Background to the study

In the past decade or so, an increasing number of individuals have chosen to set up their own enterprise but statistics show only about 40% of them survive beyond the first year. The study of entrepreneurship attempts to understand the phenomenon of why and how people discover opportunities; and why only a few who pursue these opportunities attain success. While entrepreneurship exists all over the world, most of the academic insights have come primarily from developed economies. The focus of such studies has typically been the industrial and high technology domains. Relatively little research has gone into how individuals set up and manage their firms in low technological domains – those technologies that were developed before the industrial revolution. This research examines firms in one such domain and applies to them certain theories, like the structural hole theory, that have been predominantly developed in the western economies. Supporting or extending entrepreneurship theories developed in the western economies into a different cultural and technological context will be the first broad contribution of this study.

The context for this study is the handloom sector. It is a pre-market, pre-capitalist industry that makes fabric using hand-operated looms and provides employment to over 10 million people in India. The popular belief is that the handloom industry has survived only because of government support\(^1\). However, an alternative viewpoint suggests that the industry endured because of its ability to adapt to the challenging needs of the textile markets of India by providing quality goods with skilful designs. Handloom industry was able to reinvented itself and address the design and material demands of the growing higher end markets. At the centre of these market transactions are the entrepreneurs, in this case, the master weavers. Even though 75% of the weavers work under master weavers very little is known about them. Till date, only few scholars have written about master weavers. This study, while testing some entrepreneurship theories, also adds to the inadequate body of work on what is undoubtedly a dominant marketing channel in the handloom industry.

The network perspective is a lens which lends itself most appropriately to study entrepreneurs in

\[^1\] Programs include formation of weavers’ cooperatives and ‘protecting’ the small scale industry mainly through reservations – a process by which only handloom units were allowed to produce certain products for both domestic and export markets.
low technology clusters. Firstly it is a new area of inquiry within the field of entrepreneurship; and secondly, this perspective is well-suited to study entrepreneurs in low technological domains in emerging economies. In these industries, the competitive advantage one entrepreneur gains over the other is not a result of education – there are no formal educational programs that train people to work in these industries. In addition, technology is so simple that virtually anybody has access to it. Therefore, the competitive advantage of one entrepreneur over the other is only due to the business and social networks that these entrepreneurs nurture. These networks govern their production and provide them with vital information about new opportunities and resources and also help them market their products.

**The network perspective**

The network perspective recognizes that entrepreneurs are not atomised decision makers functioning as mutually independent beings in the way that the economic perspective assumes them to be. Nor are individuals completely conditioned by their environment as posited by the social and cultural perspective. This network concept, which has been a key area of entrepreneurship research in the recent past, suggests that entrepreneurs are ‘embedded in networks of continuing social relations. Within complex networks of relationships, entrepreneurship is facilitated or constrained by linkages between aspiring entrepreneurs, resources and opportunities.’

Two main attributes, relational embeddedness and structural embeddedness, have been used to illustrate what constitutes better networks. Relational embeddedness indicates the strength of the relationship an individual has with each of his contacts. Structural embeddedness refers to the structure of the social network surrounding the individual. Prior research has segregated relational and structural embeddedness into smaller components and debated on benefits that each of these provides to entrepreneurs. Relational embeddedness is broadly categorized as either weak or strong depending on some characteristics of the ties. Ties are said to be strong if the contacts know each other for a significant period of time or if they interact frequently. Weak ties, on the other hand, are those contacts with whom the individual does not spend much time. Structural embeddedness is often defined in terms of network density or closely related concepts like ‘structural holes’ – a term indicating the holes within the social structure. If many members
of an individual’s network know each other, the structure of the network is believed to be dense, otherwise, it is considered sparse. Sparse networks contain more structural holes.

The advantage that individuals receive by virtue of their networks is considered their ‘social capital’. It reflects the goodwill that is contained in social relationships, that which can be used to facilitate action. The discussion and elaboration of social capital will be taken up in the subsequent section, while developing the framework for this research.

**Social Capital**

While there is consensus that the social capital of an individual plays a role in his professional endeavours, understanding the source of social capital and the process by which advantages accrue to individuals is still debated. There are two main streams within the discussions related to structural and relational embeddedness, which will be elaborated to form a cornerstone of this research.

One group argues that a network where every contact of the entrepreneur knows most of the other contacts is beneficial to the entrepreneur. In networks with dense structures called ‘closed networks’, people are likely to know each other for a longer period of time; and are likely to have a history of interactions. This increases the levels of trust among the network contacts. In addition, such network structures create easy mechanisms for governance because the network members can exclude any defaulting member from further economic interactions. Such networks are also likely to provide ‘fine-tuned’ information, which can quickly be transformed into successful opportunities. Furthermore, if during these economic exchanges, differences of opinion arise between the parties involved, they are more likely to ‘voice’ their differences and sort them out, rather than ‘exiting’ the relationship, which means that closed networks are likely to create ‘more problem-solving arrangements’.

Another group of scholars contends that information about opportunities and resources are unevenly spread. They suggest that strong ties and closed networks provide information that other parties are already aware of (so-called ‘redundant information’). This means that if an entrepreneur is to identify opportunities, he will have to reach out to other parts of society. Weak
ties or acquaintances are likely to provide new information because they are likely to be moving in distant social circles. In addition, networks where the members do not or hardly know each other provide new information. Scholars refer to these networks as having many holes in the social structure. In addition, such networks also offer bridging opportunities that enable the entrepreneur to go beyond his immediate network. Consequently, weak ties coupled with sparse networks are beneficial to entrepreneurs.

Recent studies, however, indicate that neither sparse nor closed networks by themselves offer the optimum solution. It is important to have the right mix of strong and weak ties, and dense and sparse network elements. However, the configuration of this mix varies depending on various issues, such as the industrial and technological environmental conditions surrounding the industry. In addition, the type of innovation an entrepreneur is pursuing, specifically whether it is incremental or radical in nature, necessitates different network configurations.

**Human Capital**

Though the importance of networks in successful entrepreneurial ventures cannot be denied, just having a good network may not ensure success. According to some scholars, different people have different lifestyles therefore each of them is likely to develop a diverse social network. This network in turn enables or restricts the stock of information each person has access to. While it can be said that everyone receives information all the time, only a few capable entrepreneurs are able to identify opportunities and fewer still are able to successfully exploit them. It is said that people discover opportunities because of their superior information processing ability and search techniques. Some entrepreneurs may be better than others in collecting and processing one type of information while others may be better at processing another type of information. This ability to process information can be said to be dependent on the ‘knowledge corridor’ that exists within each individual. Factors like education, family background and experience make a difference; so every entrepreneur will have a corridor that is different from that of his competitors. It also plays a vital role in filtering and transforming incoming information into potential sources of opportunities. This is regarded as the entrepreneur’s human capital. Understanding how the human capital of entrepreneurs influences the performance of their firms forms the second cornerstone of this research.
Entrepreneurial Process
This study distinguishes two entrepreneurial processes – opportunity recognition and resource mobilization – that intervene between human and social capital and the outcome variable: performance. Since the origin of any entrepreneurial activity is opportunity recognition, it is taken as the first entrepreneurial process. It is also important for entrepreneurs to acquire the resources required to realise their opportunity. This is the second entrepreneurial process. By distinguishing between these two entrepreneurial processes, to disentangle the network effects that concern opportunity recognition from the network consequences resulting from mobilization of resources, can be addressed. This distinction helps in improving our understanding of the underlying mechanisms of network effects on the functioning of entrepreneurial firms. Summarized, this research focuses on

how social capital and human capital influence the entrepreneur’s capability to recognize opportunities and to mobilize resources in low technology clusters and how these capabilities in turn influence their firm’s performance.

To address the above research question a set of alternating hypotheses were developed. The idea was to let the results of the study support either of the arguments within structural and relational embeddedness and human capital. The first, second and third set of hypotheses focused on the relational embeddedness and its influence on the intervening variables and the dependent variable – resource mobilization, opportunity recognition and performance respectively. Likewise hypotheses related to the structural embeddedness and human capital and their influence on the intervening and dependent variables were developed. The final set of hypotheses focused on the relationship between the intervening variables and the dependent variable.

Data collection
A two step process was used for collecting data required for this study. first using semi-structured interviews, qualitative information related to the handloom industry and master weavers operation was sought. Using this qualitative information, a questionnaire was developed. This questionnaire was subsequently administered to 107 master weavers within four large handloom clusters in the state of Andhra Pradesh.
The data was analysed using hierarchical regression models. To build the opportunity recognition and resource mobilization models, I started with a base model which only had the control variables then the next step had the control and human capital variables followed another step which had control and social capital variables. Finally all variables were entered to construct the complete opportunity recognition and resource mobilization models. The process of developing the performance model was similar to the previous models with an extra step. This step, which was before the final model, only had the intervening opportunity and resource variables.

**Results of the analysis and discussion**

Our results related to relational embeddedness identified that more strong ties the master weaver has the more resources he has mobilised. And more weak ties a master weaver has in his networks the performance of his firm seem to be better. Results related to the structural embeddedness seem to indicate that master weaver with dense networks mobilise more resources. On the other hand there was evidence that master weavers with sparse network identify more opportunities.

For hypotheses related to human capital, we found out that master weavers who speak more languages identify more opportunities. India is divided into states mostly along linguistic lines. Therefore, those who speak more languages are able to travel longer distances and reach out to markets across many states. They find themselves in situations that can provide them with a greater number of opportunities.

We found out that master weavers who work as weavers for longer periods of time before setting up their ventures are not able to identify more opportunities. Perhaps the more experienced an entrepreneur, the greater his inclination to work with similarly experienced players (Kim and Aldrich, 2005), thereby creating a closed network. This is called homophily (McPherson, et al. 2001). In this study this notion is further extended by making a distinction between two key entrepreneurial processes to show that homophily has unintended consequences for opportunity recognition. The formation of a ‘strategic network’ is required in order to break from the
tendency to socialize with kind and instead get in touch with others outside the immediate circle of network ties.

Experience has a negative impact on the performance of a firm. Those master weavers who have spent many years working in the handloom industry to gain experience may lose out when they eventually set up their own business. Some scholars have also found similar evidence which have led them hypothesise that experience may have a non-linear relationship with performance of ventures. In other words, some experience is good for performance but too much may prove detrimental.

Concluding remarks

An important issue raised concerned the optimal network characteristic of firms in the handloom sector that influence the performance of master weaver firms. This study found that a network rich in structural holes is needed in order to recognize opportunities, whereas strong ties are needed to facilitate resource mobilization. This finding is different from the two stylized network characteristics found in the study of Rowley et al. (2000). They found that firms in a traditional sector such as the steel industry benefit most from a dense network and from strong ties, while structural holes and weak ties are most beneficial to firms in an innovative and changing sector such as the computer industry. A mix of both seems to best suit the handloom industry in India.

Findings for the handloom sector may well be true for all craft-based industries. Entrepreneurs in craft-based industries, of which handloom is a part, require networks that need to satisfy both highly differentiated and uncertain demand conditions and to mobilize local resources. Entrepreneurs in craft-based industries benefit from structural holes for discovering opportunities. Often these opportunities are outside their local environment and structural holes contribute to the need to connect to potential customers in other communities. At the same time, entrepreneurs in craft-based industries have to build strong ties. Trust-based tie characteristics play a central role in the mobilization of local resources.