CHAPTER 1
INTRODUCTION

1.1 The research topic

Innovation is critical for survival and growth in a dynamic environment and is an important aspect of firm-performance. The study of innovation started gathering momentum in the 1970s (Fagerberg & Verspagen, 2009; Fagerberg et al., 2012) and the strategic relevance of innovation has increased in recent years (Afuah, 2009). A key theme in innovation studies has been the differences in the innovation strategies of incumbents (established companies) and new entrants, which has been studied at length in terms of radicalness of innovation (Hill & Rothaermel, 2003). There is significant agreement among researchers and authors that incumbents, much more than entrants, find it challenging to pursue certain types of innovation, termed by different authors as architectural, competence-destroying, disruptive, etc. Christensen’s (1997) work on disruptive innovation has received the most attention of all, but his prescriptions have been criticised as having limited practical value. Further, the pervasive and loose use of the term “disruptive innovation” has led to loss of its meaning and utility for serious research. In this work we take an alternative path to understand the differences in the innovation strategies of incumbents and new entrants: we look at (1) their approach to innovation, i.e., where they initiate innovation from, and (2) their predominant type of innovation, i.e., whether they pursue innovations which are relatively internal or firm-centric (related to technology, product, process), or relatively external or customer-centric (related to markets and business models). The empirical context of this research is the small and medium enterprises (SME) sector in the Indian software industry. In India, SME is referred to as MSME (Micro, Small, and Medium Enterprises) sector. Service firms with investment in equipment limited to Indian Rupees (INR) 50 Million (Mn) or INR 5
1 Crore (1 Crore = 10 Million) are classified as MSME in India. In this work, we use the term “SME”, as it is more commonly used worldwide.

1.2 Incumbents vs. new entrants: an interesting theme for long

Research on the differences between incumbent firms and new entrants started around the 1970s (Cooper & Schendel, 1976) and continues to be a challenging theme even after four decades, as can be seen from several recent papers in leading journals (Adner & Kapoor, 2015; Ansari et al., 2015; Antolín-López et al., 2015; Roy & Sarkar 2015). Much of the research has observed that incumbent firms prefer incremental innovations, while new entrants introduce radical innovations, which may eventually lead to the failure of incumbents (Abernathy & Utterback, 1978; Henderson & Clark, 1990; Christensen & Bower, 1996; Markides, 2006; Teece, 2010). This has been described as innovator's dilemma (Christensen, 1997), incumbent's curse (Chandy & Tellis, 2000), incumbent's difficulty (Bresnahan et al., 2011), incumbent-challenger dynamics (Ansari & Krop, 2012), and so on.

Extant research on the differences in the innovation strategies of incumbents and new entrants has been largely studied based on radicalness of innovation, variously described as architectural innovation (Henderson & Clark, 1990), disruptive innovation (Christensen & Bower, 1996), discontinuous innovation (Bessant et al., 2005), and game-changing innovation (Afuah, 2009). Pisano (2015) view that architectural innovations are the most challenging for incumbents because they combine technology and business model disruptions. The impact of these innovations on incumbents and new entrants has evoked considerable interest among researchers. Incremental innovation is relatively less risky and quite rewarding for the incumbent; hence they tend to pursue it as much as possible. Researchers have noted that incumbents' preference for incremental, sustaining, or competence-enhancing innovations, make them vulnerable to architectural, disruptive, or competence-destroying innovations by new entrants, a process which Schumpeter (1942) described as creative destruction. Reasons cited for this preference include incumbent's organisational structure, rigid information processing procedures, resource dependence, resource allocation process, performance appraisal process,
financial evaluation system, prioritisation of short-term exploitative performance over long-term explorative efforts, inertia created by organisational culture, limited organisational capacity to pursue really new innovations, and so on (Christensen & Bower, 1996; Christensen et al., 2008; Henderson & Clark, 1990; Kohn, 2006; Steve, 2005). Hill & Rothaermel (2003) characterise the reasons for incumbent's failure as being rooted in economics, strategy, and organisation theory.

1.3 Radicalness perspective has not helped

Despite four decades of research and the multitude of prescriptions, the radicalness perspective to incumbent's difficulty has not provided a satisfactory solution. According to Steve (2005), even the best approaches do not solve innovators' dilemma. The solutions prescribed include creating small environments outside the large company (Burgelman et al., 2004; Govindarajan & Trimble, 2010); innovation at the fringe through networked innovation (Freeman, 1991), open innovation (Chesbrough, 2003) or external innovation (Boudreau & Lakhani, 2009); investing in multiple projects (Hamel & Valikangas, 2003); and acquisition of innovative companies. These prescriptions are peripheral, not based on core issues, and hence incapable of transforming the incumbent. They avoid the fundamental issue of where the firm looks for innovation opportunities, what approaches it adopts to innovation strategy, and what types of innovation it pursues. Instead they offer fixes that take attention away from the core of the organisation to the periphery. At the fringe, it is possible to do things differently, but that does not lead to organisational transformation that is needed for present day innovation which is increasingly about re-inventing businesses. Innovation is now strategic in nature, not just the development of a new product or a process. Transformational designs need to consider the future more than the present; they need to start from emerging, unmet and even unstated customer needs rather than from the needs of today’s customers. Organisational transformation will not be achieved by creating small environments outside the main organisation or by resorting to external innovation, which are only temporary fixes, and will not bring about the change needed for long-term success. Peripheral, fringe, external, or open innovation models are good for isolated product or service innovations with limited scope, but not for strategic innovation or business
model innovation which creates new businesses. Moving innovation away from the core will erode the firm’s capacity to innovate in the long run. Further, ambiguity in the meanings of the different terms used, substantial dilution and loss of meaning of the term “disruptive innovation”, and ineffectiveness of the prescriptions have been alleged on studies based on radicalness (Danneels, 2004; Garcia & Calantone, 2002; Lepore, 2014).

1.4 Gaps in extant research and how the present research contributes

This research is an attempt to address the above lacuna in innovation studies by pursuing an alternative perspective to the one based on radicalness. It adopts a more central, strategic, and fundamental perspective; it attempts to understand the differences between incumbents and new entrants on the basis of where they start innovation from and what they seek to pursue through innovation. This perspective will provide better understanding of the problem and help develop solutions that are transformational rather than peripheral.

Two other knowledge gaps in extant research, which this work seeks to address, are that the incumbent’s problem has been studied more as a large-company phenomenon (Isari & Pontiggia, 2011), leaving out the small business sector, and has been attributed more to organisational structural and cultural inertia than to strategic capacity (Smith et al., 2008). This research examines the innovation strategies of SME firms in an attempt to bridge these two knowledge gaps. The SME sector has an increasing role world-over in economic growth as well as in creating jobs and balancing development. This increases the relevance of studies on innovation in this sector. In small firms, innovation cannot be pushed to the fringe without the whole firm transforming and realigning. Small firms often collaborate with others having complementary roles, and in such efforts innovation involves reconfiguration of organizational networks and transformation of participating firms. The important question to ask here is whether small firms continue to be agile as they age. Do they, over time, acquire strategic rigidity and develop preferences to some innovation approaches and types, leaving holes for new entrants to disrupt them? Do their innovation strategies consciously or otherwise become based on existing markets and
technology prowess, letting new markets slip beyond their radar? Do they tend to become too confident of their technological capabilities, that they ignore the complementary role of marketing competence (ability to access and enter new markets)? Over the years, do they ignore changes in the market and in the competitive game, and remain obsessed with technologies, products and processes? Is there a loss of appetite for exploration and experimentation? These concerns have been largely overlooked because of the agility and adaptability assumed of small firms. Yet their innovation strategies may get skewed as they get established. Extant research is inadequate on these issues, especially in small firms. Again, extant research has studied established company’s difficulty at innovation largely as a structural or cultural issue, with an implied assumption that strategic capacity is less relevant. Most models imply that innovation strategy is largely determined by firm’s entrenchment, paying less attention to the role of approach to innovation and type of innovation pursued, which arise from strategic capacity. Are small organisations, which are likely to be agile with less structural rigidity, free from established company’s innovation disadvantages? No study seems to have considered innovation approach itself as differing between new entrants and incumbents, especially among SME firms. Considering its size, growth and dynamism, the small business sector deserves to be studied separately. With internet and the world-wide web providing global access to markets and resources, being small does not limit a firm’s options. Further, small companies often act as agents of change and hence provide a useful context for studies on innovation.

1.5 What the present research does and how

This research attempts to understand the differences in the innovation strategies of incumbent (also termed “established” in the literature) and new entrant software SME firms, in relation to (1) the type of innovation pursued and (2) the approach to innovation. For the purpose of this research, we define incumbent software firms as those in software business for at least 5 years.
Specifically the research investigates (1) if incumbent firms are more likely to do technology, product, or process innovations, while new entrants are more likely to do marketing or business model innovations; and (2) if incumbent firms are more likely to approach innovation from their resources, capabilities, technologies (RCT); or existing markets or customers (EM); while new entrants are more likely to approach innovation from new market or customer needs (NM). Two sets of hypotheses are formulated, related to the above, and tested.

We use mixed methodology where a qualitative exploratory phase is followed by a quantitative survey phase. The exploratory phase comprises in-depth interviews with chief executive officers (CEOs) in software SME firms. The survey phase uses a structured, self-administered questionnaire and is also done among the CEOs or similar level officers in software SME firms. The data collected from the survey is used to test the two sets of hypotheses.

The empirical context for the research was the Indian software SME sector. The rationale for choosing the Indian software industry for this study is mainly two-fold: first, the software industry has, in recent decades, emerged an important sector of the Indian economy contributing significantly to its growth, and second, the Indian software industry currently seems to be facing severe innovation challenges, addressing which is crucial to its continued success and growth. Despite its phenomenal success, the Indian software industry did not acquire any significant competitive advantage or core competence to ensure long-term sustainability. The computer software industry is a fast evolving one with short technology life cycles and firms need to reinvent their competitive advantage regularly through innovation. There is little opportunity for software service firms to compete on capabilities, which are usually generic and widely available. Entry barriers are low, location advantage is nearly absent, and projects can be easily moved from one location to another. The maturing Indian software industry faces increasing competitive pressures due to rising costs and emergence of competing locations. The growth model developed in the 1990s and perfected over the years through incremental improvements has been exploited with great success, but with no radical changes. Today there is hardly any novelty or inimitable value in this model. Most large Indian software companies have
been stuck in this outsourced offshore software development model for the last three decades with incremental innovations. However, even as the large companies face an innovation crisis, the small and medium businesses offer to play a promising role in driving innovation in the software industry. Further, as computing moves into the realm of mobile platforms with operating systems like Android and iOS (a mobile operating system from Apple Inc.), substantial innovation is being initiated by SME firms, including start-ups. Small and medium businesses are expected to introduce new products and services that add to the depth and breadth of the industry’s offerings. As the pace of innovation increases, small companies will do well especially if there is an environment that supports innovation. It is in this context that this research on the innovation strategies of software SME companies become valuable for the industry as well as for policy makers.