyday work, they routinely tend to use gender-based assumptions about those with whom they interact. Women, in the study, noted facing sexist comments or jokes at work, when they get selected for onsite opportunities over men or they get better ratings than their fellow men

colleagues or getting promoted before a man in the team does. There are gossips about their 'closeness' to men (leads or managers) if they get better ratings within team or get a good appraisal, before a man in the team gets it. Such gendered presumptions are also noted if they get a leave a transfer sanctioned without much delay. Some of the narratives of women bring out the views said here:

Aradhana (30 yrs): *Sometimes, if a woman gets an onsite project over other men in the team, then there start gossip about how she got it over other men when the latter have been 'giving more time' at office. There are rumors about link ups with leads or managers which may be helped these.*

Sutapa (35 yrs): *When I asked for my relocation to Toronto where my husband is working at present, it got approved in relatively less time than it usually takes. I was surprised actually. Some of the friends were saying that they heard that there was discussion going around as to how I got my transfer so fast whereas for others it takes more time. I was never told directly but I was told jokingly that I was in the 'list of favorites of the boss' and then laughed off. Or some discussed that 'having a child was her advantage to get me Toronto project'.*

Deepashree (33yrs): *In my previous IT company I got promotion over another team mate, who was my contemporary. He expressed his displeasure openly and spoke about how women get 'advantaged' even when they cannot give required time like that of men, if they don't stay back late or ask for frequent holidays. He was heard saying how it was 'unfair' for a man who is working hard and still not getting reward. Men do have a sense of ego which thinks they fare better in corporate than women."*

Pallavi (28 yrs): *No matter how educated or modern you are, women will always be questioned at work if they start doing better than men. If you get onsite project before your male colleague in the team does, you will be gossiped about 'how did this happen or there must be something.' If women get transfer sanctioned early that will also imply that advantages women get because of their gender.. These things are there and you cannot ignore."*

The narratives imply gender biasness in everyday life and that, men enact masculinities in the course of work activities and relations and in doing so conflate the two dynamics that are independent of each other. As Martin (2003) says, such conflation of masculinities and working activities affects women who work with or around men in largely negative ways. Due to this, women are often relegated to the status of an 'outsider or other' beyond men's world, relations and dynamics and men's denial that such relegation is occurring or is related to gender. As

Acker (1990, 1992) says, various internal dynamics that frame and treat women as ‘same’ are actually embedded with male preferences because they are based on the lives of men, their bodies, their time and expectations. The fact that women’s work is devalued or looked at with suspicion, their promotion is linked with the ‘perceived’ relation with men also implies how they are viewed as ‘sexualized bodies’ (Thapan, 1995). The kind of issues shared by women, within IT companies, talks of how the material body is gendered through discourse and how ‘individual action’ produces and is produced by a constructivist gender system. Thus sexuality, gender, and the body, in a complex interplay of dominant forces, are at the root of women's oppression in contemporary society through the objectification of the female form in everyday life.

5.5 Sexual Harassment at Work

A crucial aspect of organizational culture is sexuality. According to Alvesson (2006), sexuality is not viewed as biological drives or individual psychological phenomena but constituted, expressed or repressed and interpreted in accordance with social norms. Sexuality affects social relations and is perceived as a source of pain and pleasure for organizational members (Hearn & Parkin 1987, Alvesson & Billing 2009).

There is a great body of research dealing with sexual harassment at work. The term ‘sexual harassment’¹⁰ emerged in mid-1970s and has gained a lot of impact. Women, in the study, spoke of zero-tolerance policy for sexual harassment in IT. One company had Internal Complaints Committee¹¹ (ICC) and other two had redressal cells to report cases of sexual harassment. Women said these issues are taken seriously and in case women reported any such instances, the companies were found to take cognizance of it and punish the person concerned. In one of the cases, an employee of the company was fired when the harassment was registered against him and he was found guilty of the offence. Some of the narratives of women bring out their views:

Bhavna (28yrs): *in our company, sexual harassment is an offence. Men stay away from these things generally because their career and reputation will be stake if any complaint is made. In case women complain against anyone, strict action is taken.*

Ankita (29 yrs): *once there was a complaint against a man working in the same office of stalking a woman and disturbing her over phone. He even hacked her social networking file*

and harassed her online. It was seriously scary. She filed a complaint against him and he was suspended from his job after it was proved. It was all over the news. So there is a no-tolerance policy for sexual harassment.

Anwesha (33 yrs): there are strict actions against sexual harassment. These things are not taken lightly. That's why men generally do not try these things. If someone complains against you and it's proven then your career might get affected.

These narratives implied the non-tolerance of sexual harassment in IT companies, which most women felt positive about. However harassment simply does not limit to direct forms sexual harassment like: unwelcomed sexual advances, asking for sexual favours and other verbal or physical conduct which are experienced as negative. Sometimes sexual harassment is related to broader collective patterns of sexism and to workplace cultures (Alvesson & Billing 2006).

Workplaces or organizations witness sex discrimination in two forms of behavior. The first one is 'quid-pro harassment' which involves sexual threats made on conditions of employment or used as the basis of employment decisions. The second one is hostile environment harassment which involves behaviors like: sexist jokes or comments that interfere with an individuals' ability to do his/her job or that which creates an intimidating, hostile offensive working environment. The latter generally includes gender harassment like: 'gender based hazing' and put-downs. In the study, women noted instances of being 'watched' or 'gazed'. This phenomena of watching girls or evaluating them is a disputable form of sexual harassment and has been termed as "girl watching" by Quinn (2002). The analysis of girl watching is grounded in the works of masculinity scholars like R.W. Connell where it attempts to explain the subject positions of the men and not the abstract and gendered subjects of patriarchy but the gendered and privileged subjects embedded in the system. The practice of 'girl watching' is one that is rehearsed and performed in everyday setting and 'plays' a role in building shared masculinities and social relations. It operates as a targeted tactic of power. The male gaze demonstrates their rights as men, to sexually evaluate women. It may take the form of a verbal or gestural message of what men and women say 'checking out' that boasts of sexual prowess or comments about bodies or appearances of women. Its social significance lies in its power to form identities and relations based on these common practices, and as Cockburn says patriarchy is not merely about the relations between men and men but also between men and women (Quinn, 2002). In this study, I have attempted to analyze whether women experienced it and how they felt about being 'watched'. The respondents (women) noted instances/experiences of 'girl watching'

from the way sometimes men looked at them during lunch breaks. They noted that it was not about passing sexual comments or making vulgar gestures to women but gazing and trying to catch their attention when they sit together for some talk or chat during tea-breaks or after office. Although such gazing was not frequent and women did not speak of any harassment or sexual misconduct or vulgarity in the course of talking about 'girl watching', yet they expressed feelings about being uncomfortable in such situations. Some of the narratives of women below are illustrative of their views:

Ankita (29 yrs): *When you go and sit in the compound with a group of your female friends, you can see nearby men staring at you. I would not say it's not vulgar but it's uncomfortable sometimes. They will not pass any comment but you can understand that they are seeing you have tea or sharing a joke with friends. It's like that.*

Priyanka (28 yrs): *The other day I was having some snacks with my close friend at the office cafeteria. There was a group of four senior colleagues sitting opposite to us. They were gazing at my friend time to time who just joined a month back. It's not vulgar or it's uncomfortable. We don't complain because there is no misconduct and these don't take place regularly but yes these things do take place sometimes.*

Anwesha (33 yrs): *Men gaze at young girls, specially if they are new at offices. They will be interested to know about them. They will stare at girls and sometimes talk about them if they are pretty, young, smart and presentable. They would want to spy on you, try to get your attention. These are typical men's attitudes.*

Poonam (35 yrs): *It's been more than ten years in this industry and I still find men gazing at women randomly during lunch breaks or even while travelling. It's not sexual misconduct, but it's awkward when you know someone is staring like that. These tend to pass off like that.*

The phenomenon of girl watching, as explained here with the narratives, functions as potentially powerful site of gendered social action. In fact, the practice of gazing at women and vying for their attention acts as a dramatic performance where men together participate and a certain type of masculinity is produced and heterosexual desire gets displayed (Quinn, 2002). It can also be interpreted as a manifestation of hegemonic masculinity, where men or masculinities are placed in a higher social order than women. Through their gaze, the woman (who is targeted) is reduced to a sexual object which contradicts her other identities like being a competent worker or leader.

5.6 Survival Strategies Adopted by Women in IT

As the significance of gender relations and meanings in organizational life is being increasingly recognized, there has been a growing interest in the field of identity formation of women in organizational contexts. Here the literature tends to explore the more or less distinct forms of subjectivity like: values, self-understanding, ways of thinking and feeling, of female employees in different fields. These works provide strong empirical support for the centrality of working life as a source of women's self-definitions. Studies of women in fields of science and technology have been rare compared to other fields. The researchers in this field, trying to address the reasons for fewer number of women in tech-fields, have mainly talked about the structural features that constrain the career progression of women. At workplace, female engineers encounter "token" dynamics (Kanter 1977) and counter energies faced by women entering masculine domains. It presents complex conditions for women whose credibility rests not only on the ability to navigate male-defined interaction rituals but also on how well they show an 'appropriate' interest in technology, which is essentially masculine: "to be taken as an engineer is to look like an engineer.. to engage in using tools, tearing apart machinery and building things.. a fascination with and desire to talk about these activities... display of the culture of engineering.."(McIlwee & Robinson, 1992 p. 21) . McIlwee and Robinson (1992) noted that such displays are powerful forms of exclusion.

As more women have entered science and engineering there has been a growing interest in how they learn and negotiate the categories of "difference" that mark these historically male dominated areas. Researchers have been trying to understand how and why women in fields of technology are disadvantaged in their positions and are producing literature to gain legitimacy by drawing attention to the daily 'performances' or how femininity is being constructed in the technical workplace (Jorgenson 2002). The structural constraints at workplaces limit the ability of women to control goals, resources, and outcomes; organize and oversee their own work; enjoy the same pay and monetary rewards as their male colleagues; and demand respect at work and in workplace interactions (Acker, 2006). The gender scholars have identified ways in which women typically respond to a "chilly climate" in technical fields: firstly, they downplay their femininity (Eisenhart & Finkel 1998, Faulkner 2000, Kvande 1999, McIlwee & Robinson 1992) by adhering to the masculine rules of behaviour or accepting assignments as they are given because they want to fit in as much as possible and feel accepted and secured. Their strategies are based on 'sameness' as they do not see themselves as different in a gender-apolitical sense. Secondly, they tend to neutralize their gender difference through what

Jorgenson (2002) has termed as ‘discursive-positioning’. Women, in seeking to position themselves as gender pioneers in terms of women in predominantly male fields demonstrated multifaceted self-identifications. They ‘positioned’ themselves as intellectually and emotionally career identified, adept in coping with male dominated work cultures or being non-feminists in the sense that they were reluctant to organise as women or good mothers caught in the conflicts between work and family and resisting to being perceived as members of a homogeneous group. The findings, in this regard, suggested women positioned themselves in relation to their gender differently in different contexts (Jorgenson, 2002). Thirdly, women leave work in STEM fields, a pattern referred to by scholars as the “leaky pipeline”¹² (Blickenstaff 2005). Different explanations have been given in the research literature to understand the ‘leaky pipeline’. The most vital of all explanations which is relevant here, is the masculine worldview of science. In fact, the western discourse of science has an inherent patriarchal bias in it. Science is based on positivist objective rationality, which is seen by some feminist scholars as entirely masculine and therefore closed, or unattractive, to women. As Wajcman (1991) says, biology has been used as a powerful tool to make sex as a basis for sex roles. Women are perceived as incapable of doing some activities like performing technical and scientific work. Another major factor for women to ‘leak’ out of technical fields is the ‘chilly climate’, or unwelcoming attitude, in workplaces which women have to encounter and adept.

McIlwee and Robinson (1999) in their study on engineers pointed out how male defined interactional rituals are a factor in withdrawal of women from some engineering firms and noted that the engineering culture prevailing in these workplaces had male-defined styles of work and interaction, like: aggressive displays of technical ability, self-promotion and self-confidence. In such an environment, women reportedly felt a sense of incompetence and as a result their mobility was slowed in the male defined interactional rituals that was demanded (Kvande, 1999). As Wajcman (1991) says the language of technology is masculine and practices in workplaces or organizations are constructed in a male dominated culture which includes having characteristics like: professionalized, calculative rationality, mechanical or technical skills, aggressive, competitive, being impersonal. The social practices in organizations thus give rise to a kind of masculinity which validates scientific and technological projects. This ‘culture’ is so strong that when women enter the world of technology, are expected to do away with femininity. In the study, I attempted to understand how women survive in competitive IT industries or construct femininity in areas that are

stereotypically masculine. They were asked about their experiences of the ways in which women negotiated their place in the male dominated teams in the software industries. In doing so, senior women (18%) shared their experiences how they negotiated the ‘masculine culture’ at work and later on went on to make their mark in their respective fields. Their experiences shed light on how important the ideology of masculinity was in their ‘acceptance’ in high end software task teams which were male dominated. Women in high-end software jobs, who stayed in this field for more than ten years, had to act like the men when they wanted to be treated like one of the men. By adapting the masculine styles of work, they gained the confidence of fellow men at workplace gradually to the extent that adapting such behaviors made them more ‘acceptable’ in teams and managers were happy in promoting them. Adopting the masculine styles of work included: being cut-throat in terms of performance evaluation and employee assessment, refusal of projects or to be in a team irrespective of childbirth or any personal issue, accepting random travels both national and international, making official work the priority and taking lesser number of holidays or agreeing to work even on holidays unless of urgent requirements and so on. These gave them a ‘ground’ so much so that they are sometimes (informally) called as the “techie lady” in their social circles. Some of the narratives are illustrative of these:

Amrita (37 yrs): There was a time I was not confident of myself as I was new in this field. I was still learning the basics of the job at work. My colleagues knew that very well, even my lead knew that. I was never asked for a suggestion, unlike my male colleagues. In meetings, I was never asked any question. There was an unusual feeling of ‘not belonging here’. But with time, I am have gained respect by being accepting whatever was told to me- I hardly missed meetings, worked on weekends, travelled whenever I was expected. I have travelled thrice for company projects and from these they know how committed I am. Now I have headed projects and have led juniors who are largely male. They report to me, consult me in case of trouble, share their opinion with me when they cannot reach out to the project manager.

*Poonam (35 yrs): It is all about your strength and grit and proving yourself that you are no less than a man. You start working like a man 24*7, take no holidays, always be ready to move anywhere as your manager says and you are set to rise. Sentiments of family are seen as excuses of not doing your work properly. That’s why not many women can rise high in IT.*

Nilanjana (44 yrs): *From my experience of fourteen years, I feel that to secure your place in your field is to be involved in work and be like a man. You cannot be thinking about family and adjust work. People might judge you about your commitment to work. Women doing so, know how difficult it is. The culture and the system here is that you have to be cut-throat, totally impersonal. You cannot afford to be emotional and take decision for a worker. The client comes first, you are the face of your company and the onus is on you that's how we are made to think in our fields. And then comes the team.*

Anuradha (41 yrs): *Generally, view is that women can't do it because of other obligations and so not every manager wants to take in women in first go. In initial years, I gave in my best shot. I never said no to anything. If they required me to do an assignment within a day, I would do that. I worked on weekends during project deliveries even if that meant compromising on my family time. All this just to make them believe I can do it as a woman. Now, juniors and seniors have respect for me and I have made a place for myself. For men, they don't have to put in so much pressure as we do because managers know how men would work.*

Sejal (36 yrs): *There have been few times in my career in earlier days, where I had to be in office when my daughter was a few years old and ran a fever of 102 degrees. I kept a nanny at home to take care of him. I used to be restless at work and wanted to rush home, but I could not ask for a leave from my manager. Otherwise, these things would count in future recruitments in projects with assumptions like 'o I know her. She isn't flexible enough because of her child'. As a woman, you have to prove and work more and more to show you are capable of what. That's how it works here.*

The narratives of women implied that there are limited ways of constructing femininities in the IT companies. As Kvande (1999) says, it is a profession, where the “settlers encounter the immigrants”. Emulating masculine styles of work and values and becoming “one of the boys”¹³ (Kvande, 1999), in terms of participation and competition, has been the road to acceptance for women in IT companies and to be treated like men in their teams. The cultures and practices at workplace are reflective of the structuralist emphasis on the historical roots and durability of cultural equation between masculinity and technology which emphasis on being materialist, aggressively competitive and controlling. The domination of men and subordination of women is a historically grounded relational system in which women continue to contest men's power. As Martin (2001) says, individuals are agents who ‘practice gender’, or more specifically speaking practice masculinity, and their actions confirm to the existing gender order which

perpetuates hegemonic masculinity at work. The experiences shared by women are suggestive of how hegemonic masculinity is upheld at workplaces which rests on ideas of ‘male worker’ being independent risk taking, aggressive and rational (Connell, 2005). Such ideas are internalised and unquestioningly performed by both men and women as ‘gendered practices’. As a consequence, it becomes ‘legitimized’ and ‘natural’ at workplace. It explains the importance of ‘power’ which becomes a central dynamic force in the construction of masculinities and femininities.

5.7 Conclusion

In this chapter, I have outlined the various kinds of gender issues that women software engineers encounter in IT companies. Firstly, I have spoken about the policies of work flexibility and the various dynamics associated with it. While discussing about the WFH policy, I have discussed the gendered implications of it. In doing so, I have explained that the provisions of WFH for women does not do away with the social construction of women in terms of domesticity. Women are involved in domestic chores while attending official duties from home. Unlike men, they are constantly involved in ‘balancing’ work and career which creates a lot of mental strain. This has been explained by the Foucauldian understanding of power/knowledge. According to feminists, it is the internalisation of dominant ideas of womanhood which creates gendered subjectivities. Secondly, I have elaborated how issues of marriage and family stereotype women as ‘inflexible workforce’ and acts as hindrance in career, compared to men. The different problems women include: reduced chances of getting absorbed in projects after child care leave or being put away from challenging projects. This is due to the concern whether women would be ‘committed’ to work or devote the required time after child-birth. Women are often ‘benched’ for weeks to months. Such anxieties make women hide news of marriage or pregnancy as it might temporarily halt the growth. These are reflective of the masculine nature of organisations. It also shows that organisations perceive bodily functions or processes of women as ‘misfit’ and these are used to exclude them ‘informally’. Thirdly, I have also attempted to highlight the various gendered relations at work. This included practices like networking mechanisms which are gendered. Men have their own groups at offices which help in disseminating work-related information and helps in socialising and thus increasing their ‘visibility’ at office. Women prefer leaving early after finishing work, unlike men who stay back with their male-gang until the boss leaves or till late as work demands. Hence, staying back till late evening becomes trend and increases ‘chances’ of visibility. Other kinds of gender issues included women being topics of discussion or gossips if they get on-site

opportunities before men or get better ratings or promotions. With regard to sexuality in organisations, an important highlight was the phenomena of ‘girl watching’. Although women did not acknowledge this as overt sexual harassment or of vulgarity but it was marked by a feeling of ‘uncomfortableness’ and awkwardness. All these imply, although IT companies boast of their egalitarian policies, yet the experiences of women suggest that gender as a structure is deeply embedded in IT companies. Finally, I have spoken about how women cope up in predominantly male domains. Findings suggested that working ‘like a man’ is the way to being accepted in teams. Women, who have stayed in this industry for more than ten years, have noted that adopting masculine styles of work like: placing more priority on work than family for instance, being available all times for work, or being open to random travels. Hence, IT companies are ‘gendered institutions’ which uphold hegemonic masculinity.

CHAPTER VI

CONCLUSION

The technical attributes of the new information and communication technologies have increasingly come to dominate the explanations of contemporary change and development. This new society, characterised by a sudden growth and development of Information Technology (IT), has resulted in dependence of the society on individual knowledge and competence of the person in the IT area. The new economy has heralded a new industrial revolution almost equivalent to the great inventions of nineteenth and twentieth century as it has been a transition from industrial and manufacturing based economy to service sector asset-based economy. The spread of this new economy led to ‘waves of optimism’ with expectations of a rapid increase in productivity and increase in employment opportunities, especially for women (Unni, 2008). Studies of women and information technologies in developing countries have been focusing mainly on the impact of IT on the employment opportunities of women and on their economic power. In Asia as a whole, specially in East and South East Asia women have entered the labour force on a larger scale and faster than in other regions of the world (Kelkar & Nathan, 2002).

The software industry in India, which began in the early 1970s, has grown at a phenomenal rate since 1980s due to software services like coding, and custom software development. This industry currently seen as the heartbeat of the ‘knowledge-based economy’ (Unni, 2008) in developing countries like India. It is a relatively young one and one of the most influential technological areas affecting economic growth in our country. In India, with liberalisation and globalisation, the advent of IT has shifted the demand for labour to workers with skills to complement the new technologies.

While software industry has created new opportunities for the urban educated middle class women in India it has also created new regimes of work and workplace control. Software industry is creating gendered bodies as the work is defined as – flexible, safe, non-physical/strenuous labour. The exact number of women employed at various levels of the Indian IT industry is not available due to the lack of gender disaggregated data in existing literature including the NASSCOM study. Moreover, the term ‘IT’ being a broad one has been used in common parlance, to refer to all kinds of work in IT like call centers, back office

operations, database management, hardware production, software production and so on. In this study, I have focused on software work in India and the women professionals involved here.

As found in the literature, skilled work remains a masculine domain in IT. The association of technology with masculinity reflects in most technical jobs being dominated by men, even in fields of IT. In the Global North, the gendering in IT industries is clearly established. Also in India, studies conducted among IT employees have showed an uneven distribution of women across different jobs. Although the number of women in most senior roles has shown a marked increase over a five year period, between 2012-17, yet there are still constraints to progression (Raghuram et al, 2018). There is a noted over-concentration of women in lower-end IT industry tasks like: testing, quality assurance or support and under-representation of women in higher-end tasks like software designing, architecture and consultation. Most of the previous work in this area has been largely descriptive and quantitative.

With this backdrop, my attempt in this thesis “Women Software Engineers in Private Companies of Kolkata: A Sociological Study” has been to provide an understanding of the lived realities of women software engineers. For the purpose of my study, three IT renowned companies of Kolkata were chosen and fifty women software engineers working in these companies have been studied. To gain a male perspective into the research, I have also interviewed ten men software engineers from the same companies. I have tried to understand how women software engineers view their relationship with work and whether they have been able to challenge the dominant ideologies of ‘good wives’ or ‘good mothers’ in everyday life. The focus has also been on understanding whether Information technologies are gendered and skills and technical knowledge being socially constructed. I have also attempted to highlight the kind of issues women face in IT companies. The study has been conducted with a mixed method approach, where more focus has been on the qualitative aspects. The experiences of women have been valued and emphasis has been on subjectivities of the individuals (the women in this case). Since the study has adopted a feminist method to ‘give voice’ to women, narratives and face-to-face interviews have been helpful in gathering rich data from the respondents. These have been recorded, with their consent, and later interpreted and analysed with the help of relevant theories. I have provided the quantitative data in the demographic section of this thesis.

6.1 Summary Of Findings

In the first chapter, I have attempted to introduce this topic with relevant literature. The emergence of the software services industry over the last decade has rapidly altered India's position in the global imagery. Since India officially liberalized its economy in 1991 inviting foreign capital, the software industry has grown rapidly and has built an international reputation. The Indian software industry has received much appreciation for creating sources of employment especially for women, who are professionally qualified. However, there are evidences of gendering within IT companies in India as gathered from NASSCOM data and other studies. Not only in India, but relevant literature has been reviewed from Global North as well which has pointed out the gender issues within IT industries. The review of literature has been helpful in exploring different dimensions. It has helped in formulating the research questions and focusing on the objectives of my study. Apart from literature review, the first chapter has also a section on the rationale of the study which tries to show the sociological significance of the research undertaken. I have pointed out the different dimensions in my work and how this shall add to the existing body of sociological knowledge. The chapter also contains the objectives, along with a detailed discussions on the methodological parameters which have been used in the study.

In continuation with the previous section, in the second chapter I have laid down the major theoretical perspectives which have been used to explain the findings. Here, feminist theorization of gender and technology, feminist theorization on gender and organizations, Foucauldian concept of power (as used by feminists) and ideology of motherhood, specially intensive motherhood have been reviewed in detail. Their applicability in analyzing the findings has been scrutinized. This has been helpful in relating the theoretical with the empirical and thus derive inferences and provide the concluding remarks.

In the third, fourth and fifth chapters, my focus has been interpretation of the findings. The analysis is based on the accounts of women. In the third chapter, I have highlighted women and their relationship with work and family. In the first section of this chapter, I have highlighted the socio-economic composition of the workforce. As a service industry with software professionals working in diverse transitional spaces, hosting foreign clients, interacting with them over the digital media or taking on-site visits to Western countries, there is a demand of certain skills and knowledge. Apart from technical skills, emphasis is also given on right communication skills, and good grooming. Thus, the social characteristics of the

employees have become a key aspect of their employability which includes class, language skills, appearance- the entire set of traits that is captured in Bourdieu's (1984) notion of "cultural capital". In fact, this has become a key in the division of labour in the new information or service economy. In the second section of the chapter, focus has been given on the professional employment of women and changing relationship within families. Women's employment in the IT industries have been pivotal in increasing their financial power. These women mostly belong to upper-middle class families who value their education and their association with employment in the high-tech offices which provide much global exposure. The high earnings of software industries has made them indulge in leisure and shopping for themselves as well as for family. Women have become consumers of the new economy where going on foreign holidays, dining out in five-star restaurants in the city, visiting glitzy malls, spending on branded items have become common. They take much pride in the work they do, contribute to household expenses, look after their parents and hence command admiration from family and friends. Young unmarried women noted that their increase in economic power, by virtue of their education, has given them more freedom in choosing partners in marriage. The practical consideration is that they are confident of their value as potential partners. Although the trend of arranged marriages continue, women do not feel pressurised but believe they have the freedom to 'choose' prospective grooms on the basis of compatibility and understanding. They further noted how parents have become increasingly supportive of love marriages as many prefer to settle down with someone in the same profession. Sometimes, women even delay their age of marriage or plans of starting a family. They are seen to refuse relocation after marriage until they get a transfer or get a job in the new city. They felt their re-location depended on possibilities on transfer of projects to a particular city or availability of appropriate projects. In the third theme of this chapter, I have explored whether their employment and economic power have enabled them to challenge the dominant notions of femininity. I have argued that although women software engineers are employed and financially independent, yet they uphold middle class 'respectability' in the choices they make. All the women engineers believed in the institution of marriage and generally women got married at the age of 28. Most of them drew upon notions of family while being independent and confident in their work even as they reconciled those meanings with notions of individual achievements imbibed at workplace. Career was perceived as a supplement to family and children noted how they adjust their work life after marriage. With narratives to support my arguments, I have noted that women have not challenged the dominant ideologies of femininity, which perceives women in terms of domesticity, care-giving and prioritizing family. To achieve and reinvent the ideals of

the 'good woman', they are involved in maintaining a 'balance' between work and family. They are seen to make 'voluntary choices' by adopting measures like: cutting down on travels after childbirth or self-selection in certain lower-end software tasks in IT companies or taking a gap of few years after child-birth. The notion of respectability is incomplete without discussing sexuality. I have discussed about women and their engagement in leisure with friends and colleagues. It was noted that women rarely went out with friends or colleagues and preferred to return home. They mostly hang-out during office hours and these were generally limited to 'pizza-breaks'. Rarely they went with friends for a drink (with female friends only) and even if they went, it was hidden from families, except their husbands. During the study, most middle class women spoke of 'good families' which lays out the norms of a 'respectable woman'. Women believed in the familial ideologies and this suggested that their sexuality is channelized through marriage, notably, in heterosexual families. Their narratives noted that upholding 'respectability' within families was significant for women in IT. Hence, in public places women reproduced respectability by maintaining distance from the opposite sex, avoiding participation with men (outside their offices) and thus prevent any kind of violation of sexual norms. As feminists like Phadke (2007) note, their respectability is linked to their being able to demonstrate on a regular basis their conformity to familial norms of being a 'good' or 'responsible' woman and any kind of transgression from this is considered 'disrespectful' in middle-class families. The findings here have been analysed primarily with feminist perspective on Foucauldian idea of power. Women making 'choices' and being constantly involved in striking a 'balance' between work and home signify that women internalise the social constructions of womanhood. This is powerful in 'disciplining' themselves in terms of 'good wife' or 'good mother' which includes: being adjusting or compromising, care-givers of family and prioritizing family needs and nurturance. Thus, power gets transferred into the subjectivities of individuals thus disempowering them and women unconsciously and 'voluntarily' confirm to it. Simultaneously, I have also highlighted the applicability of Bourdieu's notion of 'masculine domination' and 'symbolic violence', as to how the internalisation of 'power' implies a masculine domination and conformity of women to these ideals make it 'legitimate' and 'natural'. In this section, I have further highlighted the dilemma of balancing childcare and work by women and the practical contradictions faced by individual mothers and it relates to the larger contradictions in society as a whole. Women professionals believed in 'motherhood', in essentialist terms, and unquestioningly assumed the notion of 'good mother' as one who possesses innate female qualities that drive them to pursue maternal goals above all others. They imbibed the notion of 'intensive mothering', where they

believe in being the ‘best’ care giver of children and suffer from feelings of ‘guilt’ when they resist it. This explained their anxieties, apprehensions and remorse when they were unable to give ‘adequate’ time to children or even decide to leave work for the sake of motherhood. It arises from notions of femininity that hold women and men as fundamentally ‘different’ and thus aids in reinforcing the idea that women’s traits makes them naturally appropriate for home and childcare, while men’s traits make them more suitable for work outside of the home. These suggest, as Patel (2005) says, that despite modernization and technological development, traditional gender roles remain firmly entrenched in societies.

In the fourth chapter, I wanted to understand whether Information technology (IT) is gendered. Literature suggests the increasing participation of women in the IT industries is breaking the traditional social barriers of gender. The liberating potential of ICTs, of which IT is now a major part, in creating employment opportunities for women had been explained in the 1990s with the advent of cyberfeminism. Information technology with its knowledge-based work implied equal access to all. In fact, the strong currents of 1970s feminism that rejected technology now viewed technology as beneficial for women. It was argued that unlike the Industrial technology which had a patriarchal character, the digital technologies is based on brains and networks and thus would herald a new relationship between women and machines (Plant, 1996). Wajcman (2010) also initially assumed that development of microelectronics and decreasing significance of heavy technology would gradually remove the gender stereotyping of technology. However, she noted it was wrong because “culture defines computers as predominantly male machines” (Wajcman, 1991). Studies in Global North as well as India pointed out that there is a skewed distribution of women across different tasks in IT companies. To understand this, in the first section of the chapter, I have highlighted the nature of work that software engineers perform in IT companies. in the second section of the chapter, I have pointed out the distribution of men and women in IT companies that I chose to study. In the third section, I have highlighted that there are gendered perceptions about skill acquisitions. The first point noted was, although software engineers require both hard skills and soft skills, yet women are seen as suited ‘naturally’ for soft skills like communication, interaction, analytic thinking, problem solving and so on. Men on the other hand are seen ‘better’ suited for technical tasks. This is historically rooted in cultural systems of meanings and ideas about ‘masculinity’ and ‘femininity’. Hard skills (like: technical skills) are traditionally constructed as masculine while soft skills (like: communication or interaction) are constructed in terms of femininity. In other words, while masculinity is measured in terms of

technical skills, physical strength, aggressiveness, action-oriented and impersonal; femininity is marked by being intuitive, cooperative and so on. As Wajcman (2007) says, historically and conventionally, this tends to stereotype jobs as masculine or feminine. The second point noted was the biasness of men towards the perception of technical abilities of women software engineers within companies. Women shared experiences of how technical skills and abilities of women were scrutinized, unlike men in the same positions. This has been explained in terms of the phenomenon of “techno-hazing” (DiDio, 1997) where technical skills of women were questioned, such that they were not placed in jobs of their own choice, unlike men, in Silicon Valley. They further shared details of how women had to give more effort to make themselves ‘visible’, for which they had to do extra layers of practitioner identity work in order to convince their potential and capabilities to senior team leads and managers, who are largely men. This made their membership, as Faulkner (2009) once said, ‘fragile’. These even affected absorption of women into teams and projects. I have also explored the reasons behind over concentration of women in fields like testing or support or quality assurance. The narratives of women, and men, implied how skills are perceived in terms of masculinity and femininity. Views of men that women are calm and patient made them more ‘suitable’ for testing or even in support tasks suggested how skills are perceived in terms of masculinity and femininity. For instance, fields like testing or support or quality assurance are ‘relatively less technical’ hence makes women ‘suited’. Faulkner’s conception of gendered dichotomies, in fields of engineering, and the fact that technology has a masculine image fits well into explaining the gendered nature of work in IT companies. The dualisms of hard/soft, techno/sociality and objective rationality/feminine expressiveness have helped to elaborate my findings. In the last section of the chapter, I have attempted to highlight that higher-end software domains are male dominated and the experiences of women in this regard. My findings suggested that higher-end software domains (like: architecture or designing) require masculine traits like: being calculative, aggressive, putting in long hours at work without other considerations and total absorption into tasks. Responses of men noted, they take much pleasure in dealing with the technology they are working on, the computer and the software in this case. It suggested, as Florman (1976) said “men’s obsession with technology” and thus the persistence of a ‘geek culture’. All these taken together perpetuates a culture of masculinity that is created and maintained in an unquestioned manner. Such a masculine culture in higher-end software tasks are so deeply ingrained and established that they function as a “habitus” (Powell & Sang, 2015), specially speaking a “gendered habitus”, due to which women find it difficult to break through. Women working in such fields reported ‘microaggressions’ and feelings of isolation and

despair. They experienced ‘informal’ exclusion from teams during meetings or discussions and it took time for women to feel accepted in such tasks. Wajcman’s and Cockburn’s theorisation that technology is associated with masculine culture suggested how technology continues to be male dominated. Related to this is Wajcman’s idea that skills are not ‘capacities’ of individuals but rather ideological and social constructions has been helpful in analysing the experiences of women in IT companies and explore the gender segregation.

In chapter five, my focus has been to understand the kind of gender issues women encounter in IT companies. In the first section, I have begun by looking into the gendered implications of Work from Home (WFH) policy. On one hand women valorise WFH as it is helpful in managing office and home simultaneously, on the other hand it makes women tied to multi-tasking and juggling domestic responsibilities with work. Foucauldian idea of power is also applicable here to explain that social constructions of womanhood is deeply ingrained and ‘powerful’ such that they cannot challenge feminine practices in everyday life. Thus unlike men, women have to deal with constant balancing between the demands of IT work as well as domestic needs. This often adds to their mental stress and anxiety. The second section of the chapter has focussed on how factors like marriage and child bearing stereotype women as ‘inflexible workers’. This stereotyping of women affects their career mobility in IT companies. Young unmarried women or women without children as viewed liabilities by IT companies, since they have to take account of cases regarding transfers after marriage or relocation or maternity leaves. Sometimes they were found to often hide the news of marriage and pregnancy as it affects their opportunities to get absorbed into projects or get chosen for on-site projects which are considered as lucrative for career- growth in IT, given the exposure and global experience it provides. Although the period of maternity leave granted is six months, yet women noted the problems they face after joining work like: missing out on a few promotions, being ‘benched’ for a period of a few weeks to three months or not being considered for challenging projects. The interviews with women also brought out the lack of empathy and support from colleagues, specially men, regarding maternity-breaks. Constant comparisons, ‘pressure to perform’ and doubts about women’s capabilities after child-birth create stress for employees. Sometimes they miss out on appraisals or even promotions as they are not readily absorbed into projects once they resume from child-care leave. These sometimes lead to frustration which make women leave IT companies. It acts negatively for women as it affects their career growth compared to men. In fact this is cited as one of the reasons why there are fewer women in higher levels in IT companies and for the same job, in senior levels women

are found to be older than men. Acker's understanding of the concept of 'job' has been helpful in analysing how particular jobs are gendered although organizational logic presents them as gender neutral. Exploring the gendered notions of 'job' implies how organizations perceive a worker and the body. The fact that a particular 'body' is needed for a job, specially a 'male' body, assumes the gendered organization of domestic life and social production. The everyday experiences of women suggested that their 'bodily processes' (like menstruation, child rearing, breast feeding and so on) are subjected to suspect and even stigmatized and seen to interrupt the working of organizations and. The third section of the chapter has highlighted the gendered practices at workplace and how 'inequality regimes' operate in IT workplaces. Men practice masculinity by forming groups among themselves (like: *sutta breaks*, *week-end boos*, after-office meets) which play an important role in disseminating information about office related news like: who gets promoted or the likelihood of it, kind of projects and prospective people to be chosen, chances of on-site projects. Participation in such groups increases their 'visibility' among senior men, the likelihood of promotion or being sent to foreign countries for on-site projects. Thus there exists a process of 'recruitments and hiring through informal networks' and absence of women from such networks systematically excludes them. With regard to sexual harassment, IT companies were seen to uphold zero-tolerance for such incidents. Stringent actions against the perpetrators are taken in case complaints are made. However, an important highlight of practice of masculinity was the phenomenon of 'girl watching'. This issue has been approached from the perspective of women and how they perceive 'being watched' or 'gazed at' by men. Although women did not count this as a regular event or an overt form of sexual harassment, yet they noted feelings of 'discomfort' and 'awkwardness' when being gazed at. Connell's ideas of hegemonic masculinity have been helpful in understand that this practice builds shared masculinities and social relations at work (Quinn, 2002). Women being gazed at, during lunch breaks or *sutta breaks*, leads to reducing women to sexual objects and overlooking their other qualities as employees. The final section of this chapter deals with the survival strategies used by women to cope in the higher-end software tasks of designing, architecture or consultation that are predominantly masculine areas. As Wajcman (1991) says the language of technology is masculine and practices in workplaces or organizations are constructed in a male dominated culture which includes having characteristics like: professionalized, calculative rationality, mechanical or technical skills, aggressive, competitive, being impersonal. The social practices in organizations thus give rise to a kind of masculinity which validates scientific and technological projects. The findings here suggested they had to be like "one of the boys" (Kvande, 1999) in order to be 'accepted' in

these domains. Women adopted masculine styles of work like: being aggressive and impersonal, giving more priority to work by taking less holidays and working even on weekends. Thus, it was concluded there are limited ways of constructing femininities in workplaces. Women adapting masculine behaviours implied the power of 'hegemonic masculinity' at workplaces which rests on ideas of 'male worker' being independent risk taking, aggressive and rational. As a consequence, it becomes 'legitimized' and 'natural' at workplace.

6.2 Future Research Potentials

The unit of analysis in the study has been women software engineers. This has been primarily because the focus was to explore the lived realities of women in IT industries. To have a male perspective, I have interviewed ten men software engineers. Yet, it is a small number when compared to the large population of IT employees. Expanding the sample size to include men would give a broader understanding of the issues at hand. In fact, a comparative study could be an area of possible future research.

The focus of the study has been on women who are, only, software engineers in IT companies. This had limited the scope to include more women. The structure of the IT industry, being large enough, includes other areas like data processing, call centres, back end and front operations and so on. In-depth study of women across different fields of IT work, apart from software work, would be a valuable future area of research.

Since the study focussed mainly on qualitative data, to make it specific, the location of the study has been chosen in Kolkata with three renowned IT companies. However there are various other IT companies of Kolkata that employ thousands of employees. This is a drawback of the study as it concerns with cases of women only in the three IT companies looked at. There are avenues for future research if different IT companies of Kolkata are also taken into account. Inclusion of men and women from different IT companies would make the sample more heterogeneous.

The study has focussed mainly on women who are currently employed in the IT companies. However, there is a large section of women who are unemployed, either by choice or by circumstances. The reasons might be varied for women to leave the lucrative jobs in IT companies. Those experiences would have provided more insight into their lived realities as

well. I have only been able to include two such women who were working in the IT companies, of my sample. Thus, my study does not include a perspective of those women who are currently out of work. This is an future research where data can be collected from women who are currently unemployed.

The focus of my study has been on the urban educated women software engineers of Kolkata. Hence categories like rural/urban divide and caste have not been highlighted and the study lacks this perspective. Conducting a research that would include women software engineers across caste and rural areas would lead to a variation in data and make it more enriching. Hence, this is also an area of future possibilities of research.

END NOTES

CHAPTER I

INTRODUCTION

¹*Neoliberal*: It is a policy model that encompasses both politics and economics and seeks to transfer the control of economic factors from the public sector to the private sector. Many neoliberalism policies enhance the workings of free market capitalism and attempt to place limits on government spending, government regulation, and public ownership. The roots of neo-liberalism can be traced to the Chicago economist Hayek and Friedman, but it was institutionalized and operationalized in the 1980s through the policies of Reagan and Thatcher (Mukherjee, 2008).

²*Globalisation*: *Globalisation* refers to the *integration* of markets in the global economy, leading to the increased *interconnectedness* of national economies.

³*Knowledge-professional*: they are the most sought after people in post-industrial society as they have knowledge in fields of Information technology such as programmers or web designers or system analysts or technical workers or researchers. They have high level of productivity and creativity.

⁴*New trans-national capitalist class*: Radhakrishnan (2011) used this term in her book “Appropriately Indian”. It refers to the Indian IT professionals within India and outside. They have specific practices, attitudes and beliefs that foster and give rise to a socio-cultural formation that she calls “new” transnational class. This class is full of ostensible contradictions. On one hand it embraces individuality, development and change and on the other hand while it encourages women to be “empowered” yet it places limitations on such empowerment. Although it claims inclusivity by thinking of itself as “middle class” yet the boundaries in terms of who enters into its fold are remarkably limited.

⁵*New middle class*: There is considerable debate around the identity of the ‘new’ Indian middle class. Generally, they are associated with economic liberalization and new consumption patterns. There are various layers of the middle class differentiated by caste, religion, income, social capital and cultural capital ranging from low-level and less skilled clerical workers to upper level managerial personnel but it is a small segment of these upwardly mobile workers who seem to be associated with the discursive construction of India’s new middle class. For Lakha (1999), the new middle class consists of the rich farmers, small business entrepreneurs, overseas workers in the Gulf region and the salaried professionals from diverse backgrounds. According to Fernandes (2000), in the contemporary context of liberal India, the new middle class has become a sign of the promise of a new national model of development that will allow India to catch up with larger processes of economic globalization.

⁶*Off-shore practices*: it is the practice of outsourcing operations overseas, usually by companies from industrialized countries to less-developed countries, with the intention of reducing the cost of doing business.

⁷*Women empowerment*: women's empowerment is essentially about changing power relations that subordinate women in the family and society. It is an enabling process that seeks to redistribute power between genders and involves resistance, conflict, and accommodation.

Empowerment also involves disempowerment of some structures, systems, and institutions (Patel, 1998).

⁸*Post-industrial society*: It is a concept popularized by Bell (1973), describing the transition from a society predominantly based on the production of physical goods to a service-based one.

⁹*White-collar work/society*: The white-collar workers belong to a class of employees known for earning higher average salaries doing highly skilled work, but not by performing manual labor at their jobs.

¹⁰*Femization of labour force*: It is the phenomenon of the clustering of women professionals at lower end of the job hierarchy. It has spoken by Wajcman (2006) as well as Upadhya and Vasavi (2006) in the context of changing work patterns and implications for women in Information economy or IT industry .

¹¹*Software Development Life-cycle(SDLC)*: SDLC is a process followed for a software project, within a software company. It consists of a detailed plan describing how to develop, maintain, replace and alter or enhance specific software. The life cycle defines a methodology for improving the quality of software and the overall development process (Ilavarasn. 2008).

¹²*Hybrid skills*: Hybrid skills are a combination of technical and non-technical skills.

¹³*Soft skills*: Soft skills include interpersonal (people) skills, communication skills, listening skills, time management, and empathy, among others.

¹⁴*Outsourcing*: Outsourcing is a business practice in which services or job functions are farmed out to a third party. In information technology, an outsourcing initiative with a technology provider can involve a range of operations, from the entirety of the IT function to discrete, easily defined components, such as disaster recovery, network services, software development or quality analysis testing.

¹⁵*consultancy*: Consulting is defined as the practise of providing a third party with expertise on a matter in exchange for a fee. The service may involve either advisory or implementation services.

¹⁶*project management*: It is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements.

¹⁷*Agile computing*: Agile computing was a term coined in order to describe a new methodology of approaching software development projects and as the name implies, enables projects to be delivered in a timely and effective way by enabling the developers to be far more responsive and proactive with the needs of the organisations that they were working for (Dermaiter, 2004)

¹⁸*Data base analysts*: they deal with database technologies that warehouse information in specific ways. A database analyst is part of conventional corporate IT teams that maintain data assets through very specific research and activities.

¹⁹*Web designers*: They plan, create and code internet sites and web pages, many of which combine text with sounds, pictures, graphics and video clips. A web designer is responsible for creating the design and layout of a website or web pages. It and can mean working on a brand new website or updating an already existing site.

²⁰*System technicians*: they monitor the operations of an organization's computer network, hardware, software, and operating systems. They also monitor system performance and troubleshoot issues to provide clients with uninterrupted access and services.

²¹*Systems design*: It is the process of defining elements of a system like modules, architecture, components and their interfaces and data for a system based on the specified requirements. It is the process of defining, developing and designing systems which satisfies the specific needs and requirements of a business or organization. (<https://economictimes.indiatimes.com/definition/systems-design>)

²²*Computer Geek*: They are commonly referred to as 'geeks'. The term "geek" is currently associated with a specific class-inflected form of masculinity, masculine dress code, leisure activities, and personality traits.

²³*Business process outsourcing (BPO)*: is the practice of contracting a specific work process or processes to an external service provider. BPO usually fills supplementary — as opposed to core — business functions, with services that could be either technical or nontechnical.

²⁴*IT services*: these services constitute a major part of IT industry of India. IT services include clients, servers and web-based services. Opportunities in the IT sector exist in the areas of management services. Consulting services, internet services and application maintenance. Major users of IT services are: government, banking, retail, distribution, manufacturing and financial services. (Ilavarsan 2007, Upadhyay 2008).

²⁵*software products*: in the Indian context, the IT industry is almost entirely devoted to software products or software services. In fact, software products are among the most highly exported products from India. Hence the 'software industry' and IT industry are often used interchangeably. (Ilavarsan 2007, Upadhyay 2008).

²⁶*Research and development*: deals with development, debugging, designing, testing services for customer products in IT companies.

²⁷*Hardware*: the hardware sector of the IT industry focusses on the manufacturing and assembling of computer hardware. The consumption of computer hardware is quite high in the domestic market. Due to the rise in the number of IT companies, the sale of laptops, desktops have been increasingly rapidly in recent years. Many domestic and multinational companies have invested in the computer hardware in India. (Ilavarsan 2007, Upadhyay 2008).

²⁸*E-commerce*: e commerce or electronic commerce refers to commercial transactions conducted online. It means buying and selling of goods, products, or services over the internet.

²⁹*Resource management*: Resource management is the process of pre-planning, scheduling, and allocating your resources to maximize efficiency.

³⁰*Bench*: In the IT industry, the term 'benched' refers to a section of the company's employees that isn't working on any project for the time being but remains on the rolls and receives regular salary from the company.

³¹*Old-Economy*: it refers to the traditional management styles undertaken by companies. It was marked by excessively formal, bureaucratic and hierarchical nature (Upadhyaya & Vasavi, 2006).

³²*Design Personnel*: He/she is someone who designs, programs, operates and maintains computer software. Design personnels can be computer engineers, website designers, technicians and other IT specialists like database administrators or networking specialists.

³³*Networking operating system*: **It** is one of the important type of operating system. It runs on a server and gives the server the capability to manage data, users, groups, security, applications, and other networking functions. The basic purpose of the network operating system is to allow shared file and printer access among multiple computers in a network, typically a local area network (LAN), a private network or to other networks. (<https://www.tutorialspoint.com/network-operating-system-rtos>)

³⁴*Capitalism*: Capitalism is an economic system in which private individuals or businesses own capital goods. The production of goods and services is based on supply and demand in the general market, rather than through central planning (Jary & Jary, 2000).

³⁵*Monomethod*: The *mono method* is associated with the use of one research approach for a given study (Bryman, 2001).

³⁶*External validity*: It is the extent to which you can generalize the findings of a study to other situations, people, settings and measures (Bryman, 2001).

³⁷*Snowball sampling*: It is a type of non-probability sampling where the researcher makes initial contact with a small group of people who are relevant to the research topic and then uses these to establish contacts with others (Bryman, 2001).

CHAPTER II

THEORETICAL OVERVIEW

¹*Hegemonic masculinity*: The concept of ‘hegemony’ refers to ascendancy achieved through institutions, cultures and persuasion. Connell (2005) defines ‘hegemonic masculinity’ as the pattern of practices (which means things done, not just a set of role expectations or an identity) that allow men’s dominance over women to continue. Essential features of hegemonic masculinity involves: the subordination of women, celebration of attributes like: toughness, aggressiveness, rationality and competitiveness, marginalisation of gay men.

²*Industrial Capitalism*: It is a mode of production consisting of large, centrally controlled accumulations of capital used to finance the means of production for commodities destined for market, using largely wage–labour, and characterized by large scale production, accumulation, and limited private ownership (Jary & Jary, 2000).

³*Human relations school*: it seeks to understand and prescribe for workplace behavior on the basis of the importance of work-group norms, communication and supervisory skills.

⁴*Strategic management research*: Strategic management is the process of setting goals, procedures, and objectives in order to make a company or organization more competitive. Typically, strategic management looks at effectively deploying staff and resources to achieve these goals (Alvesson & Billing, 2009).

⁵Cultural theory: it is a branch of anthropology, semiotics and other related disciplines like political economy, sociology and communication. It seeks to define heuristic concepts of culture. Hence, cultural studies often concentrate on how a particular phenomenon relates to matters of ideology, nationality, ethnicity, social class and gender. (https://link.springer.com/chapter/10.1007/978-981-10-0983-9_7).

⁶Technological know-how: it refers to technological knowledge.

⁷Monolithic masculinity: The concept is used in connection with hegemonic masculinity and is used to refer to a singular form of masculinity, a global hegemonic form on a world scale.

⁸Hacker: A hacker is a person who uses computer programming or technical skills to overcome a challenge or problem.

⁹Blue collar workers: The term 'blue-collar' refers to a type of employment. Blue-collar jobs are typically classified as involving manual labor and compensation by an hourly wage. Blue-collar jobs are considered "working class" jobs, which are typically manual labor and paid hourly.

¹⁰Conversation analysis: it is an approach to the study of social interaction and talk-in-interaction that is although rooted in the sociological study of everyday life but has exerted significant influence across humanities and social sciences including linguistics (Ritzer, 2011).

¹¹Face-time: it is a proprietary videotelephony product that is developed by Apple Inc. it is available on iOS mobile devices.

¹²Gender order: The gender order is a patterned system of ideological and material practices, performed by individuals in a society, through which power relations between women and men are made, and remade, as meaningful (Pilcher & Whelehan, 2004).

¹³Gender: In simple language, gender describes the characteristics that a society or culture delineates as masculine or feminine referring to the cultural and socially constructed differences between men and women. It refers to the role of men and women in society or an individual's concept of themselves (Alvesson & Billing, 2009)

¹⁴Emphasized Femininity: The concept of 'emphasized femininity' talks about women being more involved in domestic responsibilities and child care and thus subordinated to men, showing nurturance and empathy, complying to the sexual and ego desires of men (Connell, 2005).

¹⁵Patriarchy: Patriarchy, which is a "system of social structures and practices in which men dominate, oppress and exploit women" (Walby, 1991: 20)

¹⁶Glass ceiling: it is a metaphor which refers to the invisible barrier that prevents women from rising beyond a certain level in organizations. It was coined by feminists in reference to barriers in the careers of high achieving women.

¹⁷Surveillance: Giddens (1995) defines 'surveillance' as two connected processes of accumulation of information and of the supervision of the activities of subordinates in a collective. He believes that information gathering is a prime generator of power.

CHAPTER III

WOMEN WORK AND FAMILY IN THE NEW ECONOMY

¹*Economic Liberalisation:* The term ‘liberalisation’ refers to the process or means of the elimination of the control of the state over economic activities. It gives greater autonomy to the business enterprises in decision-making and eliminates government interference. Economic liberalisation refers to a country "opening up" to the rest of the world with regards to trade, regulations, taxation, and other areas that generally affect business in the country (Mukherjee, 2008).

²*Nehruvian Model:* Nehru’s idea of India’s modern nationhood consisted of four key dimensions: democracy, secularism, socialism, and non-alignment. The Nehruvian plan had a similar logic of using the state as an entrepreneur as well as providing capital to private industry through special development banks in the absence of deep financial markets. Nehru wanted the state to dominate the production of capital goods and intermediate goods so that the Indian economy has enough strategic depth to withstand any future attacks on its political autonomy (Mukherjee, 2008).

³ *Empowerment:* The term "empowerment" has been used widely by the government, donor agencies, NGOs, women activists, and academics since the early 1980s. However, there are differences between development planners and the women's movement as to how the concept of empowerment is understood. Sharma summarises the concept of empowerment as follows: The term empowerment refers to a range of activities from individual self-assertion to collective resistance, protest and mobilization that challenge basic power relations. For individuals and groups where class, caste, ethnicity and gender determine their access to resources and power, their empowerment begins when they not only recognize the systemic forces that oppress them but act to change existing power relations. Empowerment, therefore, is a process aimed at changing the nature and direction of systemic forces which marginalize women and other disadvantaged sections in a given context. Hence, women's empowerment is essentially about changing power relations that subordinate women in the family and society. It is an enabling process that seeks to redistribute power between genders and involves resistance, conflict, and accommodation. Empowerment also involves disempowerment of some structures, systems, and institutions (Patel, 1998). In my study, I have not used the term ‘empowerment’ as it was noted that economic empowerment did not necessarily lead to women challenging dominant notions of femininity.

⁴*New Indian Woman:* The image of the ‘New Woman’ in India is primarily derived from the urban, educated, middle-class career woman (Rajan, 1993). According to Rajan, the New Woman is primarily constructed by the media and for commercial ends. It is new in the sense of “having evolved and arrived in response to the times, as well as being intrinsically ‘modern’ and ‘liberated’” (Rajan, 1993, p. 130). The new Indian woman is one who must attend her national identity as well as her modernity; she is Indian as well as new (Rajan, 1993: 132). In my study, I have attempted to highlight the notion of ‘new’ Indian woman is gendered. Although women are economically independent and career oriented, yet they do not challenge the dominant notions of womanhood, like: being family oriented, the care-giver or nurturer of children.

⁵*Social Class*: A social class is made up of people of similar social status who regard one another as social equals. It is an aggregate of people who have same status or rank or common characteristics. It is a very difficult idea to define and sociologists differ greatly in their ideas on social class. Karl Marx argued that there were two social classes – the bourgeoisie and the proletariat. Max Weber argued that stratification and social class were more complicated than this. Weber begins his analysis by defining class situation as the relationship of a person or number of people to a particular market that has an important effect on the lives of these people. Max Weber has defined class in terms of life chances and noted that a class is a number of people sharing one or more causes of life chances'. By life chances he meant 'the typical chances for a supply of goods, external living conditions, and personal life experience (Ritzer, 2011).

⁶*Status*: Max Weber also introduced the ideas of power and status as making up a full picture of a person's position in society. He defined status as the likelihood that life chances are determined by social honour or prestige. The status groups, as Weber calls, are linked by a common style of life and the attendant social restrictions (Ritzer, 2011).

⁷*Cultural Capital*: In the 1970s Pierre Bourdieu, a French sociologist, developed the idea of cultural capital as a way to explain how social classes are maintained. Cultural capital is the accumulation of knowledge, behaviors, and skills that a person can tap into to demonstrate one's cultural competence and social status. Bourdieu (1986) distinguishes between three forms of cultural capital. Cultural capital in the institutionalised state refers to educational attainment. Objectified cultural capital concerns the possession of cultural goods. The embodied or incorporated state refers to people's values, skills, knowledge and tastes. The institutionalized cultural capital is education.

⁸*Social Capital*: The concept of social capital has received a substantial amount of attention in past decades. According to Bourdieu, social capital is a network-based resource that is available in relationships and consequently accrues to individuals. He defines social capital as 'the aggregate of the actual or potential resources which are linked to the possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition' (Bourdieu, 1986).

⁹*Economic Capital*: It refers to the material assets that are 'immediately and directly convertible into money and may be institutionalized in the form of property rights' (Bourdieu 1986: 242). Economic capital includes all kinds of material resources (for example, financial resources, land or property ownership) that could be used to acquire or maintain better health.

¹⁰*Global Capitalism*: Global capitalism is capitalism that transcends national borders. It is known as the fourth epoch of capitalism in recognition of the three periods or epochs that came before it. the five characteristics of global capitalism are: production takes place on a global stage; labour can be sourced around the world; financial system operates globally; power relations are transnational and a global system of governance (Jary & Jary, 2000).

¹¹*Consumerism*: It is a powerful ideology characteristic of western society that frames our worldview, identities and behaviour. It is defined as a type of social arrangement that results from recycling mundane, permanent and 'regime-neutral' human wants, desires and longings into the principal propelling force of society. It is a force that coordinates systemic

reproduction, social integration, social stratification and the formation of human individuals and plays a major role in the process of individual and group policies. (Bauman, 2008)

¹²*Scooty*: Scooty is the most commonly used term to describe a gear-less scooter in India. It was TVS who made this segment highly popular by launching the ‘scooty-pep’ a light weight gear-less scooter in 2005. Many women use scooty as mode of transportation within the city to travel short distances,.

¹³*Femina*: Femina is the first and most read women’s English magazine in the country and has been capturing the essence of the Indian woman for almost 57 years now. It has not just accompanied but has evolved over the years. (<https://www.femina.in/about-us>)

¹⁴*Exposure*: The term ‘exposure’ is discussed by Fuller and Narsimhan (2008) which denotes a process of enhancing social skills and cultural knowledge through new opportunities, experiences, social contacts and sources of information.

¹⁴*Maternity Benefits Act, 2017*: this act regulates paid maternity leave entitlement and other related benefits for women employed in factories, mines and shops or commercial establishments employing 10 or more employees. The key amendments in the act include increased paid maternity leave, from the existing 12 weeks to 26 weeks; maternity leave for adoptive and commissioning mothers; option of Work from Home; Crèche facility for every establishment employing fifty or more women; and Employee awareness. (<https://www.mondaq.com/india/employee-benefits-compensation/582670/maternity-benefit-amendment-act-2017-is-effective-from-1-april-2017>)

¹⁵*Near site day-care centres*: ‘Near site day care’ refers to a set up when an onsite model is not feasible due to space constraint or the absence of sizeable number of employees who want to use the facility. In such situations, companies opt for corporate tie ups with a day care centre close to the office.

¹⁶*Mothering*: Motherhood is a set of ideals determined by the established traditions and inherited history of a society, which sees women as primarily responsible for meeting their children’s daily needs. Adrienne Rich identified important differences between motherhood and mothering: motherhood consists of the strict expectations determined by a social order, while mothering is an individual woman’s approach to the experience of being a mother. Rich asserts that, as an institution, motherhood has specific social, cultural, and political goals that work to benefit and perpetuate patriarchal society. By contrast, mothering is not an institution, but the individual qualities and practices each woman brings to her role as a mother (O’Reilly, 2010).

CHAPTER IV

GENDER AND INFORMATION TECHNOLOGY

¹*Business development*: In simple language, business development may be understood as the ideas, initiatives and activities which help in making a business better. It includes increasing revenues, growth in terms of business expansion, increasing profitability by building strategic partnerships and making strategic business decisions. (Upadhya & Vasavi, 2006).

²*Delivery*: The term ‘delivery’ here refers to the handing over of the customized software to the client or customer.

³*Industry service/practice*: It is also understood as service industry. It is an economic segment which provides services to customers. Companies within this industry perform tasks that are useful to their customers. It is very wide in nature covering large range of activities like transportation, medical services, education, banking and so on. In this case, it is used to refer to services to customer pertaining to software.

⁴*Administration*: the administrative department is the often called the backbone of an organization. An IT administrator is responsible for the upkeep, configuration and reliable operation of client computer systems, servers and data security systems. The administrators avert possible cyber-attacks for greater productivity as per company policies.

⁵*Module Lead*: Module leads are usually responsible for a small team which will handle one part of the project/product. They are involved in understanding the existing software, look into the requirements and design discussions. Generally people with four to five years of experience can become a module lead. They report to a team lead.

⁶*Project Leaders*: they maintain information technology strategies by managing staff, researching and implementing technological strategic solutions. The vital task of project leader is to keep the team motivated, manage the team dynamics throughout the project, sets the direction for their team during on-going work and ensures that the team focusses on project deliverables.

⁷*Hard skills*: Hard skills refer to the specific knowledge and abilities that are learned through education or training. Such skills are learnt and can be defined, evaluated and measured. These include technical skills primarily. (Faulkner, 2009)

⁸*Resource Management Groups (RMGs)*: Resource Management Groups (RMGs) or Workforce Management (WFM) are specialized groups within IT companies managing the internal employees with a balanced approach. These groups are responsible for managing, replenishing, tracking and utilizing the resources of the company to the optimum level. It is the company’s ‘talent pool’ and has all the data about the skills available in the company.

⁹*Techno-hazing*: DiDio coined the term “*techno-hazing*” in order to describe this phenomenon of gender bias. DiDio (1997) studied a number of women software professionals in the Silicon Valley and instances of women still grappling with problems of being assigned tasks not of their choice while men counterparts with similar backgrounds were given a ‘choice’ of assignments and it is here that he developed the term.

¹⁰*Fragile*: here, fragile is a term used by Faulkner (2009) in his work on women engineers. He showed, through empirical study, that women are not fully accepted in male dominated engineering teams. Hence, Faulkner terms their membership as ‘fragile’

¹¹*Invisibility*: The ‘invisibility paradox’ is a term coined by Faulkner (2009). Women engineers are highly visible and yet ‘invisible’ as engineers both within their community and also to the outside world.

¹²*Gender system*: it is a system of economic, social cultural and political structures which sustain and produce distinctive gender roles and the attributes of men and women.

¹³Gender regimes: This concept describes the gender labels attached to all parts of the production regime within a firm which form a central part of the culture of an organisation (Webster, 1996).

¹⁴Geek culture: The term “geek” is currently associated with a specific class-inflected form of masculinity, masculine dress code, leisure activities, and personality traits. However, recently, the term ‘geek’ has come to be a term used among millennials as a label for those who show their expertise in a certain field. (McArthur, 2008).

¹⁵gender presentation: This kind of cultural knowledge is what Bourdieu calls *habitus*. He describes these ‘structuring structures as dispositions and tastes that are cultivated mainly through one’s class position and interactions with other members of their class. Even when these dispositions are unconscious, they are practiced in ways that constructs and reproduces class difference in everyday life (Bourdieu, 1984).

¹⁶Microaggressions: These are defined as “subtle, stunning, and often non-verbal exchanges” that function as put-downs for a person of a minority status (Alfrey & Twine, 2016). Although microaggressions are often unintended and may be invisible to the person enacting them, recipients experience them as hostile or threatening

CHAPTER V

GENDER ISSUES THAT WOMEN ENCOUNTER

¹ *Flexi-time*: Flexi time is understood as “*doing things at your own pace as long as you meet your deadlines*” (Upadhya & Vasavi, 2006).

² *Work from Home (WFH)*: it is a provision provided by IT companies where employees are not required to be present in the office physically, but are able to work and communicate while being at home. (Upadhya & Vasavi, 2006).

³ *Offshore Development Centre (ODC)*: ODC usually stands for a software development company that provides a team of developers or development services but located in another country. They generally provide various services and is a part of the outsourcing industry. They can build the development team based on the company’s requirement, build projects, provide question answer services.

⁴ *Body shopping*: it is a system of contract labour in which employment consultants in India recruit software engineers and place them with clients abroad to work on particular projects, taking a large cut of their salaries as their fee. The Indian IT industry grew up on the basis of body-shopping or mobile labour. The earliest companies fulfilled their contract for software services mainly by sending software engineers to the customer site. As a result of body-shopping and migration of highly-skilled engineers, there are many Indian software professionals living and working outside India, mainly in USA or in other developed countries. But now, there is a shift towards offshoring. (Upadhya & Vasavi, 2006).

⁵ *Rational-technical-legal bureaucracies*: Max Weber identified three types of authority: rational-legal authority, traditional authority and charismatic authority. Of the three, rational-

legal authority indicates that authority which is invested in a set of rules and rule-bound institutions and that the creating and changing the rules are outside of the control of those who administer them. However, it does not mean that the authority is autocratic. Thus, it is a form of leadership in which the authority of an organization or a ruling regime is largely tied to legal rationality, legal legitimacy and bureaucracy (Weber, 1921).

⁶*Mommy track*: It refers to as the shutting off of women with family responsibilities into lower paying jobs.). The term first appeared in Schwartz's (1989) article in The Harvard Business Review' to draw attention to this phenomenon of 'mommy track' and claimed that while the cost of employing women in high positions like that of management is greater mainly because of the gendered expectations of the workplace and women's duties of raising children and looking after families .

⁷*chai-adda*: It is a colloquial term, used by men and women in IT companies, which is used to refer to tea-time breaks. These are informal groups, mainly of men, where discussions about work and office related gossips take place.

⁸*sutta-breaks*: These are also colloquial terms used to refer to breaks which men take to smoke. These are usually men's groups and found in and around canteen area of their offices, in between work.

⁹*weekend-boos*: men often get-together after their work or sometimes on holidays at pubs or bars for a drink. These are also designated as men's group where work related news is circulated apart from socializing.

¹⁰*sexual harassment*: The term 'sexual harassment' emerged in mid-1970s and has gained a lot of impact. It is defined as an offence, as unwelcome sexual advances, requests for sexual favours and other verbal or physical conduct that are experiences as negative (Alvesson & Billing, 2006).

¹¹*Internal Complaints Committee (ICC)*: The Sexual Harassment of Women in the workplace (Protection, Prohibition and Redressal) Act, 2013 has developed a grievance procedure in the form of a forum called the Internal Complaints Committee(ICC). This committee is institutionalized to hear complaints and grievances in relation to incidents of sexual harassment. It is also instituted to inquire into the grievance and make recommendation towards the complaints brought in front of it. (<https://dst.gov.in/internal-complaints-committeeicc-women>).

¹² *Leaky pipeline*: A metaphor to describe the fact that women are under-represented in science, technology, engineering and mathematics (STEM) careers is to propose a 'leaky pipeline' carrying students from secondary school through university and into a job in STEM (Blickenstaff, 2005).

¹³*One of the boys*: Kvande (1999) conducted a study on the variations in the construction of femininity and can be placed in the realm of the 'different-sameness' debate in feminist theory. She used engineering work organizations as the context for understanding the construction of femininity. She noted certain types of strategies used by women. These included 'homeless', 'one of the boys men', 'compensators' and 'challengers'. Of the four types, I have referred to the second one in my study, that is, 'one of the boys' which implied behaving like a man within workplaces.

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APPENDICES

Appendix-A

(I did not always read the script, but it helped me as a guide to ensure that I convey this information to the respondents).

Script: I am Esha Bhattacharya, a research scholar in the Department of Sociology, Jadavpur University. I am conducting a research on women software engineers in private companies of Kolkata. I am interested to know your experiences of working in the IT industry. Hence, I am looking forward to your participation in this research as it will be enriching. Everything that we will discuss shall be kept confidential. You do not have to answer questions which make you feel uncomfortable. Let's get started with some questions about yourself and then move on to the focus of the study.

There are two interview schedules used in this research. *Interview Schedule-I* has been used for women software engineers and *Interview Schedule-II* has been used for men software engineers.

INTERVIEW SCHEDULE- I

Demographic Information:

1. Name:
2. Age:
3. Marital status:
4. Are you married?
 - 4.1 Do you have children?
 - 4.2 If yes, daughter or son?

Occupational details of present organization

5. How many years of working experience do you have in this industry?
6. Has there been any gap in your service?
 - 6.1 What are the reasons?
7. What is your designation in this company?

8. How long have you been working here?
9. What is your level in management?
 - i. Junior ii. Middle iii. Senior
10. What is your job profile in this company?
11. How long have you been working here?

For respondents, who have worked elsewhere prior to the current company, answer the following question. Otherwise, you can go to the next section.

12. What are the reasons for your change of job?
13. Do you think your working experience has been different in this company been different over previous organisations?
 - 13.1 If yes, how?

Details of work

14. Are you working on any project presently?
 - 14.1 About how many engineers are involved in it?
 - 14.2 What is the ratio of men and women in your team?
 - 14.3 What is your job requirement in the current project?
15. What kind of skills are required for your job?
16. Who allocates work allocated among team members in your office?
17. What do you feel about experimenting new ideas or technology at work?
18. Is there any part of the job that you enjoy the most?
 - 18.1 If yes, what are the reasons?
19. Do you think your work assignments are in anyway different from those of the male software engineers?
20. How do you feel about men's perceptions about women software engineers?
21. How often do you participate in team meetings?
 - 21.1 What kind of group reactions do you receive?
22. Have you been team lead or project manager in any project?
 - 22.1 What is the general ratio of men and women in teams?
 - 22.2 What has been your experience of leading or managing a team?

Work-related issues in IT

23. How do you feel about asking for any work-related help from male colleagues?

24. Has there been any instance where your male co-worker or boss has been unhelpful towards you?
- 24.1 In what ways?
25. Does your office provide you the option of work from home?
- 25.1 If yes, what is your opinion about it?
26. Does your office provide flexi-time?
- 26.1 If yes, how do you view it?
27. Does your office provide any kind of transportation?
- 27.1 If yes, of what kind?
28. How would you explain your journey in this company in terms of your career growth?
29. Do you feel that there is a difference in career-growth of men and women in IT companies?
- 29.1 If yes, why is it different?
30. What are your views on criteria for appraisals or promotion in IT?
- 30.1 Do you think there are any differences between men and women in this regard?
31. Do you think there is any difference in salaries between men and women in IT companies?
- 31.1 If yes, why is it so?
32. What do you feel about the increasing number of young unmarried women in IT?
- 32.1 What do you think are the possible reasons?
33. Why are there fewer number of women in higher levels in IT companies?
- 33.1 what do you think are the possible reasons?
34. Why do you think women are more in some IT areas like testing or quality assurance in IT?
35. What are your views about sexual harassment in IT companies?
- 35.1 Have you ever felt sexually harassed by anyone?
36. Do you come across sexist jokes or talks at workplace?

Managing work-family relationship

37. What were your reasons for joining IT company?
38. What are your official working hours?
- 38.1 Do you have to stay back even after office hours?

39. How do you view yourself about your employment in a renowned IT company of Kolkata?
- 39.1 What are the changes you feel has come about as you are working in IT?
- 39.2 Do you think the perception of families have changed about employed women now?
40. What are your views about marriage and being employed in IT?
- 40.1 Do you think marriage affects career growth in IT?
- 40.2 How would you/do you manage both?
- 40.3 what are your feelings (or would you) about managing family and your demands at work after marriage?
41. What do you feel about relocation after marriage?
42. What are your views on managing home and work after child-birth?
43. Does the company provide day care facilities for working mothers?
- 43.1 If yes, what kind of facilities are there?
- 43.2 Are you satisfied?
- For women who are ex-employees of IT companies, answer the following questions:*
44. When did you leave your job?
45. What are the reasons for you to leave job in IT company?
46. Is there any plan to resume work again?

INTERVIEW SCHEDULE-II

Demographic Information:

1. Name:
2. Age:
3. Marital status:
4. Are you married?
 - 4.1 Do you have children?
 - 4.2 If yes, daughter or son?

Occupational details of present organization

5. How many years of work experience do you have in this industry?

6. Has there been any gap in your service?
 - 6.1 What are the reasons?
7. What is your designation in this company?
8. How long have you been working here?
9. What is your level in management?
 - i. Junior ii. Middle iii. Senior
10. What is your job profile in this company?

Details of work

11. Are you working on any project presently?
 - 11.1 About how many engineers are involved in it?
 - 11.2 What is your job requirement in the current project?
 - 11.3 What is the male female ratio of the team working?
12. What kind of skills are required for your job?
13. How is work allocated among team members in your office?
 - 13.1 What do you feel about experimenting new ideas or technology at work?
14. Is there any part of the job that you enjoy the most?
 - 14.1 If yes, what are the reasons?
15. What do you feel about women being involved in technical tasks over men?

Work-related Issues in IT

16. Does your office provide you the option of work from home?
 - 16.1 If yes, how do you view it?
17. Does your office provide flexi-time?
 - 17.1 If yes, how do you feel about it?
18. Does your office provide any kind of transportation?
 - 18.1 If yes, of what kind?
19. How would you explain your journey in this company in terms of your career growth?
20. Do you feel that there is a difference in career-growth of men and women in IT companies?
 - 20.1 If yes, why is it different?
21. What are your views on criteria for appraisals or promotion in IT?

22. Do you think there is any difference in salaries between men and women in IT companies?

22.1 If yes, why is it so?

23. What do you feel about a concentration of young unmarried women in IT?

23.1 What do you think are the possible reasons?

24. Why are there fewer number of women in higher levels in IT companies?

24.1 What do you think are the possible reasons?

25. Why do you think women are more in some IT areas like testing or quality assurance in IT?

Managing work-family relationship

26. What are your official working hours?

26.1 Do you have to stay back even after office hours?

27. What are your views about women getting marriage and being employed in IT?

27.1 Do you think marriage affects their career growth in IT?

27.2 Do you feel the need to balance both family and work?

28. Do you feel the need to adjust work and family after you have a child?

Appendix-B

***Demographic Information:**

- **Age:**

<u>Age Category</u>	<u>Women</u>	<u>Women (Percentage %)</u>
21-30	29	52
31-40	16	32
41-50	5	10
51-60	0	0
Total (N)	50	100

The above table represents the age groups of the respondents. I have interviewed 50 women software engineers working in three IT companies of Kolkata. Since IT companies are dominated by young professionals software engineers (who are in their 20s and early 30s), most of the female respondents belong in the age group of 21-30 years that is 58%. A relatively small number, that is, 32% belong to the middle age group of 31-40 years, while a small portion of women, that is, 10% belong to the age group of 41-50 years. There were no respondents found above the age of 51 years in my study.

- **Marital Status:**

<u>Marital Status</u>	<u>Women</u>	<u>Women (Percentage %)</u>
Unmarried	25	50
Married	24	48
Divorced	1	2
Separated	0	0
Total (N)	50	100

The above table represents the marital status of the respondents. As inferred from the table, most of the women belonged to the category of unmarried, that is 50%. Among all the women, 48% of women were married. There was one woman who was divorced and lived with her parents along with a child.

With regard to marital arrangements I found that, among married women, 18% had love marriages while the rest had arranged marriages. Of the women who were unmarried, 19% were in a relationship and had plans to settle down with prospective partners in future, 4% of women were about to get in few months; while parents of 27% women were looking for prospective grooms for them.

Among the women who are married, there were eleven women (that is, 23%) who had children. Two women were pregnant when the interview was conducted. Few of them were planning for a child and hence were able to share their thoughts about childcare and work.

- **Designation:**

<u>Post held/Designation</u>	<u>Women</u>	<u>Women Percentage (%)</u>
Assistant System Engineer (Trainee)	3	6.2
Assistant System Engineer	22	45.8
Associate System Engineer	17	35.4
Senior Associate	4	8.3
Consultant	2	4.1
Total (N)	48	99.8 = 100

The above table represents the different designations held by women in the IT companies. However, the total number of women showed has been 48 here instead of 50. This is because, I have interviewed two women were not employed at the time of the interview.

As inferred from the table, most of the women (that is, about 45%) belonged to the category of Assistant system engineer who are in junior level in IT companies, while the lowest number of women (that is, about 4%) are found in Consultancy level, which is one of the highest positions.

The designation of Associate System Engineer is held by 35% women, which is middle level position while Senior Associates consisted of 8%. I interviewed a small portion, that is 6%, of women were working as trainees in the companies.

- **Income:**

Monthly Family Income:

<u>Income Categories</u>	<u>Women</u>	<u>Women (Percentage %)</u>
Upto 50,000	0	0
50,001-75,000	0	0
75,001-1,00,000	2	4
1,00,001-1,25,000	7	14
1,25,001-1,75,000	16	32
1,75,001-2,00,000	19	38
2,00,001 and above	6	12
Total (N)	50	100

In the table above, the monthly family income of the respondents has been presented. None of the families came from income category of below Rs 75,000. It is being inferred that most of the women, that is 38% came from the income group of Rs 1,75,001- Rs 2,00,000 which is a high income category. Thus it can be said that most of the women came from upper-middle class families. A slightly lower (but significant) number, that is 32% came from Rs 1,25,001- Rs 1,75,000. About 12% came from the highest income category, that is, Rs 2,00,00 and above. A small portion of women, that is, 4% came from middle income category of Rs 75,001-Rs 1,00,000. Thus, the sample largely came from economically well-to-do families.

Monthly Individual Income:

<u>Income Categories</u>	<u>Women</u>	<u>Women (Percentage %)</u>
Upto 25,000	0	0
25,001-50,000	4	8
50,001-75,000	13	27
75,001-1,00,000	18	37
1,00,001-1,25,000	9	18
1,25,001-1,75,000	2	4
1,75,001-2,00,000	2	4
2,00,001 and above	0	0
Total (N)	48	100

The above table indicates the individual income of women software engineers in the IT companies. The total number of employees is 48 here because two women were not working in any IT company during the time of study. As inferred from the table, most of the women, that is 37% and 27%, belonged to the income categories of Rs.75,001 – Rs. 1,00,000 and Rs.50,001- Rs. 75,000 which are middle income categories. Equal categories of women, i.e 4% belonged to two upper income categories of Rs.1,25,001- Rs. 1,75,000 and Rs. 1,75,001- Rs. 2,00,000 . Only women who were junior software engineers, that is 8%, belonged to income slab of Rs. 25,001- Rs. 50,000.

These indicated that most software engineers in IT companies have high salaries which made them indulge in upper middle class life-styles like: going on foreign vacations, shopping globally branded items and so on.

*Since my unit of analysis has been women and my focus has been on the women, the demographic details which have been presented is that of women software engineers only.

