Chapter 1

Introduction

1.1 Background to the study

Micro, Small and Medium Enterprises (MSMEs) has been an important segment in the Indian economy because of its contribution to employment (93.09 lakh) and exports (45-50 percent). It contributes almost 40 per cent of the gross industrial value added in the Indian economy. The small scale sector has drawn attention of policy makers since independence as it facilitates inclusive growth and creates employment opportunities in rural and urban areas.

In the Indian context, the definition of small scale sector is based on the level of investment in plant machinery or other fixed assets whether held on ownership, lease, hire or purchase. In October 2006, with the MSME Development Act, the small scale sector has been redefined (earlier known as SSI or Small Scale Industry) and the medium enterprises have become a part of the government’s policy focus. The Act defines three groups of enterprises: micro, small and medium based on the investment in plant and machinery. There are also two categories of MSMEs that have been identified and defined separately: enterprises engaged in manufacturing and enterprises engaged in rendering services. Pertaining to any industry specified in the first schedule to the Industries Development and Regulation Act, 1951 (Ministry of Law and Justice, 2006), MSMEs engaged in the manufacture or production of goods, have been redefined as:

i) **Micro enterprise**: where the investment in plant and machinery does not exceed twenty five lakh rupees.

ii) **Small enterprise**: where the investment in plant and machinery is more than twenty five lakh rupees but does not exceed five crore rupees.

iii) **Medium enterprise**: where the investment in plant and machinery is more than five crore rupees but does not exceed ten crore rupees.
In case of enterprises engaged in providing or rendering of services, MSME have been redefined as:

i) **Micro enterprise**: where the investment in equipment does not exceed ten lakh rupees.

ii) **Small enterprise**: where the investment in equipment is more than ten lakh rupees but does not exceed two crore rupees.

iii) **Medium enterprise**: where the investment in equipment is more than two crore rupees but does not exceed five crore rupees.

The small scale sector has grown rapidly over the years. The Government of India has initiated several programmes and schemes to promote the sector. According to the fourth census of MSMEs, there are 15.64 lakh registered and working MSMEs in India providing employment to 93.09 lakh people. Out of 15.64 lakh registered MSMEs, 10.49 lakh (67.01 per cent) are manufacturing enterprises, 2.62 lakh (16.78 per cent) are service enterprises and 2.52 lakh (16.13 per cent) are repairing and maintenance enterprises. About 95 per cent of the total MSMEs are micro enterprises, that is, enterprises with investment less than twenty five lakh rupees. There are around 2443 clusters covering 321 products in the MSME sector. There are many enterprises in the unregistered sector and it is estimated that almost 91.46 lakh units are operating in this sector. Small scale sector contributes significantly in generation of employment opportunities in rural and urban areas and it is interesting to note that about 45.23 per cent (7.07 lakh) of the total MSMEs are rural enterprises (Ministry of Micro, Small and Medium Enterprises, 2011a; 2011b).

Small scale sector in India, which was earlier operating in a protected environment, faces new challenges in the era of globalization. With the process of liberalization, there is increased competition, free movement of goods, investment, strategic alliances for product development, production, sourcing and marketing. While for some, the process opens up new opportunities to expand and grow, for others, it is a threat (Kulkarni, 2008).
Many large organisations all over the world have been focusing on their core business, downsizing and outsourcing. This trend has given many opportunities for MSMEs to work in partnership with them and expand their market (Singh et al., 2010). Small firms that have quality products, flexibility in manufacturing based on demand and robust processes will be the ones that will survive.

The role of Information and Communication Technologies (ICT) as a catalyst in the growth of small enterprises is well acknowledged in the literature (UNCTAD, 2011; CII, 2010). Adoption of ICT plays a fundamental role in economic growth of the developing countries. With the spread of global networks such as the Internet, small enterprises in the developing countries have a chance to access global markets easily, operate efficiently, and compete fairly.

The Information Economy Report (2011) by United Nations Conference on Trade And Development (UNCTAD) demonstrates that effective use of ICTs in both the private and the public sector can significantly contribute to and accelerate progress in private sector development (PSD), particularly Micro Small and Medium Enterprises. On its own, new technology will have limited effects on PSD. However, when carefully integrated into policies and processes, ICTs can reduce business costs, promote transparent and rules-based systems, and improve communication between the public and private sector (UNCTAD, 2011). Developments in ICT have led to increased transparency and information sharing across borders. It is evident that appropriate ICT technologies can help MSMEs increase their competitiveness and align themselves to supply chains of global corporations effectively.

B2B e-marketplace is an ICT innovation that enables MSMEs to have online presence and provides a platform for MSMEs to promote their products to potential buyers. According to Bakos (1991), e-marketplace is an inter-organisational system that allows the participating buyers and sellers to exchange information about prices and product offerings.
Rapid explosion of e-marketplace began around early 2000. Between mid-1998 and mid-2000, nearly 1,900 public e-marketplaces (1,500 independent and 287 industry-sponsored) were formed across the world (Madanmohan, 2005). According to a report by NASSCOM (2002), there were more than 75 B2B exchanges in Indian Market. Even though there is no specific directory on B2B e-marketplaces in India, the number has grown significantly over the years. There are around 24 e-marketplaces registered from India in International e-market directory, emarketservices.com. In 2009, National Small Industries Corporation (NSIC), a Government of India initiative, developed www.msmemart.com., a dedicated B2B portal for Indian MSMEs.

Adoption and use of B2B e-marketplace by MSMEs is in growth stage in India. Table 1.1 shows successful examples of Indian MSMEs using B2B e-marketplace.

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<th>Vendor</th>
<th>What it Supplies</th>
<th>To Whom</th>
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<tr>
<td>Geneva Fine Punch</td>
<td>High-Precision Steel Metal Components</td>
<td>GE Motors, GE Transportation Corp., GE Medical</td>
<td>Indiamarkets <a href="http://www.gegsn.com">www.gegsn.com</a></td>
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<tr>
<td>NP Solders Delhi</td>
<td>Lead-Free Solder Wire</td>
<td>GE Motors</td>
<td>Trade2Gain</td>
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<td>Shivam Sales Corp.</td>
<td>Linen For Industries</td>
<td>Maruti</td>
<td>Trade2Gain</td>
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<tr>
<td>Uttam Steel</td>
<td>CRCA Steel Sheets &amp; Coils</td>
<td>Hindustan Motors</td>
<td>Trade2Gain</td>
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<td>Homefit Exports</td>
<td>Brass Fittings</td>
<td>Korean &amp; Hungarian companies</td>
<td>Indiamart</td>
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<td>Dynatech</td>
<td>Wrought Iron Furniture</td>
<td>Pottery Barn (US) Bedpath &amp; Beyond (US)</td>
<td>Indiamart</td>
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A study conducted by Internet and Mobile Association of India (IAMAI) and estatsindia.com reveals that around 3.5 million Indian MSMEs are using B2B e-marketplaces. The study also revealed that the adoption levels vary according to the type of industry. The industries such as automotive, consumer goods and computer industries have highest adoption rates of 25 -
30 per cent. Other sectors such as Pharmaceuticals, Metal, Textile, Agricultural Products, Chemicals and Telecommunications were reported to have adoption rates of 10-20 per cent. As on December, 2007, size of the B2B e-commerce market in India was $78 billion and share of B2B e-commerce via e-marketplace was $31 billion. The share of MSMEs in B2B e-commerce via e-marketplace was $18 billion (IAMAI, 2009).

Several business models of e-marketplace exist depending upon their services provided, electronic trading process supported, the ownership pattern and the kind of products they trade. An e-marketplace can offer several services such as electronic catalogues, Request For Quotation (RFQ), sell offers, buy offers, buy and sell transactions, auctions and reverse auctions. The e-marketplace may also provide value added services such as transaction settlement, distribution, insurance, credit rating and verification, content management, financing as well as integration with back end system. B2B e-marketplaces provide several information services such as listing of industry events such as trade fairs, industry related news and information on latest trends. Most of the e-marketplaces allow MSMEs to register for free and publish firm and product information on the website. They provide MSMEs a customised web page and electronic product catalogue to showcase their products. B2B e-marketplaces provide these services and many other transactional services for fixed/variable fees.

B2B e-marketplaces can be classified as either vertical or horizontal depending upon the products/service/industry categories it operates. The former focuses on products and services pertaining to one industry sector like Automobile, Pharma and the like whereas the later covers broad categories of products from multiple sectors. For example, Indiamarkets.com is an Indian horizontal e-marketplace that provides a trading platform for over 30 industry segments and over 150 product categories (Upadhyaya et al., 2006).

Based on the ownership, e-marketplaces can be classified as: supplier/seller oriented e-marketplace, buyer oriented e-marketplace and intermediary oriented/neutral e-marketplace.
Supplier oriented e-marketplace is a supplier or manufacturer driven electronic store. Successful example of such a model is of Dell that is reported to sell 90 per cent of its computers to business buyers. This model may not be convenient for the large and repetitive buyers as the order information is stored in supplier/seller’s database (Turban et al., 2003). This model provides several challenges for MSMEs as they would have to put additional effort to attract large buyers to their website.

Buyer oriented e-marketplace is owned and operated by a buyer such as GE’s Trade Processing Network (TPN). It is suitable for such large companies that purchase thousands of items from different suppliers. Committed suppliers/ MSME’s can visit the website to bid for the order.

Third form of B2B e-marketplace is intermediary owned e-marketplace. It is a neutral e-marketplace that is set up and run by an electronic intermediary. Several intermediary operated e-marketplaces have mushroomed in India and some of the popular B2B e-marketplaces are Indiamart.com, Tradeindia.com, and Indiamarkets.com. Appendix 5 provides a brief description of B2B e-marketplaces in India.

There are also e-marketplaces set up by consortia such as Covisint, owned and operated by automotive industry leaders Ford, General Motors, Daimler Chrysler, Renault, Peugeot and the technology providers Commerce One and Oracle. Metaljunction.com, a joint venture of Steel Authority of India (SAIL) and Tata Steel, is another example of such a business model that is successful in the Indian context.

In the present study, B2B e-marketplaces are defined as any neutral intermediary owned (both horizontal and vertical) which facilitates interaction between multiple buyers and sellers. The e-marketplaces that are controlled by any suppliers/buyers or industry consortia is not included in the study. The e-marketplaces that trade manufacturing inputs and focus on B2B trading activities are included.
Based on theoretical frameworks provided by Institutional theory, Transaction Cost theory and Diffusion of Innovation theory, the present study aims to identify factors that influence the MSMEs to adopt B2B e-marketplaces. The purpose is to understand the perception of MSMEs towards neutral B2B e-marketplace and identify benefits realized by its use. The study also identifies barriers to the adoption of B2B e-marketplace by MSMEs.

1.2 Need for the study

The international debate focus is now on the impact of ICTs on the economic performance and trade competitiveness of the developing countries. In this context, study on adoption of new ICTs is necessary to explore policies and best practices in order to enable enterprises, particularly MSMEs to increase their productivity and their competitiveness through the use of ICTs.

B2B e-marketplaces in general, provide benefits such as lower search costs, lower transaction costs, wide selection and lower prices (Laudon and Laudon, 2004). According to Bakos, e-marketplace reduces buyer’s search costs and increase efficiency of inter-organisational transactions (Bakos, 1991). E-marketplaces can offer MSMEs to have global presence without much investments of owning sophisticated websites. Participation in global marketplaces would also enable MSMEs to have access to global markets and would enable firms to get equipped with global competition. In view of this, studying factors influencing the adoption of e-marketplace is important to understand the diffusion of the concept in the developing countries and opportunities it offers.

Though several studies on adoption of electronic commerce has been conducted, majority of them focus either in the context of large firms or in the context of electronic commerce in general. Several studies have been conducted on MSME’s adoption of electronic commerce in general, in western countries MSMEs (Daniel and Wilson, 2002; Rao et al., 2003; Grandon and Pearson, 2004a, 2004b; MacGregor and Vrazalic, 2005; Levy et al., 2005;
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Research into e-marketplaces is underway and is mainly confined to the activities of large organisations and the impact on MSMEs has yet to be addressed. Few studies (Stockdale and Standing, 2004; Wang et al., 2011) address the benefits and barriers to use electronic marketplaces by MSMEs. However, there is a lack of sufficient literature and empirical studies on success of e-marketplace among MSMEs in Indian context. Electronic commerce has several forms such as online stores by sellers, Electronic Data Interchange (EDI), buyer initiated procurement solutions and electronic marketplaces. B2B e-marketplace is a special form of electronic commerce owned by an intermediary providing unbiased services to both buyers and sellers. Empirical evidence is required to determine why MSMEs trade through e-marketplaces and their levels of use and competency in doing so (Stockdale and Standing, 2004).

There is a debate in the literature on the benefits of e-marketplace to MSMEs. On one hand, researchers have opined that e-marketplaces are very useful for MSMEs. Some of the benefits of participating in e-marketplace for MSMEs are access to wide range of markets, greater potential for partnerships, flexibility in administration and communication, convenience in interaction with partners who have different time zones, greater access to information at a single source, ease and cost efficiency in updating product information, lower search and transaction costs and ability to enter supply chains for large companies (Stockdale and Standing, 2004).

However, several researchers also opine that e-marketplaces tend to increase competition among MSMEs and the benefits of participating in the e-marketplace are comparatively higher to buyers (Gulledge, 2002). These buyers are usually large organisations that want to automate their procurement process and reduce their procurement costs. Even though there are number of studies from the large purchasing organisation perspective (Grewal et al., 2001; Hadaya, 2004; Joo and Kim, 2004; Son and Benbasat, 2007; Loukis et al., 2011), there are only a few studies on the selling
organisation’s perspective and their use of e-marketplaces. This study attempts to fill this research gap and develop a framework for studying adoption of e-marketplaces from the perspective of MSME. It aims to identify benefits of use of B2B e-marketplaces by MSMEs.

In addition to this, there is no empirical research undertaken in Indian context to test the success of e-marketplace among MSMEs and factors that influence MSMEs to adopt e-marketplace. The B2B e-marketplaces in India show significant transactions and supplier listings. For instance, TradeIndia.com, a leading e-marketplace in India, has more than five lakh registered buyers and sellers. Therefore, there is a need to investigate the experience of MSMEs with the B2B e-marketplaces especially in the developing countries like India where use of e-marketplace is in growth stage.

1.3 Statement of the Problem

This research is an empirical study on MSME’s adoption and use of B2B e-marketplaces in India. The key areas of research are Adoption of technology in the context of MSMEs and B2B e-marketplaces. This study was undertaken in Karnataka state of India to identify the factors influencing adoption of B2B e-marketplace among MSMEs.

The study identifies the B2B e-marketplace services used by adopter MSMEs. To understand their level of participation in the B2B e-marketplace, adopter MSMEs have been classified into three stages of adoption namely: Exploration, Trial and Commitment stages. The study identifies benefits realized by adopter MSMEs and barriers to adopt/use B2B e-marketplace among MSMEs. The problem can be divided to the following research questions:

1. What do the MSMEs perceive about the B2B e-marketplace?
2. What organizational, product, environmental and B2B e-marketplace (technology) related factors influence the adoption of B2B e-marketplace by MSMEs?
3. What services of B2B e-marketplaces are used by the MSMEs and what is stage/level of B2B e-marketplace adoption by MSMEs?
4. What benefits have been realised by MSMEs that have adopted B2B e-marketplace?
5. What are the barriers to adoption and use of B2B e-marketplace by MSMEs?

1.4 Objectives of the study

Based on the above research questions, following seven objectives of the study have been framed.

1. To explore the awareness level and perception of MSMEs towards B2B e-marketplaces
2. To identify the factors determining the adoption of B2B e-marketplaces among MSMEs
3. To determine the stage/level of B2B e-marketplace adoption and purpose of use of B2B e-marketplaces by MSMEs
4. To assess the benefits of using B2B e-marketplaces by MSMEs
5. To identify the barriers to adopt and use of B2B e-marketplaces among MSMEs
6. To provide suggestions to B2B e-marketplaces to improve their services towards MSMEs.
7. To provide suggestions to MSMEs for effective use of B2B e-marketplace.

1.5 Research Method

The research uses both descriptive and analytical approaches. The data about the perception and adoption of B2B e-marketplace was collected using self-administered structured questionnaire. The respondents are owner/managers of MSMEs in the manufacturing sector.
Multi stage sampling method was used to select the sample. Samples were drawn from three districts: Udupi, Dakshina Kannada and Bangalore (Urban) to ensure cross-section of samples are from urban and rural areas. Addresses of MSMEs were obtained from Karnataka State’s Department of Industries and Commerce and industrial associations of the three districts. Samples represented MSMEs from four sub-groups defined based on size of the firm (investment in plant and machinery as per the definition of MSME in India). The data collected from 122 MSMEs were analyzed using SPSS Version- 16. Logistic Regression analysis was used to identify the significant factors that influence the B2B e-marketplace adoption.

1.6 Significance of the study

The findings of this study have implications to practitioners, primarily e-marketplace service providers and Government organisations. The findings of the study provide insights on the MSME owner’s perceptions and needs that will facilitate e-marketplace service providers to develop appropriate business models to address those needs. The e-marketplace service providers can use outcomes of this study in identifying appropriate segments for targeting the services of their e-marketplaces.

B2B e-marketplaces in India that are in growth stage, can devise effective strategies for promoting their services to the identified segments. The understanding of the factors affecting adoption will help them to design suitable training programs for their marketing and sales personnel to motivate MSME owners to adopt these services.

The study identifies benefits that MSMEs have achieved through the use of B2B e-marketplace, understanding of which will enable the B2B e-marketplace service providers to develop marketing strategies highlighting these benefits. The website can be designed effectively to convey these benefits to motivate non-adopters to adopt the services of B2B e-marketplace.

This study identifies the barriers to the adoption of B2B e-marketplaces by MSMEs, the understanding of which can help e-marketplace service
providers to take measures to address these barriers. The knowledge of barriers will help policy makers and government organizations that are responsible for development of MSMEs. They can develop policies for the growth and effective use of B2B marketplaces. The outcome of the study can provide useful inputs to design training programmes for MSMEs to educate them about B2B e-marketplace.

The study has contributions to the academic literature as well. The study has identified relevant constructs from the literature including those from established frameworks on technology adoption such as Diffusion of Innovation theory by Rogers (1995), Molla and Licker (2005a), Son and Benbasat (2007), Teo et al. (2003). The framework for understanding the adoption of B2B e-marketplace adoption among MSMEs has been developed and operationalized in the study. In future, further studies could be carried out on adoption using the framework developed in the study.

The study identifies the problems of MSMEs in adopting B2B e-marketplace and the current state of usage of internet among MSMEs. It bridges the gap in the literature on the adoption of B2B e-marketplaces among MSMEs.

1.7 Limitations of the study

1. The study focuses on MSMEs in the manufacturing sector. MSMEs in the service sector and repairs/maintenance have not been included in the study. Therefore, findings cannot be generalized to service oriented MSMEs that do not have any physical products.

2. The study focuses on perception of MSMEs about on public, neutral/intermediary owned B2B e-marketplace. The study does not include other forms of biased B2B e-marketplace such as buyer/consortium owned or seller owned B2B electronic commerce solutions. Therefore, results cannot be generalised for buyer oriented e-marketplaces where resource dominant buyers may have highest influence on adoption.
3. The study is conducted on the basis of samples drawn from the three select districts of state of Karnataka in India. The districts Bangalore (Urban), Dakshina Kannada and Udupi districts were selected to ensure representation of MSMEs from both urban and rural areas. The results are generalized with the understanding that the samples from these districts constitute a true representation of the population.

1.8 Summary

This chapter provides a background to the area of the research. It discusses the research gap and highlights the need for the study. Research questions and objectives of the study are outlined. The chapter provides a brief overview of research methods used in the study. The detailed discussion on the research design and methodology is provided in Chapter 4. The chapter highlights the significance of the study and discusses its limitations.