CHAPTER 1
INTRODUCTION

All our knowledge begins with the senses, proceeds then to the understanding, and ends with reason. There is nothing higher than reason.

— Immanuel Kant

The Information Technology Revolution

The Information Revolution has transformed the world just like the Industrial Revolution of the late 18th and early 19th centuries. No one, not even the discoverers themselves could have foreseen the extent and the far reaching impact of their phenomenal discovery. In 1943, Thomas Watson, the chairman of IBM and a visionary of the IT revolution is reported to have remarked:

I think there is a world market for maybe five computers.

—Thomas Watson (1874-1956), Chairman of IBM, 1943

This is not the first time in the history of civilisation that such has happened. When Einstein gave his famous equation little did he imagine that it would lead to the creation of one of the most destructive forces humankind could imagine. But, it is the first time in the history of the human race that sweeping transformative changes are taking place at a scale the magnitude and grandeur of which is near impossible to encapsulate. As we look back to the pre-computer world when one pored endlessly through musty books in a library hall or plodded away painfully at one’s typewriter, when getting information involved innumerable visits to an agency and dealing with yards of bureaucratic red tape, when receiving letters meant days of waiting; truly the difference is of the same awesome magnitude as between the bullock cart and the jet plane. We can take journeys through time and space through cyber fuelled search ‘engines’, knowledge is to be got at the click of a button that bears the curiously humble epithet of ‘mouse’, the entire world is enmeshed in a ‘web’ that simultaneously traps you as it frees you. Who could have ever imagined that our world would shrink and flatten, that Bangalore (Bengaluru) could be a city anywhere in the world, be it Kuala Lumpur or New York or Shanghai.
There still remains in some a dewy eyed nostalgia for that feel of a dog-eared book, for the thrill of an arduous quest for that coveted piece of information; that would give one the same sort of satisfaction that a farmer must get in tilling the soil and watching fruits of his labour unfurl as ordained by time … the old guard among us still occasionally long for all of that. But no one can deny the ease and luxury that this technology has brought into our lives.

The computer of today is several times smaller in size and thousands of times more powerful than the mainframe computers of the early era. What is equally noteworthy is the enormous reach of computing devices among the people at large. These high technology products are much more affordable than several other consumer durables. The mobile smart phone which is a miniature extension of the computer is perhaps the most ubiquitous personal possession of all in today’s times. In less than four decades, the computing arena has made phenomenal progress in both its hardware and software components. And this growth is continuing unabated. The amount of data that one can store in each deceptively small device has also multiplied manifold. Documents can be routinely mailed to any global destination at speeds of fractions of seconds. Truly, all this is nothing short of epoch making.

Originally, computing was only meant for speed and efficiency. A computer was a machine capable of performing complex calculations at high speeds. Five decades on the computer has acquired added meanings. The IT industry can be divided into three broad subdivisions, namely, hardware, software, and services. With the invention of the internet, computers now also designate access to an overwhelming amount of information and pervasive worldwide communication.

Information, or the content of what we exchange with the outer world, is our means of negotiating with our social worlds. The ready availability of information has created a knowledge-based society in which humans delve into a vast and boundless font of knowledge to sustain them and while doing so generate ever more information and knowledge. The all-pervasive inter-spatial communication has created virtual communities where people are learning to belong and interact in. The computer has transformed human society into a digital society mediated by memberships to virtual groups.
What we call the Information Revolution therefore is essentially a knowledge revolution. Through the application of knowledge and especially of systematic logical analysis, traditional work has been reorganised and processes routinized to ensure efficiency and predictability to a degree that has created a world that is an accentuation of all that is exemplified by Max Weber’s ideal typical formulation of bureaucracy. It is dehumanised, ubiquitous, and unsurpassed in its coercive presence in today’s society. George Ritzer calls as McDonaldization the paradigm of a wide ranging process by which what were once principles of fast food restaurants are coming to dominate more and more sectors of American society and through the American model of globalisation, the rest of the world. This has permeated the economy, education, work, and virtually every aspect of social life. It offers “efficiency, calculability, predictability, and scope for substitution of non-human for human technology” (Ritzer, 2001, 2008).

All this transformation is indeed greeted with an incandescent euphoria but the quest now must also be for what has been swept to the shadows of this euphoria. Sociologists especially need to and are looking seriously at the unintended consequences and alienation that these changes have likely brought in their wake.

It is against this backdrop that the research is placed. The newness of computing, the triumph of technology and for India in particular spectacular modernisation and the regaining of world presence and prestige - do all these forces cut through inequalities so agelessly embedded in our social systems, or have they created yet another set of inequalities of their own?

**What is Glass Ceiling?**

Inequalities including gender inequalities have been in place in all societies as far back as records can tell. But the term glass ceiling is a newer fragment in the depiction of inequality. In the past few years in particular the term glass ceiling has gained currency in the media and in public discourse as well as fashionable coffee table conversations. The question that arises therefore is what is glass ceiling? Is it a

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1Taking forward from Weber’s work on rational organisation, in the McDonaldization thesis the fast food restaurant is at once symbolic and symptomatic of the contemporary paradigm of formal rationality. It is Weber’s dour forecast for modernity becoming a self-fulfilling prophecy.
neologism for an existing social inequality or is it indeed a specific term for a unique form of social discrimination?

**Glass Ceiling** refers to the “unseen yet unbreachable barrier that keeps minorities and women from rising to the upper rungs of the corporate ladder, regardless of their qualifications or achievements” (*U.S. Department of Labor, 1995: 4*). The term has been used to refer to situations where the advancement of a qualified person within the hierarchy of an organisation is stopped at some point below the top (hence ceiling), because of some form of discrimination such as gender. The phrase began to be used in a metaphorical sense as a ceiling places a limitation of height on a structure, and being made of glass implies it is transparent and hence invisible till one actually reaches its level. As a metaphor the term glass ceiling began to be frequently employed to refer to lack of vertical mobility in an organisation, for women and other disadvantaged racial and ethnic groups. Soon the phrase caught on and became a popular political and academic concept. Glass ceilings are usually now perceived as a distinctively gender phenomenon although the term has been used in the context of racial discrimination as well.

The term glass ceiling evolved in the decade of the nineteen eighties. It is usually credited to Carol Hymowitz and Timothy Schellhardt who though did not coin the term were the first to take it to public discourse as the subject matter of an article in the March 24, 1986 edition of the prestigious *Wall Street Journal* bringing the coinage to the forefront of media and political attention. They used the word to refer to invisible barriers that impeded the career advancement of women in the American workforce. However, the term was in fact used prior to that also; for instance, it was utilized in an article in the magazine *Adweek* by a journalist Gay Bryant in March 1984 when she was quoted saying in an interview that, “Women have reached a certain point — I call it the glass ceiling ... in the top of middle management and they're stopping and getting stuck.” Even before the 1984 article the term glass ceiling was used by two women at Hewlett Packard in 1979, Katherine Lawrence and Marianne Schreiber, to describe how while on the surface there seemed to be a clear path of promotion, in actuality women seemed to hit a point in their jobs which they seemed unable to progress beyond. Subsequently, glass ceiling was given credence by
the US Department of Labour in 1991 after a study of nine Fortune 500\(^2\) companies (Boyd, 2008: 549-52). The US Federal Glass Ceiling Commission confirmed that women and minorities encountered considerable glass ceiling barrier. Even in the United States of America, where the Equal Pay Act became a law in 1963, women earned approximately 59 cents for every dollar a man earned. Women today are earning roughly 80 cents on the dollar (Siniscalco, 2013). In recent times Hillary Clinton’s run for the Presidency is considered the highest glass ceiling barrier in America. It was also for the first time that a Black was elected president of America.

**The Idea of a Glass Ceiling**

Though the phrase glass ceiling, due to its popular usage gets understood in a rather commonsensical fashion academic rigour dictates that the concept be elucidated to convey its precise meaning. The key conceptual clarification required here is with regard to what actually constitutes glass ceiling.

- Whether glass ceiling is to be understood as a metaphor, that is are women in fact progressively side-lined at each stage in their career growth or;
- That glass ceiling is to be taken in the literal sense as looking at only the gender distribution in the top rungs of the management hierarchy.
- It could be also possible that discrimination intensifies proportionately as one moves higher the organisational ladder culminating in what leads to the metaphor of the glass ceiling.
- Further, does glass ceiling apply only in the context of women, or other forms of difference such as caste, race or ethnicity are also similarly treated?
- Do situations get compounded when two or more attributes of deprivation combinedly manifest in an individual such as belonging to a socially disadvantaged group and being a woman?

In other words the conceptual clarifications to be sought here are whether glass ceiling is a distinct form of inequality and not just a new name for an older already existing inequality, and whether it is a uniquely gender phenomenon or are women just one among the several marginalised groups that face a particular kind of discrimination.

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\(^2\) The Fortune 500 is an annual list compiled and published by Fortune magazine that ranks the top 500 U.S. corporations according to their gross revenue. The Fortune Global 500, also known as Global 500, is an annual ranking of the top 500 companies worldwide. Since 2010 there is also the Fortune India 500 which is a ranking of the top 500 corporations in India in terms of their gross revenue.
occupational discrimination. To put it succinctly what we are looking at here is in terms of the nature of the phenomenon of glass ceiling and the targets of the phenomenon. These conceptual issues are addressed in detail in chapter 2 in the course of the literature review.

**Glass Ceiling in the IT Sector**

What is particularly unique and interesting about the study of gendered glass ceiling inequality in the IT sector is that one can explore whether existing gender stereotypes continue to operate even in such a modern sector built on the edifice of pure knowledge. According to sociologist David Lyon, technology has an attribute of masculinity paradigmatically associated with it. He argues that the spread of digital technologies would not alter substantially the social-relational dynamics that existed in industrial capitalism (Lyon, 1988, 2001). If indeed this were to be true and there is pervasive gender inequality in IT also, then sociologically speaking this shows that whatever may be the progress in technology ultimately it takes more than just technological innovations for the social values to change. Furthermore, if it can be shown that gender inequality – glass ceiling or otherwise – exists even in the IT sector this goes on to show that at a general level gender inequality is truly deeply entrenched in our social order. It is for this reason that the IT sector has been specifically selected as the object of sociological inquiry on the theme of gender induced glass ceilings.

In spite of being a developing nation India is trying to stand apace with the rest of the developed world when it comes to its achievements in the domain of information technology. If glass ceilings at the workplace are to be found in any sector in the west then the IT sector in India is arguably that arm of the economy that is likely homologous to the western world. The Indian IT as that sector of the economy that best replicates the west presents a fertile arena for investigation into the enactment of this most evolved form of gender discrimination that has been conceivable to humanity.
India and Information Technology

India is one of the countries that joined the information revolution well in time and parts of the country are comparable to any first world state in terms of technological proficiency. There was a sense of exhilaration that accompanied the information revolution in India. It was believed that this would be the way for India to regain its place in the world. To some extent that can indeed be said to have happened. In the “Global Information Technology Report 2010-2011”, of the World Economic Forum, which is an assessment of the impact of ICT on competitiveness of nations and the well-being of their citizens, in a study of 138 economies India was placed at 48th position and even though it had lost five places from the previous ranking still managed to remain in top 50 in the comity of nations (World Economic Forum, 2011). Overall, this is quite creditworthy for a third world country still less than a century old into its status as an independent republic.

However, in the recently released “Global Information Technology Report 2014” of the Forum, according to the report’s ‘Networked Readiness Index’ (NRI), a measure of the capacity economies to influence ICT for growth and well-being, while the top ranks remain consistent – Finland, Singapore, Sweden, The Netherlands, Norway and Switzerland – all 6 retaining their previous positions, India, despite its efforts to develop further in the sector has dropped in world rankings to 83rd position out of 148 nations. According to the report the benefits of information technology can only fully accrue when a country follows a rounded approach to generate a climate of skill development, research and entrepreneurship to flourish. The report presages this stalling of progress of some nations as a cause for concern (World Economic Forum, 2014). This fall in ranking implies a deficit not only in terms of technological innovation and economic competitiveness but also and more importantly from the point of view of this research, a corresponding reduction in social inclusion.

The IT Revolution in India

The information technology sector in India took root through a curious historical set of events. As it began information technology was not a part of the country’s early agenda for planned economic development. IT began more at the individual level and in that sense can be compared to some events in history that
became turning points altering the very course of the histories of those nations. As a matter of fact every revolution in history has been the cumulative effect of a series of subaltern struggles simmering and boiling over in their local terrain. For each documented revolution in history there has always been some event that acts as a catalyst that somehow triggers the revolution and heralds transformation. Each such event attains symbolic worth as the insignia of that revolution. Such was the case in the French Revolution with the storming of the Bastille or the famous ‘Greased Cartridges’ incident in what historians call India’s first war of independence of 1857 and that the British at the time dismissively referred to as a mutiny.

In the context of the information revolution in India Infosys seems to inspire that awe. Computers did not come to India with Infosys. What Infosys and its founders brought is visceral memories of what Silicon Valley stood for. Infosys somehow became that trigger that sparked the information revolution in the country. There were other computer companies prior to Infosys including the one in which Narayana Murthy, the founder of Infosys, and his associates worked. And yet Infosys stood out. It captured the spirit of the Silicon Valley entrepreneurs. Here then was a group of young men who had the talent and who dared to dream and who were willing to give it their all to chase that dream – that’s what Silicon Valley was essentially about. Infosys was that catalyst that signalled the outbreak of the information revolution on Indian soil and has become an inspiration for generations of software entrepreneurs to come.

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3 The term revolution has been used here not in the Marxist sense but in the way that Gordon Childe used with it the emphasis being on technology. Childe attempted to link forms of society with the reigning technological innovations. His phrases namely Neolithic revolution and urban revolution are universally accepted terms.

4 The Storming of the Bastille occurred in Paris, France, on the morning of 14 July 1789. The medieval fortress and prison in the centre of Paris, known as the Bastille represented royal authority. The prison only contained seven inmates at the time of its storming but was a symbol of the abuses of the monarchy; its fall was the flashpoint of the French Revolution.
The Digital Pioneers

India has often been (mis)represented in western media in the most pejorative light as the land of archaic customs, snake charmers and beggars, of squalor and abject poverty. The IT Sector and Infosys in particular have refurbished the image of India by projecting to the world a new India, of talented engineers and daring entrepreneurs. India is now regarded as an economic giant to reckon with. This section takes a look at some of the founders of the digital revolution of India.

Tata Consultancy Services is the largest IT services firm in Asia. An Indian multinational information technology service, business process and consulting company, TCS operates in 44 countries across the world. Bharat Ratna, Jehangir Ratanji Dadabhoy Tata (29 July 1904 – 29 November 1993) founded Tata Consultancy Services in 1968 as a division of Tata Sons Limited. TCS Ltd. got incorporated as a separate entity in 1995. TCS is the largest Indian company by market capitalisation and is the largest India-based IT services company by its 2013 revenue of $11.6 billion.

Infosys is a symbol of India's information technology glory (Text Box 1.2). N. R. Narayana Murthy, founder of Infosys has expressed that he was deeply influenced by three books - Max Weber’s classic The Protestant Ethic and the Spirit of Capitalism, Mahatma Gandhi’s My Experiments with Truth, and Peau Noire Masques Blancs (Black Skin White Masks) by Franz Fanon. According to Narayana Murthy, “in many ways my entire philosophy of economic development is based on these three wonderful books” (Narayana Murthy, 2009: xiv). In 2008 in recognition of his contribution to the development of a knowledge economy, the government of India conferred him with the Padma Vibhushan the second highest civilian honour of the land.

Nandan Nilekani is co-founder of Infosys and served as its CEO for five years. He also made a mark as the Chairman of the Unique Identification Authority of India, the nodal agency for the ambitious ‘Adhaar’ card project for Indian citizens. He also headed the Government of India's technology committee, TAGUP. In 2006, Nilekani was awarded with the Padma Bhushan. He is the author of Imagining India.
HCL was founded in the mid-1970s by Shiv Nadar (born 14 July 1945) who is founder-chairman of the company. Nadar transformed the primarily IT hardware company into an IT conglomerate over a period of three decades, by constantly reinventing his company's focus. In 2008, Nadar was awarded Padma Bhushan for his contribution to the IT industry. Since mid-1990s Nadar has focused on developing education through the Shiv Nadar Foundation.

Wipro Limited with Azim Hashim Premji (born 24 July 1945) as the founder-chairman is a global brand in IT. Premji, graduating in Electrical Engineering from Stanford, after the demise of his father had to take charge of his father’s company, called Western Indian Vegetable Products dealing in manufacturing hydrogenated oil. Premji later diversified the company to other products. In the early 1980s, the young entrepreneur, recognizing the importance of the emerging IT field, taking advantage of the vacuum left behind by the exit of IBM from India under a protectionist economic regime, ventured into a fledgling IT sector under the name of Wipro. He successfully turned around his family concern into an around eight billion dollars IT, BPO and R&D Services enterprise with a presence in 60 countries. In 2011 Azim Premji was conferred with the Padma Vibhushan for his contribution to trade and industry.

Text Box 1.1

**How Infosys was Born**

In the summer of 1981 a group of young men in Pune city - N. R. Narayana Murthy, Nandan Nilekani, N. S. Raghavan, S. Gopalakrishnan, S. D. Shibulal, K. Dinesh and Ashok Arora left their jobs and got together to start a computer company with a small pool of Rs 10,000 and a large reservoir of vision and ideas. They called it “Infosys Consultants Pvt. Ltd.” and signed up their first client, Data Basics Corporation of New York. In 1983, the company had started growing and Infosys corporate headquarters was relocated to Bangalore. After years of struggle through which Narayana Murthy the prime mover of the saga tenaciously clung to his dreams, his patience as well as his and his team’s effort paid off when the company started making phenomenal gains, and then there was no looking back. It went public in 1992. Today it goes by the name of “Infosys Limited”.

Infosys is one of those Indian companies that has changed the way the world looks at India. Infosys became the first Indian firm to be listed on the United States stock exchange, the NASDAQ. It is the first Indian firm that offered stock options to its employees. In 2004, the company for the first time touched the $1 billion mark in revenue. Infosys became an organisation that inspires awe and respect, globally.
The Research Problem

The Information Technology sector being a knowledge sector is widely regarded as an equal opportunities employer. It provides a (theoretically) level playing field between men and women. The study will look at whether and how gender affects the relationship between work and reward in this, the IT sector. It will particularly look at the relationship between gender and occupational mobility, and whether men and women with the same level of educational attainment aspire for, and receive similar levels of occupational gratification. The research will try to identify the factors that affect the relationship between gender and career in this most advanced industrial sector of modern society. In the broad view the research looks at how the cultural identity of gender constitutes a category in addition to, either in tandem with or in opposition to the structural identity of an employee. Also it will explore whether gender in itself and of itself is a significant determinant of social ranking in a modern IT organisation. To what extent are educational qualifications and job skill sufficient conditions for occupational mobility and up to which point in an organisational hierarchy is meritocracy the norm in what is known as the knowledge sector. Further, the question that the research will ask and try to answer is that in this rapidly globalising world with the minimisation of space and distance, are individuals being perceived of as autonomous of their pre-existing social status indicators or do they continue to be accompanied by their baggage of culture and gender? Most importantly the research will examine the existence and locate the origins of the particular form of gender inequality known as the glass ceiling. To what extent this distinct form of gender disparity popularly known as glass ceiling permeates the world of Information Technology and what is the genesis of this phenomenon? The real test is that whether a highly specialised field of education such as a degree in engineering, technology or management cross the threshold of discrimination layered through years of socialisation. It is argued that while cultural production amongst dominated groups of various kinds ensures indeed that a straightforward imprint of social requirements is left on actors, whether disciplines like engineering and technology that base themselves on a sharply focused scientific rationality and fast forward their members into being participants in a ‘hyper-real’ world of the IT sector would be governed by the same laws of dominance and suppression that operate in the social structure of
their everyday lives. Does the workplace look at people through their engendered selves?

One might presume for instance that the world that communicates through cyberspace and its accompanying virtual reality would be logically speaking indicative of new perhaps more egalitarian social formations developing. However academia and public discourse alike reverberate with discussions on the phenomenon of the ‘Glass Ceiling’, an invisible yet tangible barrier that prevents women from reaching the top level of organisational hierarchies, a piquant imagery for this potent vestige of sexism and essentialism that apparently continues to roost the world of automation and technology. The glass ceiling is one of the most compelling metaphors for analysing inequalities between men and women in the workplace. The Glass Ceiling Hypothesis is a general hypothesis about the pattern of gender distribution in organisational hierarchies. The concept of the glass ceiling effect is becoming increasingly embedded in the discourse and praxis of sociology.

The study is aimed at understanding first what exactly is glass ceiling and then whether it exists, and that if indeed there is a glass ceiling in the IT Sector then what it is that holds women back from reaching the highest positions in organisations. Given the fact that modern day IT companies appear to be singularly merit oriented, and have in fact noted pro-women policies, the research seeks to comprehend the compulsions that deny women the opportunity to reach the very top in their careers, thereby reflecting an organisational glass ceiling. One also wonders whether the same compelling social forces apply on the men also and necessitate their continued commitment to their careers sometimes despite their other predilections.

The research is set in Karnataka. The state of Karnataka enjoys a unique position in the context of the IT revolution and the subsequent development of the IT sector in India. Since the 1980s Karnataka started emerging as the pan-Indian leader in information technology. The state has been leading in the field of Indian industry, particularly in the areas of high technology industries. Over 2000 companies in Karnataka are engaged in the Information Technology related business. Bangalore is widely acknowledged as the ‘Silicon Valley’ of India. Bangalore is also regarded one amongst the 26 global IT hubs. Given these facts Karnataka is an apposite choice for the field.
Key Questions

The key questions that the research embodies can therefore be summarised as follows:
1. What is glass ceiling?
2. In what way is glass ceiling distinct from other forms of job inequalities?
3. Is there a glass ceiling in modern organisations such as those of the IT Sector?
4. Does the glass ceiling hypothesis have bearing in the Indian context?
5. What causes the glass ceiling to form-
   • Factors within the organisation?
   • Factors outside the organisation: social and cultural?

This research has attempted answering these questions first through existing knowledge and then having identified gaps in the knowledge taking it further through the primary data collected and duly analysed.

The Main Objectives of the Study

The research has been undertaken with a trifold objective. First and foremost it seeks to clarify the concept of glass ceiling. The term is used widely across disciplines - in politics, literature, sociology and social anthropology, psychology, economics and management. The glass ceiling effect is a set of related concepts that presents one of the most compelling bases for analysing inequalities between men and women in the workplace and therefore forms the subject matter in various disciplinary domains. The glass ceiling has become a symbolic reference for analysing inequalities between men and women in the workplace. However metaphors eloquent and compelling though they may be cannot form the starting point of sociological inquiry. Concepts constitute the prescriptions of what must be observed; our concepts are the variables between which empirical relationships are to be sought. Therefore one fundamental objective of the research has been to devise a suitable empirically verifiable definition for the concept of glass ceiling cutting through the popular notions and political as well as ideological rhetoric. Following Durkheim’s conception of social fact, in this study attempt has been made to define glass ceiling as a social fact so that it can be sociologically studied with a degree of objectivity.
The other and more obvious objective of the research endeavour is to answer the pertinent research question: Is there a gender-wise glass ceiling in the IT Sector in India? Clarifying the concept of glass ceiling helps us to secure an answer to this question through the empirical data. It would also help replicating the research in other organisational spheres and across different locations.

The third principal objective of the research is to try and find a causal explanation for the phenomenon of glass ceiling - the underlying social processes that could cumulatively manifest in a glass ceiling. The research has tried to identify the factors in the organisational structure responsible for this at both formal and informal levels. It also looks at the extra-organisational linkages that act as barriers to a woman’s career growth viz. the family to which one belongs, socialisation, general societal and cultural factors.

This research has met the challenge of first refining and elucidating a concept through quantifiable indices and then investigating its existence and identifying the probable cause. Sociological theory is the key to analysing empirical phenomena and placing them in perspective. An ancillary objective that the research has attempted to fulfil has been to posit the inferred causal explanation for glass ceiling inequality within the greater realm of sociological theory.

**Importance of the Study**

Prima facie empirical evidence overpoweringly establishes the persistence of a glass ceiling in the workplace including that of the Information Technology Sector. However there are few major sociological works on the theme. Most of the studies on glass ceiling originate from the discipline of management and behavioural sciences. Some of the available literature is in the form of self-help motivational books enabling women to overcome workplace prejudices and barriers. While all academic works from the various social sciences, as well as certain journalistic and quality literary works do have some sociological content, these need to be distinguished from core sociological works. There is the requirement for full scale sociological works on the theme. Further, there is no truly sociological study on glass ceiling for women in the IT Sector in India. The concept of glass ceiling has also been employed in discipline specific and somewhat ambiguous ways and needs to be clarified to render
it sociologically useful. Furthermore, studies have provided a wealth of data but there is little by way of theory. All empirical knowledge needs a theoretical foundation to rest on. A sociological study would necessarily go into the social causes of a phenomenon and relate it to a strand of sociological thought.

The glass ceiling is in fact the *effect*. It is the surface manifestation of possibly far more complex sociological processes. Evidential data overwhelmingly demonstrates the presence of the glass ceiling effect and no one can deny that. A sociologist would try to locate the cause for it - the underlying social processes that result in the glass ceiling. While numerous studies have demonstrated the gender gap in authority, virtually none of the research has addressed the specific question of how and why the relative probabilities of women and men being promoted into or entering a given level of management change as one moves up the hierarchy.

**A Brief Note on the Plan of the Thesis**

This thesis is divided into eight chapters. The present chapter is the first one and gives an introduction to the research. It contextualises the theme of the research and introduces the concept of glass ceiling. It provides an overview of the information revolution in India by profiling some lead personae. In this chapter is stated the research problem, and are outlined the key research questions that emerge at the very outset. The objectives and the importance of the study are specified in this chapter. It also provides a sketch of the thesis and in that sense is a true introduction to the volume.

The following chapter, Chapter 2 takes the discussion forward through a review of the literature on the theme. This review is divided into three broad components. The first segment provides an exposition of conceptual studies on the phenomenon of the glass ceiling. While the first chapter contains conceptual introduction of glass ceiling, in this chapter is elaborated how the concept has evolved in the literature on the theme and discusses the main conceptual debates. The next aspect is a review of empirical literature from different disciplines demonstrating the existence of the glass ceiling. The literature review covers a wide range of work on the field in the form of books, articles in journals, and print and internet media reports to assess the state of sociological knowledge on the theme, establish the need for the
study and identify real lacunae that constitute ‘gaps in knowledge’ that must be addressed. The third and final segment of the literature review contains a look at some theoretical perspectives that may be useful in understanding the idea of a glass ceiling inequality. It is not an attempt to \textit{a priori} theorise rather it is a means to establish the general theoretical foundations through which to understand the findings. The literature review thus has three constituents – the conceptual, empirical and the theoretical.

Chapters 3 and 4 provide a description of the field and the elaboration of the methodology respectively.

Chapter 3 contains a description of the field, Karnataka as the site of the research. It provides a historical background of the State of Karnataka, as well as of the two cities Bangalore and Mysore selected for the study. It takes an overview of the development of the state of Karnataka since historical times to the present. The chapter describes relevant aspects of the economy of Karnataka and the state government’s initiatives including the IT Policies of Karnataka. It examines the factors that may have contributed to the coming of the information revolution in the state. An important component of this chapter is a critical look at the attributes of Bangalore as ‘Silicon Valley’ in the light of the Silicon Valley paradigm. And, also importantly, it seeks to examine whether this spectacular development in the IT sector has been able to translate itself into meaningful life-indices for the people of Karnataka across regions and diverse sections of the population including the poor and the marginalised. For, in the ultimate analysis, development is not just about GDP or FDI, computers or nanotechnology - the real meaning of development has to be understood in its human terms.

Chapter 4 elaborates the methodology used for the research. The data was collected through the extensive use of networks that constituted the base for the interview and questionnaire surveys. It has been deemed necessary to assign a chapter exclusive to the elucidation of the methodology due to the methodological innovations employed for the collection of data. The chapter explains the method of network analysis, the sociological formulations of Georg Simmel that provide sustenance to the network method, and resolution of the methodological concerns that emerge thereof.
The analysis of primary data in this research has been apportioned into three chapters representing three aspects of the data collected. The first of these is in Chapter 5. In this chapter is provided the operational definition of glass ceiling through the classical construct of the social fact. Defining the concept in a manner removed from its political and value connotations, makes it more amenable to sociological analysis. This chapter also contains a description of the sample. In this chapter the data collected is examined prima facie for evidence of existence of the glass ceiling and the extent and magnitude of that inequality.

The sixth chapter is an effort to establish the causes for Glass Ceiling inequality through the analysis of survey responses and equally importantly the enormously meaningful narratives provided by the interviewed subjects. These causes have been related to the prevailing explanations that were revealed through the review of literature. In both chapters five and six the analyses have been richly supported by statistical tables and figures and often through theoretical and empirical precedents.

The seventh chapter is an analytical compilation of primary data gathered from students of software engineering poised at the threshold of their careers. These findings are seen in the wider context of the glass ceiling inequality at the workplace and help guiding the research towards ascertaining the genesis of the phenomenon. In this chapter too the findings have been supported by empirical, theoretical and narrative content as well as tables and figures.

This thesis is completed with concluding remarks – a final summation of the spirit of the findings that go into the making of chapter 8 which is the concluding chapter of the thesis. The eighth and concluding chapter in addition to summarising the findings contextualises the findings amid the body of sociological thought and the philosophical orientation of the study. It transits from the particular to the general in terms of its conclusions and raises questions that might lead to future research on the theme both in its sector specific and general contexts.

Throughout the thesis specific references have been mentioned at the concerned locations within brackets with details at the end of the chapter. Additional information about persons, events, situations or certain concepts and terminology has been provided through footnotes at appropriate places. The comprehensive detailed
citation of references spanning the text is provided in a consolidated manner in the Bibliography at the end of the work.

There is an essential interconnectedness between the various chapters of this thesis. In Chapter 2 that follows, of the three major segments of the literature review – the conceptual, the empirical and the theoretical – each bears a certain rationale. Some books, papers and studies have been picked out for a greater detailed discussion. This is because these works are either considered historically important in the context of the understanding of the glass ceiling or they address certain key issues in relation to the phenomenon including its probable causes. In Chapter 6, which is the analysis of primary data these same suggested causes have been systematically dealt with to assess their merit and validity with a view to locate the reasons for the glass ceiling. The term glass ceiling itself has been elaborated through three separate chapters based on their content. In the present chapter glass ceiling as a concept has been introduced at the first instance. In chapter 2 the historical development of the understanding of the concept is reviewed. Finally in chapter 5 the concept of glass ceiling is redefined and clarified to make it suitable to the present sociological study. Similarly, some of the statistical data that laid the foundation for the acceptance of the existence of glass ceiling as a form of inequality especially in India have been chosen for greater detail in description in the literature review. Additionally, more recent data have been included at appropriate places in the body of the text to augment or substantiate primary findings. In the case of theory also a sketch of the foundational theory that forms the bedrock of this research has been provided in chapter 2. However individual cases, phenomena and concepts have been viewed in the light of interdisciplinary theory throughout the thesis. Chapter 4 pertaining to methodology contains a detailed exposition of the theory that constitutes the methodological foundation of this research.

In that sense there is fluidity between chapters the structured bounds of chapters having been articulated for the sake of lucidity and readability. The entire thesis effectively is an attempt at a synthesis of ideas representing a certain thematic integrity with a view to arriving at the truth.
REFERENCES


