

**WOMEN ENTREPRENEURSHIP:
AN ECONOMIC ANALYSIS OF MICROENTERPRISES
IN DELHI**

Thesis Submitted to the Jawaharlal Nehru University
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DOCTOR OF PHILOSOPHY

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DECLARATION

I declare that the thesis entitled “**Women Entrepreneurship: An Economic Analysis of Microenterprises in Delhi**” submitted by me for the award of the degree of **Doctor of Philosophy** of Jawaharlal Nehru University is my original work. This thesis has not been submitted to any other university for the award of any other degree.

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Dedicated to my Mother

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CHAPTER 1

INTRODUCTION

1.1 Background

The industrial sector is one of the important growth engines with diverse economic activities. Since independence, the government of India has emphasised the role of industrial development in the country's economic development. However, the Industrial Policy Resolution (IPR), in 1956 laid the foundation for industrial development in India. The 1956 policy emphasised the establishment of complex industries intended to reduce the dependency on agriculture and boost the productivity of the customer goods industries and the small enterprises conducive to job creation and self-sufficiency. The implementation of IPR resulted in significant industrial growth during the second and third phases of 1956-61 and 1961-66, respectively. Nevertheless, in the late 1960s, industrial investment slowed down and disrupted the growth. However, in the 1980s, this trend was reversed. The industrial financing was expanded with development of instrumental infrastructure such as electricity, coal, and railways (Mammen et al., 2000).

During the early 1990s, it was found that industries suffered losses due to various policy restrictions (Eliazer, 2019). Therefore, in 1991 the government of India decided to promote private sector participation in the industrial development to remove the strict licensing system through a broader scheme of economic liberalisation. Another aim of this initiative was to allow international players to compete with the domestic industries and strengthen the competitiveness of domestic industries (Rodrik, 2006).

All these measures aimed to strengthen the country's industrialisation process. This type of model of industrial development is called the Liberalisation, Privatisation and Globalisation (LPG). The early 1990s saw significant growth in industrial development due to increased investment in infrastructure and access to finance (Kniivila, 2002). By the late 1990s, the growth rate declined due to rigid competition from international organisations and insufficient infrastructure support. Following, in the year 1991, this new policy was adopted, there was growth initially but later slowdown period was observed in industrial development (Adams et al., 2003). However, at the commencement of the new millennium, between the years 2002-08, there was a slight

recovery due to rise in savings rates from 23.5 per cent in 2001-02 to 37.4 per cent in 2007-08. Even the competition from foreign companies increased during the 2000s, the national companies could not build sufficient internal capacity to improve quality, finance, and technology along the value chain. Unfortunately, from 2008 to 2009, there was a slowdown in industrial growth due to rising fuel prices, interest rates and foreign borrowings, which created more debt for domestic companies (Merrouche, et al., 2010). Nevertheless, India's industrial sector has grown at a decent rate during the recent times with 3.8 per cent rate registered in 2019-20 (Government of India, 2020). The pace of this recovery and the continuous growth is likely to continue because of the government's consistent endeavour to bring about various structural, financial, and infrastructure reforms (Carr et al, 2007).

Today, Indian economy has become one of the world's fastest growing economy. The world is witnessing the rapid changes that are occurring in its dynamic structure. Human activities, including their occupation and personal space, have undergone many changes in every sector. Additionally, economic liberalisation has sped up the changes even more. These changes have tangible and strong repercussions. For ongoing social progress and sustainable economic growth, these changes are advantageous. In India, over the years, apart from men, the contribution of women has increased at a rapid pace, as participation of women in the workforce is a direct indicator of economic growth (Economic Survey, 2022). Currently, India has 432 million women under working age group, and they play a vital role in the development and prosperity of the nation's economy.¹

According to a McKinsey Global Institute report (2018), granting equal opportunities to women might help to increase India's Gross Domestic Product (GDP) by 770 billion dollars by 2025. Women's engagement in the workforce has a significant impact on the expansion and growth of the Indian economy and presently, their contribution to GDP is 18 per cent (Government of India, 2021-22). Their participation in the workforce reflects women's employment status. Women's employment may empower them and increase their ability to practise the choice and decision-making power in indispensable areas of their lives by participating in efforts to reduce gender inequality (Desai et al., 1994; Kabeer, 2012).

¹ [www.ibef.org/blogs/women-entrepreneurs-shaping-the-future-of-india\(2022\)](http://www.ibef.org/blogs/women-entrepreneurs-shaping-the-future-of-india(2022))

When women's participation is low, it is safe to say that the community does not give women the power, opportunities, and freedom to participate in productive work or recognise the sheer number of working women identified as unpaid (Antonopoulos et al., 2010).

The majority of the women are engaged in the agriculture fields and the informal sectors. Of 432 million working-age women, 343 million are employed in the unorganised sectors (World Bank, 2018). Women's employment is exceptionally high for specific jobs such as domestic helpers and construction workers. Over the past century, this has played a remarkable role for women. In the age of globalisation, the role of Indian women in the home and workplace has taken on different dimensions. Most Indian women do only "productive work" under economic pressure (Hechavarria et al., 2011).

The women's status in any community is a sign of how far they have achieved economic progress. However, this statement is contradictory to the actual condition of women, and as far as rural India is concerned, they are considered the weaker gender in society. As a result, they lack self-confidence, are deprived of their equal status in society, and face gender discrimination at different stages of their lives. They are deprived of equal educational opportunities (Sen, 2001). There is a general perception that men being the head of the family are considered to be the breadwinners and that most women's work is done in their relaxing time or for family income, even though women make up about half of the world's total population. Not so long ago, when women used to face some tremendous barriers in the community that would bring them on equal footing with men (Cerrato, 2018).

Statistics reveals that India has secured the 120th position among 131 countries in female labour force participation rates (International Labour Organisation, 2013). About 20 million women had left the workforce in India between 2005 and 2012. Only 21 per cent of Indian women were employed or actively seeking employment in 2012, compared to 79 per cent of men in the labour force (World Bank, 2012). India could have boosted its growth by 1.5 per cent to 9 per cent annually if around half of the population of women had joined the workforce. The higher participation of women in economic activities helps boost productivity, raises economic diversification, and

removes income inequality and other positive development outcomes (International Monetary Fund, 2018).

The Indian economy has many facets, making assessing the effects of several independent causes affecting its growth is challenging. Despite the efforts of many scholars, there has been a gap in a comprehensive approach to assessing all of these complicated economic events (Naudé., 2013). Therefore, it is essential to evaluate an economy's success from various angles. One such measure is the level of entrepreneurship, which considers the economy's size, capacity, and productivity as well as its competitiveness and inventiveness (Acs et al., 2008).

In the field of economics, entrepreneurship has been defined in several ways. Numerous authors have demonstrated the close connection between entrepreneurship and economic growth. Notably, the ability of entrepreneurship to promote social progress and well-being is given particular consideration in economic research (González, et al., 2007). Entrepreneurship is the capability and readiness of an individual by which it create, organise and develop a new combination of resources which has a higher market value than the resources have individually or in any different uncertainties, in order to make a profit. Entrepreneurship is seen as a key driver of economic growth due to its positive effects on employment, welfare and innovation (Schumpeter 1934; Acs et al., 1988; Wennekers et al., 1999; Baumol 1968). Kirzner's (1973) stated that "entrepreneurship consists of the determined behaviour that run the market process". As per this perspective, entrepreneurship comprises the introduction of any new economic activity to the market.

Both men and women can lead entrepreneurship. A woman entrepreneur is a woman or group of women who establishes, organises, and manages a business (OECD, 2004). Moreover, "an enterprise owned and run by a woman who holds a minimum financial interest of 51 per cent of the capital, who gives at least 51 per cent of the employment generated in the enterprise to women, is called a woman enterprise" (Government of India, 2006). In India, women entrepreneurs constitute about 10 per cent of the total number of entrepreneurs (Government of India, 2015-16).

In recent years, academicians worldwide have been paying attention to the growth of female entrepreneurship. Indeed, women are becoming an essential factor in the

country's economic development by contributing to gross domestic product, creating new jobs for women, reducing poverty, encouraging education of children, and making women more self-dependent and accessible. The country's development level is directly proportional to the growth of women workforce, and thus the country needs active and more participation of women as women entrepreneurs (Kelley et al., 2017). Previous studies show that women can contribute to the economy as job seekers and creators. Noguera et al. (2013) state that entrepreneurship development and empowerment complement each other. However, the contribution of female entrepreneurs is still unseen and requires adequate research. Therefore, the contributions of women in entrepreneurship has been thoroughly investigated in this study, which is the main focus of the present research.

1.2 Linkages between Entrepreneurship and Economic Development

The progress of an economy depends on many factors. Entrepreneurship plays an important role in development of economy, among others (Rainey et al, 2016). The economic development of a country is supported by entrepreneurship in many ways. It is an essential contributor to the innovation and development of products and a pivotal factor in job creation. In addition, entrepreneurship matters because it is basically a human characteristic (Bessant et al., 2015). Since the beginning of the 20th century, entrepreneurship has become very prominent in India. According to a German Economist, Joseph Schumpeter, an entrepreneur or innovator, is the key figure in development, as mentioned in his book entitled "Theory of Economic Development" (1911). In other words, an entrepreneur is an innovator and not a man of ordinary managerial capabilities who introduces new methods and new products for production, the opening of a new market, makes invention of new sources of supply the raw material, and creates a monopoly of the organisations that are responsible for economic development.

Baumol (1968), in his essay on Entrepreneurship in Economic Theory, reveals that entrepreneurs can find and implement new thoughts. Entrepreneurship is the means to boost the economy, which the entrepreneur puts into function. It also revives the enterprises, which helps in the economy's growth. Entrepreneur occupies an important

place in the development process as they initiate development in a society and carries it forward (Acs et al., 2009; Naudé, 2013).

The economic development of any region results from dedicated attempt by the different sections of the society. Although for the long time, entrepreneurship has usually been seen as a male controlled activity, recent studies show the importance of woman contribution to economic growth as they constitute almost 42 per cent of the total entrepreneurs in the world (OECD, 2004). Women entrepreneurship is a function of many development activities. These activities have made women strong and empowered in economic, social, and cultural fields. Today, worldwide, women are making noticeable and countable effects on the social and economic development of the country (Cohen et al. 1997). Another important factor regarding women's entrepreneurship is that in the Indian labour market, entrepreneurship led economic growth is highly inclusive (Shane et al., 2003).

Apart from employment creation, development in India's rural or urban areas is another area that witnesses economic transformation due to entrepreneurship. The enhancement of enterprises in these areas leads to a few social benefits, such as better transport, health facilities, education etc., thereby promoting equitable development (Audretsch et al., 2006). It is leading to an increase in emerging entrepreneurs in their cities due to low cost and affordable talent, attracting the attention of investors in these cities (Naudé, 2011).

Ensuring people can afford high-quality goods at reasonable prices and access quality services is essential for a developing economy. An entrepreneurial-driven economy responds to this need as it drives the creation of goods and services that lead to the acquisition of goods at a minimum cost making the goods more buyable. Entrepreneurs explore opportunities, optimise resource utilisation, and produce new goods and services. These goods and services are used for domestic consumption, increasing national income, and reducing the country's dependence on imports. Therefore, it is doubtless that entrepreneurs are the catalyst for change and innovation (Scott et al.,1988).

1.3 Contribution of Women Entrepreneurs in Economic Development

The concept of women's entrepreneurship covers both the position of women in society and their function within it. They also benefit from the positive effects of globalisation, both domestically and overseas. The significance of women's entrepreneurship for development of an economy is undeniable, nevertheless. Many researches has shown the beneficial effects of female entrepreneurship on economic development and progress of nations (Loscocco et al., 1993; Chun et al., 1999; OECD, 2000; Franco et al., 2003; Kay et al., 2003; Fetsch et al., 2015).

In this fast-paced world, female entrepreneurs are essential to social and economic advancement. In traditional societies, women were restricted to home, where they cared for the family's children and performed all household tasks while being treated as men's property. However, the perception of and standing of women in contemporary society has significantly changed. The modern era has removed the curtain of ignorance; women now participate in activities outside their four walls. They are empowering themselves by excelling in many endeavours and contributing significantly to the socio-economic development of the nation (Global Entrepreneurship Monitor, 2015).

The significance of women's contributions to the global economy is growing over time. Women typically opt to launch their own enterprises after taking a break from their careers or switching from salaried work to self-employment (OECD, 2004). Additionally, educated women in metropolitan areas who have or do not have work experience face a risk of starting a new business with the aid of commercial banks and financial institutions. These women launch a new company as a goal to achieve financial independence. However, on a large scale, these kinds of women are mostly absent from published studies on entrepreneurship and business support systems that could help potential entrepreneurs (Beaver et al., 1994).

Women's entrepreneurship has recently become an important area of research. A female entrepreneur shares many characteristics with a male counterpart. They look into many possibilities, such as starting new enterprises, taking risks, bringing innovations, and organising administration. They also offer strong leadership in all facets of a firm (Shim et al., 1998). Cohoon et al., (2010) identified the top five economic and psychological drivers of female entrepreneurship, including the desire to

collect wealth, the temptation of start-up culture, the aspiration to capitalise on one's own entrepreneurial ideas, the desire to own one's own business, and the desire to avoid working under the control of another person.

For the past few decades, women as the owners of an enterprises have been recognised as crucial underutilised resources for economic growth for various reasons, including creating new jobs for themselves and others. This initiative will offer many solutions to organisational, business, and management issues, as well as the utilisation of women's entrepreneurial prospects. Some economic considerations, such as lower household wages, improved children's education, and achieving economic independence, become essential in encouraging women to start their own enterprises (Sharma, 2013).

Women entrepreneurs create new jobs and various economic opportunities for themselves and others. Because of their differences, they also develop unique solutions to organisational, business, and management issues and take advantage of entrepreneurial prospects. Compared to the majority of entrepreneurs, who are males, women still have a tiny voice (Chaganti et al., 1997; Chell et al., 1998; Carter et al., 2006). Studies have shown that a markets discriminate against women's capability to start their enterprises and distorts their chances of success (Lewis et al., 2014).

However, given the overwhelming evidence of the significance of recent firm creation for economic growth and development, female entrepreneurship has recently gained more attention. Female entrepreneurship provides opportunities for female expression and potential fulfilment, it contributes to economic growth and also creates job in any economy. It is becoming increasingly evident. However, because female entrepreneurs' potential and their talent are mostly introductory in many contexts, these advantages are rarely utilised in a particularly systematic manner (Kepler et al., 2007).

1.4 Participation of Women Entrepreneurs in different economic activities in India

Over the last fifty years, there has been a significant change in the percentage of women working with a small proportion of women-owned enterprises could emerge successfully. The economic progress of many nations has recently been significantly boosted by women entrepreneurs, even though they face more significant workplace difficulties than their male counterparts (Cuberes et al., 2015). Many women

entrepreneurs have emerged as a result of expansion of higher education, rapid social development, pro-women legislation, social awareness, urbanisation, and supportive families (Aldrich et al., 1986; Marlow et al., 2013; Kepler et al., 2007; Singer et al., 2018).

Women's access to the business world was restricted mainly for various reasons. For women, there are three Ks: knitting, kids, and the kitchen. Then came the three Ps: powder, papad, and pickles. The situation has drastically changed now. Women are leaving the house's four walls due to social change and the rapid development of education and social awareness. Their foray into business is a recent development in India, along with increased kitchen activities (Brush, 1997). Today, the 3Ks and 3Ps of the past have been completely replaced by the 4Es, which stand for electricity, electronics, energy, and engineering (Minniti, 2010; Bardasi et al., 2011; Sharma, 2013).

They have already proven their significance in several disciplines, including administration, engineering, medical, and technical and social services. Women entrepreneurs currently contribute significantly to business, commerce, and industry. Their entry into the commercial sphere is the most recent. This presumption is true in developed nations, but they have recently started working in these domains in India. Women entrepreneurs perform far better than their male colleagues in various industries. Women excel in law, research, medicine, aviation, space exploration, and the police and military. However, women also demonstrate their power in the economic and industrial sectors. Their participation has demonstrated that they are equal to males regarding intelligence, productivity, and effort (Moore, 1997; Acs et al., 2008; Swedberg, 2000; Bardasi et al., 2011)

It should be emphasised that women are establishing teams to produce capacitors in Odisha, solar cookers in Gujarat, televisions in small factories in Maharashtra, and electronic accessories, even though the number of such units is still modest. Women have come a long way, and today, in all areas of the economy, they are more visible and successful than ever (Minniti, 2010).

Women work in various fields to support themselves, not just those related to education, hospitality and consulting. Nevertheless, they also want to use their skills and creativity to show their inner desires, which is why they work in the manufacturing, retail, catering, and healthcare industries, among other things (Bosma et al., 2006). Education for women catalyses social transformation. The introduction of women into fields previously dominated by men indicates this transformation (Sharma, 2013).

In addition, more women are pursuing careers in education; they now predominate in a number of fields. Fashion designing, exporting, interior design, publishing, beauty salons, garment manufacturing, basket weaving, consultancies, resume writing, event planning, content writing, etc. are well-known occupations where women predominate (Nussbaum et al., 1995). These examples suggest that Indian women start successful enterprises and engage in various economic endeavours. They look for chances to develop their capacity to launch fresh commercial ventures. They tend to innovate, take chances, and run and manage the company using their talents and knowledge. As a result, many women achieve their goals and become successful business owners (Blanchflower, 1998).

1.5 Role of MSMEs in Women Entrepreneurship

India's micro, small, and medium enterprises (MSMEs) play a crucial role in accelerating economic growth. The MSMEs are essential because they support increased export of manufactured products, regional development, poverty reduction, and rural economic development. MSMEs are a vital source of employment for various skilled and unskilled workers because they are the country's second-largest employer after agriculture (Selvaraj, 2000).

MSMEs are essential to the growth of any nation's manufacturing sector. On average, they contribute significantly to the expansion of the Indian economy through an outsized network of about 30 million units creating employment for about 70 million people, in which more than 80 per cent of the whole industrial units belong to the MSMEs sector; they also produce over 8,000 products making a 45 per cent contribution to total production capacity, and about 40 per cent of total exports (Bisen

et al., 2015). Ninety-four per cent of the MSMEs operate without formal licenses or registration. The manufacturing sector contains approximately 29 per cent; the remaining 71 per cent of MSMEs belong to the service sector, primarily operating in conventional transaction-based industries (Manhas et al., 2015).

The MSMEs played a vital role in opening the gate for women to pursue careers in the field of industrialisation. MSMEs are also considered important for women as they play a crucial role in economic activities, not just as employed workers but also as entrepreneurs. The MSMEs are an excellent platform for developing women's entrepreneurship. In 1991, Industrial Policy Resolution (IPR) also highlighted the need to provide specialised training programs to develop women's entrepreneurship in small-scale industries. It was the first time when the framework of the sixth five-year plan was proposed and included a new chapter entitled "Women and Development", with particular emphasis on the issue of women's entrepreneurship development (Gupta et al., 2015).

Approximately 3.01 million enterprises, or 10 per cent of all MSMEs in India, are owned and operated by women (All India Census of MSMEs, 2006-07). Over eight million people are employed, collectively contributing about 3.09 per cent to industrial output. Roughly 78 per cent of women-owned enterprises are in the service industry. As per the Annual Report of MSME (2019-20), more than 98 per cent of enterprises owned by women are micro-enterprises, and women's entrepreneurship is frequently slanted toward small enterprises. In India, the informal sector comprises over 90 per cent of women-owned enterprises. The opportunities in the MSME sector for women are enormous due to the various factors such as low capital requirement, extensive promotion and government support, export promotion, reservation for complete purchase by the government, and growing demand in domestic market as a real economic growth (Subramanian et al. 2018).

In the twenty-first century, the topic of woman entrepreneurship has become the centre of the discourse with the establishment of micro and small enterprises. With the growth of micro, small, and medium enterprises (MSMEs), more women have plunged into entrepreneurship, enhancing their knowledge, skills, and understanding. By having

approximately 3.0 million MSMEs with full or partial female ownership, they make a significant contribution to the Indian economy (Paramasivan et al., 2013).

Many studies have shown that the success of women-owned micro and small enterprises (hence referred to as MSEs) played a crucial role in the growth of a country and the welfare of societies through producing jobs, wealth, and inventions (Shakeel et al., 2020). Simultaneous growth will help the next generations by better development outcomes and enhancing economic productivity. In India women entrepreneurship is a representative to many women discovering new avenues of economic participation. Now they are considered the key employees who play a vital role in India's economic progress and industrial development (Mozumdar et al., 2020). They want to be financially independent, so they enter the market with more new concepts for MSMEs. The increased participation of women in MSMEs helps to promote family health, reduce socio-economic poverty, and give more financial power (Paramasivan et al., 2013).

1.6 Motivation for the Study

The literature review on women's entrepreneurship highlighted that limited studies had been done on Delhi compared to other states of India. Although the capital of India has excellent public infrastructure and communication facilities for the development of business and also when Delhi is a significant trading hub in India (Economic Survey-Delhi, 2019), it is still occupied with one of the least proportions of MSMEs among other states/Union Territories (All India fourth Census of MSME, 2006-07; Government of India, 2015-16). This motivates the scholar to pursue this research on MSMEs operating in Delhi.

Delhi, with a population of 16.78 million (Population Census, 2011), is the largest commercial centre in northern India. Out of which, 97.50 per cent of Delhi's population resides in urban regions, and the remaining 2.5 per cent live in rural areas. Delhi has 11 district & it comprises 33 Tehsils/Sub-Divisions. Delhi contributed 5.68 per cent of annual growth in India's GDP for 2020–21. With this, Delhi has become the thirteenth-largest economy among India's states and Union Territories (Government of NCT of Delhi, 2020-21).

Delhi's landscape's rural to urban nature has changed due to the city's increasing urbanisation. Industries are essential to this transition. Delhi's industrial development offers a stable foundation for the rapid rise in income. Over the past several years, it has led Delhi's per capita income to increase at a faster rate. The secondary and primary sectors made up 12.0 per cent and 3.0 per cent, respectively, of Delhi's GSDP in 2020–21, while the tertiary sector contributed 85.0 per cent. The manufacturing sub-sector in Delhi's economy contributes mainly to the secondary sector, with an anticipated Gross State Value Added (GSVA) showing essentially no growth in 2020–21 and a gain of 25.15 per cent in 2021–22 over the estimates for the previous year (2019–20) (Government of NCT of Delhi, 2021).

Early in the 20th century, the mechanical industry arrived in Delhi and concentrated on pressing sugarcane and, oil and milling, spinning, weaving, packaging, and flour making. Electronics, automobile parts, precise tools, machinery, and electrical and engineering equipment have recently moved to the city's manufacturing facilities. Moreover, Delhi's top priorities and most significant industries continue to be other businesses like textiles, sports goods, and leather products (Economic Survey-Delhi, 2021). Some studies found that microenterprises, like beekeeping, are unable to operate efficiently because they lack the necessary knowledge and abilities, while other microenterprises, like bio briquettes, are unable to repay loans (Khanal, 2007; Pandey, 2007). The question here arises why some microenterprises are more successful than others, given their differential performance. To know this, it becomes crucial to examine the structure of microenterprises at the macro level and compare its structure with the small enterprises in Delhi. From the available literature, it has been noted that very few studies have been conducted in various parts of the country to identify the factors that are responsible for the performance of micro and small enterprises (MSEs). Therefore, this study also examines the difference between the performance of micro and small enterprises and the factors influencing their performance.

With the beginning of the twenty-first century, women's entrepreneurship has become popular in India as more women have started their own enterprises. However, there is not enough evidence of entrepreneurship done by women in developing countries in the general economic development literature. Despite this, few studies focus on or incorporate women into their research, but data fragmentation in their performance is

rare and difficult to obtain (Baker et al., 1997). Very limited research have been done on aspects that affect the performance of women entrepreneurs when they are considered to be an essential consideration in economic growth and development (Sharma et al., 2012).

By identifying factors that affect the performance of women entrepreneurs, a detailed and general study of the country, city, and industry level is essential and also required for sustainable business support (Gizaw et al., 2019). Existing studies do not put more effort into the performance of women entrepreneurs and the factors that affect their performance. Also, concern arises about the improvement in the performance of MSEs with a female predominance (Awoke, 2019). However the number of women entrepreneurs is increasing in India, but their success is still negligible (Meresa, 2018). Therefore, for an in-depth analysis, examining the different characteristics between female-owned and male-owned enterprises is crucial. Furthermore, it is helpful to understand or compare the gap between the performance of men and women-owned enterprises in Delhi.

The results of studies conducted by Tekele (2019), Aemiro (2019), Hawando (2017), and Assefa et al. (2018) are neither consistent nor do they address the variables that affect how well women entrepreneurs perform in a nation. Without concentrating on potential variations between MSEs owned by men and women, their research outlines the difficulties that MSEs frequently confront. With this, it is essential to highlight the particular differences between the male owned entrepreneurs and female owned entrepreneurs of MSEs with respect to their performances.

Therefore, this study mainly focuses on women-owned micro-enterprises because in many developing countries, especially India, women owns and operates much of the micro-enterprises as their livelihood activity (Selamat et al., 2011; Sharma et al., 2012). Their contribution to the economy and the well-being of their families, lineage, societies and countries is evident. Therefore, this study analyses the characteristics of women-owned microenterprises and their performance compared to their male counterparts, as microenterprises make up the largest share (approximately 90 per cent) of the total number of MSMEs operating in India (Annual Report of MSME, 2019).

Despite being a crucial area for economic growth, the manufacturing sector in Delhi received very little attention regarding assessment of technological progress. Even though it only contributed 5.56 per cent to Delhi's overall GDP in 2019–20, this sector is nevertheless considered essential for overall development (Economic Survey of Delhi 2021-22). The first prerequisite for a firm is to improve its efficiency, which lowers service costs to meet specified goals by boosting productivity and offering convenient services (Ojo et al., 2006). Technical efficiency in industries is required to boost the development process of a country (Batern, 2006). Therefore, this study aims to analyse the technical efficiency of microenterprises run by male and female entrepreneurs in Delhi.

Entrepreneurship research has seen a rise in studies examining entrepreneurial networks (Kaberia et al., 2019; McGrath et al., 2019). The topics of interest include how networking affects firm performance and women-owned enterprises, focusing on the importance of networking to entrepreneurship worldwide (Kariuki, 2015).

Therefore, it has been stated that social networks can serve as an effective training tool to boost the performance of women-owned enterprises and aid in product marketing because network users may become new clients/customers and suppliers (Kotler, 2010). It occurs due to the network's uncommon characteristics and resources (Seibert et al., 2001). Tata et al. (2008) discovered that the necessary knowledge and resources offered by the interactive exchange platform led to an improvement in the performance of women-owned enterprises. As a result, social networks can profit significantly from increased involvement and improved communication (Hassan et al., 2013). The added benefit that networking provides to business owners worldwide, therefore, the field of entrepreneurial networking has been extensively studied. Small and medium-sized firms as well as large enterprises, all benefit from networking (McGrath et al., 2019; Shih et al., 2019; Das et al., 2019; Ojotu et al., 2019).

Norms, networks, and social duties make up social networks, which enable people to collaborate towards the same objectives and mutually beneficial outcomes (Westlund et al., 2003). Social networks are composed of formal business networks like consumers, distributors, suppliers, competitors, and the government, as well as informal networks like family, relatives, friends, and acquaintances (Gunto et al., 2014). In a study by

Kickul et al. (2007), female entrepreneurs with vital growth resources utilise more formal social networks. In contrast, female entrepreneurs use more informal networks even with poor growth resources (Kim et al., 2014).

Social networking offers avenues for exchanging sensitive information and makes it easier to share helpful information for business expansion. Entrepreneurs depends on their personal and professional networks to help them make decisions, address issues in their firms, and develop winning strategies. Male and female entrepreneurs have different social networks regarding quality and organisation, which could directly affect each result (Thompson, 2009; Martinez et al., 2011; McGrown et al, 2015; Skokic, 2015).

This study will examine the role of social networks in marketing and manufacturing the products produced by women-owned micro-enterprise performance in line with Tata et al. (2008) in terms of five factors of networking, namely “active participation of family members, relatives and friends enrich the entrepreneur's performance”; “accessibility and availability of advisors and mentors in business matters”; “the role of social media”; “involvement with women's groups enhances networking”, and “networking and support system among entrepreneurs”.

1.7 Research Questions

1. What is the structure and performance of microenterprises at the macro level in Delhi?
2. What are the characteristics of enterprises run by men entrepreneurs and women entrepreneurs at the firm level in terms of numbers of units, employment, investment, sources of finance and Gross Value Added (GVA)?
3. What is the role of networking in product manufacturing enterprises run by men and women in Delhi?
4. What are the government’s policy initiatives to support micro-enterprises run by women and remedial measures to solve their problems and challenges?

1.8 Objectives

Based on the review of literature and the research questions, the study focusses on the following specific objectives.

- To examine the structure and performance of microenterprises at macro level in Delhi
- To analyse the characteristics of microenterprises run by men entrepreneurs and women entrepreneurs at firm level in terms of numbers of units, employment, investment, output and sources of finance.
- To analyse the technical efficiency of microenterprises run by men entrepreneurs and women entrepreneurs in Delhi.
- To examine the role of networking in manufacturing and marketing of the products of microenterprises run by men and women in Delhi.

1.9 Hypothesis

Based on the above objectives, the following hypothesis have been formulated.

1. Economic reforms in product markets have impacted the structure and performance of microenterprises in Delhi.
2. Technical efficiency of women enterprises is higher than men enterprises.
3. Networking has positive influence on the manufacturing and marketing of products of microenterprises.

1.10 Data Sources and Methodology

The Micro Small and Medium Enterprise Development Act (MSMED, 2006) provides the detailed definition of Small Scale Industries (SSI). This act offers the first legal framework for acknowledging the idea of "enterprises," including manufacturing and service sector enterprises. It merges the three categories of these firms that is micro, small, and medium enterprises; and introduced the concept of medium-sized

enterprises. It also seeks to accelerate the growth of these enterprises while also boosting their competitiveness (MSMED Act, 2006).

According to the MSMED Act, a micro-enterprise engaged in the manufacturing sector is “an enterprise involved in the production, manufacture, preservation of commodities, or processing where the investment does not exceed Rs. 25 lakh in plant and machinery”. Similar to this, “a small enterprise is one where the investment is greater than Rs. 25 lakh but not greater than Rs. 5 crores in plant and equipment”. “a medium enterprise is one where the investment is greater than Rs. 5 crores but not greater than Rs. 10 crores in equipment”.

In contrast, a micro-enterprise engaged in the service sector is defined as “any enterprise where the investment in equipment is not more than Rs. 10 lakh”, “where investment in equipment is more than Rs. 10 lakh but less than Rs. 2 crores it is known as small enterprise” and “where the investment in equipment is more than Rs. 2 crores but less than Rs. 5 crores it is known as medium enterprise”.

This study has used primary as well as secondary data. The secondary data sources include the Unorganised Manufacturing Enterprises Survey, 2005-06; and Unincorporated Non-Agricultural Enterprises (Excluding Construction), 2015-16, published by the National Statistical Sample Organisation (NSSO), Ministry of Statistics and Programme Implementation (MoSPI), Government of India.

The primary survey data was collected by selecting a city locality (Janakpuri) in west Delhi District in Delhi where numbers of women entrepreneurs engaged in custom tailoring activity was found to be very high by analysing unit level data of 73rd NSS round for the year 2015-16. Janakpuri in west Delhi District was selected for a field survey for the reference period from April 2019 to March 2020. The selection of Janakpuri is justified on the following two grounds. First, the Janakpuri is one of developed residential localities of West Delhi. Moreover, it is famous for selling food, apparel, handicrafts and jewellery. Hence it was also advantageous to analyse the performance of custom tailors. Second, Janakpuri has Consortium of Women Entrepreneurs of India (CWE)² and Federation of Indian Women Entrepreneurs

²Consortium of Women Entrepreneurs of India (CWEI) was registered in 1996 as an Non-profit organisation (NGO) in New Delhi. It works for the sustainable women empowerment and their families

(FIWE)³ which shows the presence of custom tailors. These organisations played a major role in collecting the information through the primary survey. The head of Consortium of Women Entrepreneurs of India (CWE) and Federation of Indian Women Entrepreneurs (FIWE), and their document writers interviewed to furnish information on custom tailors as they helped by providing a list of custom tailors working in Janakpuri, Delhi.

This study focuses on the male entrepreneurs and female entrepreneurs engaged in custom tailoring to analyse the structure and performance of women-owned microenterprises that influence the betterment of the status of women. The significant issues, among others, covered through the primary survey included demographic features of the entrepreneurs, types of establishment, gross value added, source of finance, subsidy from the government, type of registration, and impact of social networking. The primary survey of enterprises also provides historical information on the year of establishment of each enterprise, the performance of enterprises in terms of GVA, financial status, employment status, working capital, and problems faced in running enterprises. This information, along with the present situation, is supported by key informant interviews done with early settled entrepreneurs to know the past and present enterprises' structure.

A semi-structured interview schedule was used to collect the enterprises' and entrepreneurs' data. A wide range of issues was addressed during the survey, like the socio-economic background of the entrepreneurs, types of registration of the enterprises, working capital, operating cost, GVA, employment status, types of establishment, the status of the contract, the status of expansion of the enterprises, and social networking.

through earnings generating activities and entrepreneurship development. It vigorously claims to have attained favourable results in encouraging women to choose entrepreneurship as a career – the only solution to unemployment. Outreach Entrepreneurship Skill Development programme (ESDP), help services and financial inclusion are being provided to operate a micro firms among female minorities, Scheduled Caste (SC) and Scheduled Tribals (ST) in different part of India.

³It is a National-level Institute, founded in 1993 and registered as per the Society Act of India (1999). It is India's one of the most Premier organisation for Women that completely work for Entrepreneurship Development in the India. The Institute trains and skilled the younger aspirants and women entrepreneurs for their initiation into enterprise and does awareness raising events and business counselling to become entrepreneurs to female aspirants. Except, it gives hand-keeping and networking possibilities to them in addition to female interested in growing their enterprises further and introduce a launching pad to empower female in the regional economic framework and shift from small to medium establishments.

A purposive sampling method was followed to conduct the survey. A sub-sample of entrepreneurs has been selected from a sample of microenterprises in the west district of Delhi (137 entrepreneurs - 79 male and 58 female entrepreneurs). The research utilised a matched group of men and women who are owners of miscellaneous micro enterprises.

1.11 Chapter Scheme

The thesis is organised into six chapters. Chapter 1, discusses the background and motivation for the study, the research questions, objectives, data sources and methodology. In Chapter 2, the structure and performance of microenterprises have been analysed. It starts with the structure and performance of micro-enterprises at the macro level in Delhi in terms of the number of firms, number of employment, number of products, investment, labour and capital productivity. The comparison between the performance of micro-enterprises and small enterprises has been established using secondary data.

In Chapter 3, the characteristics of microenterprises run by men entrepreneurs and women entrepreneurs are analysed using secondary data. The performance of male and female-owned microenterprises also be compared. Chapter 4 and chapter 5 are mainly based on the analysis of primary survey data only. Chapter 4 explains the technical efficiency of microenterprises run by male entrepreneurs and female entrepreneurs in Delhi. The drivers of technical efficiency have also been discussed in this chapter. This chapter also analysed the performance of male and female-owned microenterprises for 2019-20. Chapter 5 analyses the role of networking in manufacturing and marketing of the products produced in microenterprises run by male entrepreneurs and female entrepreneurs in Delhi for the year 2019-20. The drivers of networking have also been analysed in this chapter. Chapter 6 provides the summary of major findings and conclusion.

CHAPTER 2

STRUCTURE AND PERFORMANCE OF MSMEs IN DELHI

2.1 Background

The era of employment, innovation, and technological advancement for the economy is ushered in by the introduction of entrepreneurship (Kritikos, 2014). It has become an important factor for influencing the socio-economic development in a country. Since the swadeshi movement, also known as the "make in India" policy, was launched in the years before independence with the aim of using Indian-made goods instead of British ones, thereafter, India has had a long history of entrepreneurship. A robust micro, small, and medium enterprises (MSME) sector, which is a requirement for competitive economies, is also developed as a result of entrepreneurship. Additionally, entrepreneurship has the ability to support inclusive growth by empowering women, underprivileged groups, and educated unemployed individuals (Annual Report of MSME, 2021).

MSMEs are sometimes referred to be the foundation of the Indian economy. A stable and sustainable economy has to be established immediately after India attained independence in 1947. For the first time, the Industrial Policy Resolution (IPR) of 1956 highlighted that small-scale industries have a significance role in the growth of the national economy for many reasons. They are acknowledged as drivers of economic growth and contributors to the economic, industrial, regional and technological development in India as well as other nations (Ezell, 2014).

The MSME official portal claims that this sector has become one of the most lively and dynamic segments of the Indian economy for the last fifty years. India has the world's largest MSMEs, second only to China. Next to agriculture, it is the most crucial sector for job creation, and for fostering balanced regional development (Annual Report of MSME, 2021). MSMEs are connected to huge industries like auxiliary units, substantially contributing to the nation's socio-economic growth. In most poorer countries, MSMEs establish the base of the industrial in bulk and they also contribute essentially to their exports, and to their GDP (Kharbanda, 2001).

Compared to big industries, it offers more affordable employment options and helps industrialise rural and underdeveloped areas, reducing regional inequality and providing a fair distribution of income and wealth. More than 110 million employees are engaged in MSME sector and 6.3 crore MSMEs are currently operating in India, contributing 30 per cent to the India's GDP. MSMEs account for 50 per cent of overall exports and 45 per cent of manufacturing output (Government of India, 2021-22).

As auxiliary units, small-scale industries can be complementary to larger ones. The Industrial Policy Decision (IPR) of 1977 also stipulated that small-scale industries in rural and small towns must be successfully promoted. Major cities were no longer the primary focus of small-scale industrial development. Instead, regions took the focal stage for industrial development. The idea of District Industries Centres (DIC) was introduced in India so that in each district to cater to the needs of small enterprise owners by a single organisation. Although, state governments have the major responsibility for this sector's promotion and development, the union government supports such efforts (Williams, 1998).

The Indian MSMEs sector is positioned to grow quickly and integrate with bigger global value chains in the light of the recent government drive for "Make in India" and a considerable increase in FDI inflow. According to official estimates, India has 63.05 million microenterprises, 0.33 million small enterprises, and roughly 5,000 medium-sized enterprises. Micro and small enterprises (MSEs) are the most prevalent (representing 99 per cent of MSMEs) and significant category of enterprises. MSEs are the most dynamic and vital component of progress in modern society. They are the primary source of economic performance and substance in any nation, a significant financial contributor to the national budget, and a catalyst for raising the standard of living for the population (NSS Report 2015-16).

In particular, India has 633.88 lakhs non-agricultural MSMEs engaged in various economic activities, including 196.65 lakhs (31.0 per cent) in manufacturing, non-captive electricity generation and transmission has 0.03 lakh, trade contains 230.35 lakh, and 206.85 lakh are involved in other additional services. In India, there are an estimated 633.88 MSMEs, of which 324.88 lakh (51.25 per cent) operate in rural areas, and 309 lakh (48.75 per cent) do so in urban areas (NSS Report, 2015-16).

However, the NSS data shows that men dominate MSME ownership, with 79.63 per cent of all proprietary MSMEs held by men and only 20.37 per cent by women. Among states, Uttar Pradesh state with a share of 14.20 per cent of the total MSMEs is the largest number of estimated MSMEs set up in India, followed by West Bengal with a share of 14 per cent comes in a second place and then Tamil Nadu and Maharashtra at 8 per cent each (NSS Report 2015-16).

According to the available literature, past research has been done on the various developmental characteristics of MSMEs. Many scholars have researched various facets of funding, education, expansion, and development of enterprises at the national and international levels. Even so, studies on the composition and factors that influence an enterprise's performance still need to be done. Given this gap, the present chapter attempted to study the structure and performance of micro and small enterprises at the macro level in Delhi. This chapter also analyses the critical differences between micro and small enterprises in Delhi.

The analysis focuses only on those enterprises which are involved in manufacturing sector only. The dataset provides useful information on the types of ownership, their major activities, the status of their operation, the location of its operation, the gross output, loan status, types of contractual enterprises, and total fixed assets, as well as information on their registration.

The chapter contains Section 2.2 provides the analysis of the structure of micro and small enterprises (MSEs) in Delhi. Section 2.3 examines the Characteristics of MSEs in Delhi. Section 2.4 explains about an analysis of the performance of MSEs in Delhi, and section 2.5 sums up the major findings.

2.2 Analysis of the structure of MSEs in Delhi

To analyse the structure of micro and small enterprises (MSEs) in Delhi, this study focuses on the enterprises' size in terms of absolute numbers, number of women-owned MSEs, total employment, the total number of women employed in women-owned enterprises, total fixed owned assets, and gross value added.

According to the NSS Report for the year 2015–16, there are 196.65 lakhs manufacturing MSMEs operating in India, of which 17.69 lakh are MSMEs owned and

operated by women. Out of that, 10.97 lakhs are run in rural areas of India, and 6.72 lakhs are run in urban areas (unit level data of NSS, 2015-16). In Delhi, there are 9.36 lakh MSMEs (including the service and manufacturing sectors), of which 9.25 lakh (98.83 per cent) are microenterprises, and 0.11 lakh (1.17 per cent) are small enterprises. It is also discovered that Delhi has no running medium enterprises (NSS report, 2015-16).

Table 2.1: State-wise distribution of estimated number of MSMEs (service activities and manufacturing activities) in India, 2015-16

Estimated number of enterprises (Number in lakhs)					
All					
Sl. No.	State/UT	Micro	Small	Medium	Total
1	Andhra Pradesh	33.74 (5.35)	0.13 (3.93)	0.00 (0.00)	33.87 (5.34)
2	Arunachal Pradesh	0.22 (0.03)	0.00 (0.00)	0.00 (0.00)	0.22 (0.03)
3	Assam	12.10 (1.92)	0.04 (1.21)	0.00 (0.00)	12.14 (1.92)
4	Bihar	34.41 (5.46)	0.04 (1.21)	0.00 (0.00)	34.45 (5.43)
5	Chhattisgarh	8.45 (1.34)	0.03 (0.91)	0.00 (0.00)	8.48 (1.34)
6	Delhi	9.25 (1.47)	0.11 (3.32)	0.00 (0.00)	9.36 (1.48)
7	Goa	0.70 (0.11)	0.00 (0.00)	0.00 (0.00)	0.70 (0.11)
8	Gujarat	32.67 (5.18)	0.50 (15.11)	0.00 (0.00)	33.17 (5.23)
9	Haryana	9.53 (1.51)	0.17 (5.14)	0.00 (0.00)	9.70 (1.53)
10	Himachal Pradesh	3.86 (0.61)	0.06 (1.81)	0.00 (0.00)	3.92 (0.62)
11	Jammu & Kashmir	7.06 (1.12)	0.03 (0.91)	0.00 (0.00)	7.09 (1.12)
12	Jharkhand	15.78 (2.50)	0.10 (3.02)	0.00 (0.00)	15.88 (2.51)
13	Karnataka	38.25 (6.07)	0.09 (2.72)	0.00 (0.00)	38.34 (6.05)
14	Kerala	23.58 (3.74)	0.21 (6.34)	0.00 (0.00)	23.79 (3.75)
15	Madhya Pradesh	26.42 (4.19)	0.31 (9.37)	0.01 (25.00)	26.74 (4.22)
16	Maharashtra	47.60	0.17	0.00	47.77

		(7.55)	(5.14)	(0.00)	(7.54)
17	Manipur	1.80	0.00	0.00	1.80
		(0.29)	(0.00)	(0.00)	(0.28)
18	Meghalaya	1.12	0.00	0.00	1.12
		(0.18)	(0.00)	(0.00)	(0.18)
19	Mizoram	0.35	0.00	0.00	0.35
		(0.06)	(0.00)	(0.00)	(0.06)
20	Nagaland	0.91	0.00	0.00	0.91
		(0.14)	(0.00)	(0.00)	(0.14)
21	Orissa	19.80	0.04	0.00	19.84
		(3.14)	(1.21)	(0.00)	(3.13)
22	Punjab	14.56	0.09	0.00	14.65
		(2.31)	(2.72)	(0.00)	(2.31)
23	Rajasthan	26.66	0.20	0.01	26.87
		(4.23)	(6.04)	(25.00)	(4.24)
24	Sikkim	0.26	0.00	0.00	0.26
		(0.04)	(0.00)	(0.00)	(0.04)
25	Tamil Nadu	49.27	0.21	0.00	49.48
		(7.81)	(6.34)	(0.00)	(7.81)
26	Telangana	25.94	0.10	0.01	26.05
		(4.11)	(3.02)	(25.00)	(4.11)
27	Tripura	2.10	0.01	0.00	2.11
		(0.33)	(0.30)	(0.00)	(0.33)
28	Utter Pradesh	89.64	0.36	0.00	90.00
		(14.22)	(10.88)	(0.00)	(14.20)
29	Uttarakhand	4.14	0.02	0.00	4.16
		(0.66)	(0.60)	(0.00)	(0.66)
30	West Bengal	88.41	0.26	0.01	88.68
		(14.02)	(7.85)	(25.00)	(13.99)
31	Andaman & Nichobar island	0.19	0.00	0.00	0.19
		(0.03)	(0.00)	(0.00)	(0.03)
32	Chandigarh	0.56	0.00	0.00	0.56
		(0.09)	(0.00)	(0.00)	(0.09)
33	Dadra & Nagar Haveli	0.15	0.01	0.00	0.16
		(0.02)	(0.30)	(0.00)	(0.03)
34	Daman & Diu	0.08	0.00	0.00	0.08
		(0.01)	(0.00)	(0.00)	(0.01)
35	Lakshadweep	0.02	0.00	0.00	0.02
		(0.00)	(0.00)	(0.00)	(0.00)
36	Pondicherry	0.96	0.00	0.00	0.96
		(0.15)	(0.00)	(0.00)	(0.15)
	Total	630.52	3.31	0.04	633.87
		(100)	(100)	(100)	(100)

Source: NSS Report 2015-16, Unincorporated Non-Agricultural Enterprises (Excluding Construction), 73rd Round; percentages are given in parentheses.

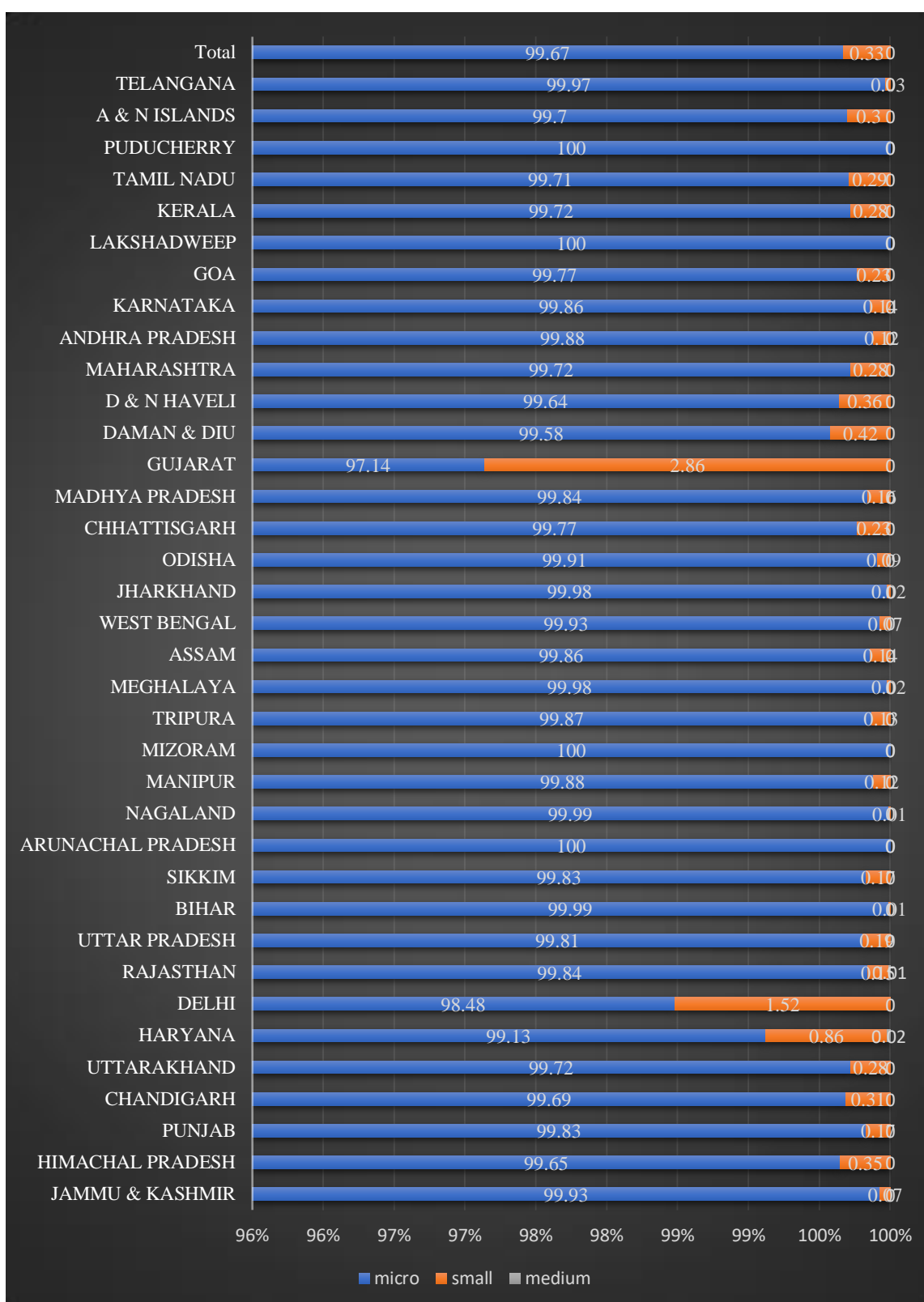
Table 2.1 shows the distribution of MSMEs (including the service and manufacturing sectors) across the states in India (2015-16). The five Indian states with the highest share of MSMEs (both service activities and manufacturing activities) are Uttar Pradesh (14.22 per cent), West Bengal (14.02 per cent), Tamil Nadu (7.81 per cent), Maharashtra (7.55 per cent), and Karnataka (6.07 per cent). These states also have the highest proportion of microenterprises. In contrast, the states with a fewer MSMEs in India include Arunachal Pradesh, Sikkim, Mizoram, Goa, and Nagaland. The share of microenterprises also follows the same pattern.

Delhi leads all other Union Territories (UTs) in terms of the proportion of MSMEs in general and microenterprises in particular. Micro-enterprises comprised the largest part of MSMEs functioning in India across all states and UTs. Additionally, the states with the highest proportion of small enterprises include Gujarat (15.11 per cent), Uttar Pradesh (10.88 per cent), Madhya Pradesh (9.37 per cent), West Bengal (7.85 per cent), and Kerala (6.34 per cent). The proportion of microenterprises and small enterprises operating in Delhi accounts for 1.47 per cent, and 3.32 per cent, respectively. No medium enterprises were found in Delhi (Table 2.1).

Figure 2.1 presents the distribution of MSMEs engaged in manufacturing activities in Indian states. It represents that all the states have maximum proportion of microenterprises, followed by small and medium enterprises. However, the proportion of small enterprises is much smaller than microenterprises across the states. Only Rajasthan and Haryana accounted for the medium enterprises with 0.01 per cent and 0.02 per cent, respectively, in 2015-16.

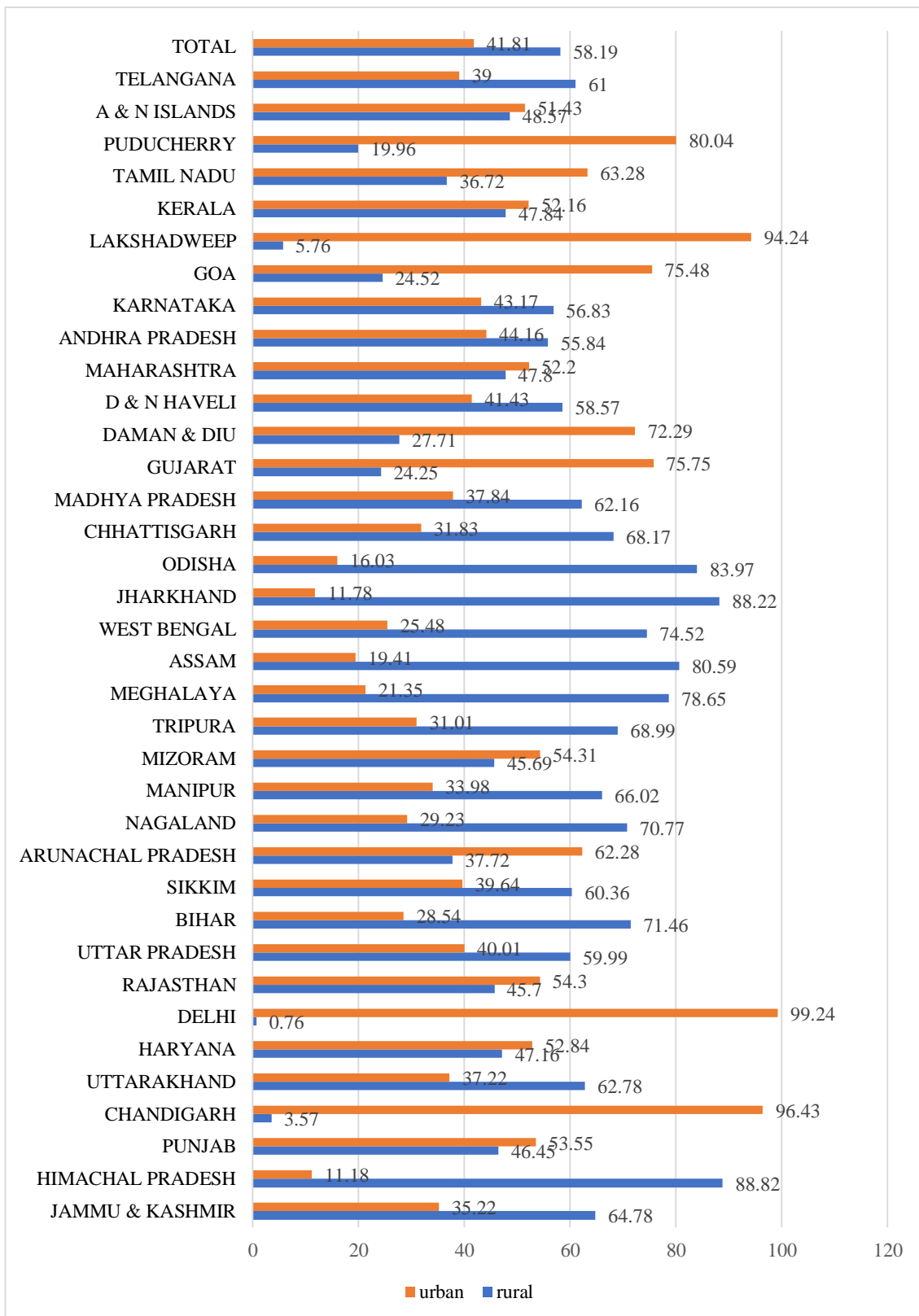
Figure 2.2 reveals about the sectoral distribution of manufacturing microenterprises set up in different states. The microenterprises engaged in manufacturing activities operating in rural areas of India are higher (58 per cent) than urban areas with 42 per cent. The top five states having large numbers of manufacturing microenterprises in rural areas are Himachal Pradesh (88.82 per cent), Jharkhand (88.22 per cent), Orissa (83.97 per cent), Assam (80.41 per cent), and Meghalaya (78.68 per cent). Delhi has very low proportion of microenterprises (0.76 per cent) operating in rural areas against their counterpart urban microenterprises (99.24 per cent).

Figure 2.1: Distribution of micro, small and medium enterprises (MSMEs) engaged in manufacturing activities in Indian states, 2015-16. (Per cent)



Source: Unit Level Data of NSS, 73rd Round, 2015-16.

Figure 2.2: Sector-wise distribution of microenterprises engaged in manufacturing activities in Indian states, 2015-16. (per cent)



Source: Unit Level Data of NSS, 73rd Round, 2015-16.

Table 2.2: Number of manufacturing MSMEs in Delhi and India, 2005-06 and 2015-16.

(in lakhs)

MSMEs	2005-06		2015-16		CAGR (2005-06 and 2015-16) (per cent)	
	Delhi	India	Delhi	India	Delhi	India
Micro	0.96 (99.40)	170.60 (99.96)	1.78 (98.48)	195.83 (99.67)	6.29	1.39
Small	0.006 (0.60)	0.07 (0.04)	0.02 (1.52)	0.65 (0.33)	16.82	24.95
Medium	0.00 (0.00)	0.0003 (0.00)	0.00 (0.00)	0.0007 (0.001)	0.00	9.38
Overall	0.97 (100)	170.68 (100)	1.81 (100)	196.49 (100)	6.39	8.18

Source: Unit Level Data of NSS, 62nd and 73rd Rounds for the years 2005-06 and 2015-16 respectively. Percentages are given in the parentheses.

Table 2.2 shows an increase in the absolute number of MSMEs set up in the manufacturing sector in Delhi and over all India. The proportion of microenterprises is the highest among all MSMEs operating in Delhi and also at all India level. This may be due to microenterprises initial capital to start an enterprises than small and medium enterprises. It also shows that medium enterprises have disappeared from Delhi and a negligible proportion in India. This may be due to multiple or complex labour laws and industrial laws in India (Rijkers, 2010).

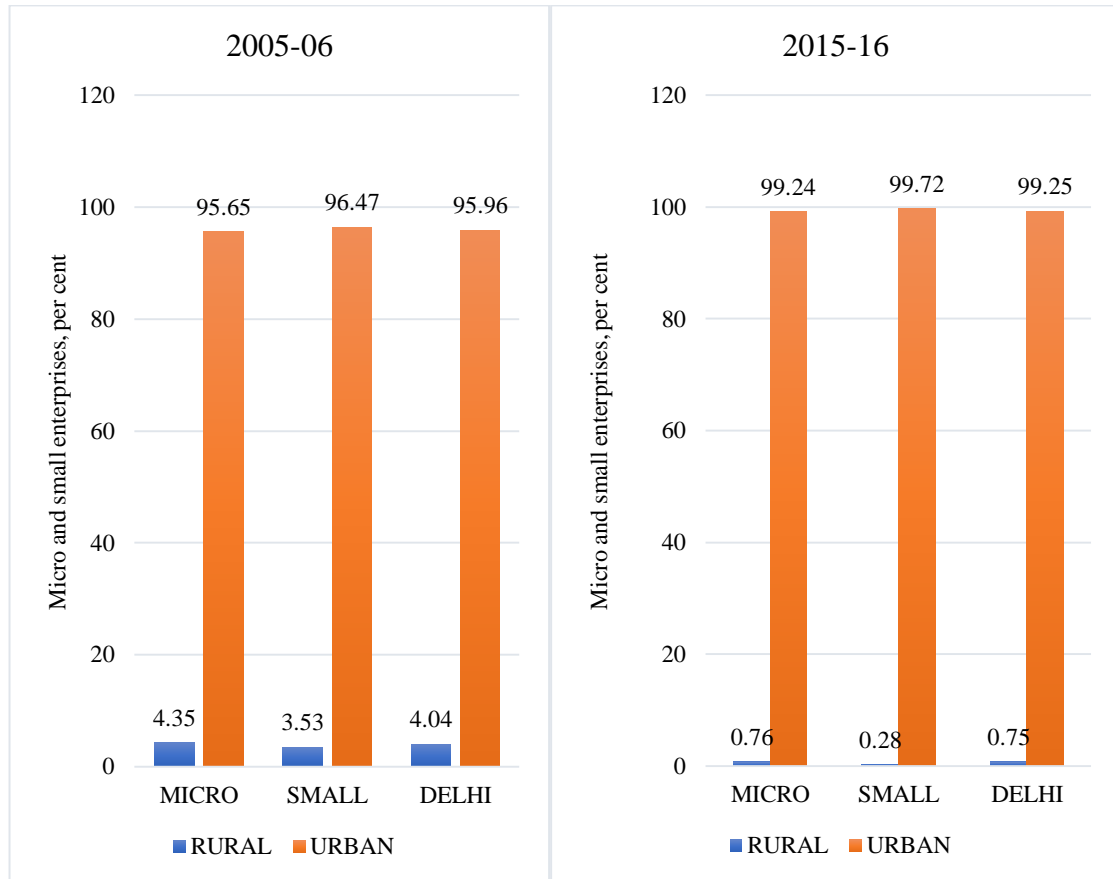
This chapter focuses on micro and small enterprises operating in Delhi. The compound annual growth rate in numbers of MSEs or MSMEs was 6.39 per cent in Delhi and 8.18 per cent in India between 2005-06 and 2015-16. However, the growth in small enterprises was higher at 16.82 per cent than microenterprises at 6.29 per cent in Delhi.

A comprehensive analysis of microenterprises in relation to growth of small enterprises has been made here. For this purpose, the study has examined the distribution of MSEs in Delhi by sectors, nature of the operation, location of enterprises, the status of enterprises, the informality of enterprises, types of enterprises, number of employees, capital and worker's productivity per enterprise, and capital-labour ratio per enterprise.

Figure 2.3: Distribution of micro and small enterprises (MSEs) by sector in Delhi, 2005-06 and 2015-16. (per cent)

Panel (a)

Panel (b)



Source: Unit Level Data of NSS, 62nd and 73rd Rounds for the years 2005-06 and 2015-16 respectively.

Figure 2.3 panel (a and b) provides the sector-wise per cent distribution of MSEs in Delhi. Among all MSEs, it is found that the proportion of MSEs set up in the urban area is greater (95.96 per cent in 2005-06 and 99.25 in 2015-16 per cent) than in the rural area (4.04 per cent in 2005-06 and 0.75 per cent in 2015-16). Similarly, the proportion of microenterprises in the urban area (95.65 per cent in 2005-06 and 99.24 per cent in 2015-16) is higher than in the rural area (4.35 per cent in 2005-06 and 0.76 per cent in 2015-16). Whereas, for small enterprises, urban areas also remain higher (96.47 per cent in 2005-06 and 99.72 per cent in 2005-06) than rural areas (3.53 per cent in 2005-06 and 0.28 per cent in 2005-06). However, the area occupied by microenterprises in the urban area increased in 2015-16. The variations in infrastructural standards, finance availability, and transportation expenses between

rural and urban areas are responsible for concentration of microenterprises in urban areas of Delhi (Rijkers, 2010)

2.3 Characteristics of MSEs in Delhi

Micro and small enterprises (MSEs) are of great socio-economic significance (Abor et al., 2010). Enterprise's performance is effected positively or negatively by the specific enterprise characteristics. Table 2.3 provides some crucial characteristics of micro and small enterprises at the macro level in Delhi. Both micro (99.43 per cent in 2005-06 and 97.08 per cent in 2015-16) and small enterprises (100 per cent in 2005-06 and 99.75 per cent in 2015-16) are highly perennial in nature implying that these enterprises are more stable in their operation. Moreover, the proportion of micro and small enterprises running outside the household is also more prominent than enterprises operating within the household.

Table 2.3 also reveals that microenterprises were less formal than small enterprises while the proportion of formal microenterprises increased and formal small enterprises decreased between 2005-06 and 2015-16. Overall, the proportion of formal MSEs increased from 9.11 per cent to 23.37 per cent between 2005-06 and 2015-16. This may be due to India's labour laws and regulations that are quite complex for enterprises Panagariya (2013). Some of them are the Trade Union Act which comes into effect when any company has seven employees instead of six. Similarly, the Factories Act (1948)¹² that go into effect when this number increases from nine to ten, and the Employees Provident Fund Act (1952)⁴ comes into effect when enterprise employ 19–20 people, and the Industrial Disputes Act (1947) comes into effect when an enterprise employ 99–100 people. According to the Industrial Disputes Act (1947), if a manufacturing company employs 100 or more people, it is illegal to fire any of them without the state's prior consent and under no circumstances⁵.

Among the types of enterprises, a large number of micro and small enterprises were categorised as the establishment (NDME and DME), accounting for 81.53 per cent and 100 per cent respectively, in 2005-06, which reduced to 63.95 per cent and 97.71 per cent in 2015-16. Although few are run by their owner (OAEs), their proportion for micro and small enterprises increased in 2015-16.

⁴ https://www.epfindia.gov.in/site_docs/PDFs/Downloads_PDFs/EPFSScheme.pdf

⁵ https://ncib.in/pdf/ncib_pdf/Labour%20Act.pdf

Table 2.3: Characteristics of micro and small enterprises (MSEs) in Delhi, 2005-06 and 2015-16. (per cent)

Characteristics of MSEs	2005-06			2015-16		
	Micro	Small	Total	Micro	Small	Total
Nature of operation (only perennial)	99.43	100	99.77	97.08	99.75	97.12
Location (outside household)	66.17	100	66.37	69.23	99.60	69.69
Expansion status (in last 3 years prior to respective study years)	9.13	93.63	9.64	16.64	35.34	16.94
Formal enterprises ⁶	8.60	94.04	9.11	22.66	69.72	23.37
Types of enterprises						
OAE ⁷	18.47	0.00	18.36	36.05	2.29	35.54
Establishment (NDME ⁸ +DME ⁹)	81.53	100	81.64	63.95	97.71	64.46
Assistance received from government	13.19	98.27	13.7	0.09	0.00	0.09
Loan taken	15.76	54.00	15.98	8.29	9.85	8.31
Status of contractual work	52.01	2.11	51.71	37.25	19.80	36.99
Social group						
ST	-	-	-	0.77	0.00	0.76
SC	-	-	-	8.79	3.55	8.71
OBC	-	-	-	32.99	7.35	32.61
Others	-	-	-	55.25	88.9	55.76
Not known	-	-	-	2.19	0.20	2.16
Worker's productivity ¹⁰ (GVA per worker in thousands)	6.9	87.0	94.0	14.4	28.9	43.3
Capital productivity (GVA per capital in rupees)	0.139	0.084	0.223	0.031	0.029	0.060
Capital labour Ratio*** (capital per worker in lakhs)	0.49	10.32	10.81	4.60	10.01	4.61
Total number of workers in lakhs (percentage)	4.49 (98.65)	0.06 (1.34)	4.54 (100)	6.73 (94.57)	0.37 (5.43)	6.74 (100)

Note: *** total fixed assets owner / total number of workers employed. - data not available

Source: Unit Level Data of NSS, 62nd and 73rd Rounds for the years 2005-06 and 2015-16 respectively.

⁶ Enterprise registered under any act.

⁷ An enterprise, which is run usually without the help of any hired worker employed on a fairly regular basis, is defined as an Own Account Enterprise (OAE).

⁸ An establishment (i.e., enterprise with at least one hired worker) which employs less than six workers (hired and household - taken together) on a fairly regular basis, is defined as a Non-Directory Establishment (NDE).

⁹ An establishment which employs six or more workers (hired and household - taken together) on a fairly regular basis is called a Directory Establishment (DE).

¹⁰ Worker's productivity: GVA per employee = total GVA of total microenterprises/ total no. of workers.

Credit and banks play a significant role in economic development. Credit enables the entrepreneur to purchase raw material which is required for accomplishing new experiments and innovations. Thus, credit creation becomes essential to the development model (McPherson, 1996). Table 2.3 depicts that overall, MSEs are less exposed to accessing assistance from the government; their proportion reduced from 13.7 per cent in 2005-06 per cent to 0.09 per cent in 2015-16. It is also found that micro-enterprises are less active in accessing assistance from the government; their proportion reduced from 13.19 per cent in 2005-06 to 0.09 per cent in 2015-16. While small enterprises were found to be highly dependent on government assistance, 98.27 per cent in 2005-06, their proportion reduced to zero per cent in 2015-16.

Similarly, among all MSEs, few microenterprises have taken credit from financial and non-financial institutions. Out of that, the proportion of microenterprises that have taken credit (15.76 per cent in 2005-06 and 8.29 per cent in 2015-16) remains less than small enterprises (98.27 per cent in 2005-06 and 0.00 per cent in 2015-16). On the other hand, total of all MSEs were discovered to be more contractual in 2005–06 (51 per cent), whereas their proportion decreased in 2015–16 (37 per cent). Similar results can be seen for micro-enterprises and their percentage decreased, while that of small enterprises rose in 2015–16.

Table 2.3 also reveals that compared to small enterprises, presence of entrepreneurship is more common among backward social groups, such as OBCs, followed by SCs and STs in 2015-16. However, large proportion of owners of small enterprises were highly visible among others category of social groups. Kumari et al., (2012) pointed a similar evidence on ownership of enterprises by different social groups.

Productivity among employees can be measured to evaluate an enterprise's success. Worker's productivity¹¹ has a significant impact on profitability. Workers' productivity demonstrates how much output each employee produces for a firm (Goldar, 1986; Asio, 2021). It can be seen that workers employed in micro-enterprises were less productive in 2005-06 and 2015-16 than those in small enterprises. This shows that employees in microenterprises produce less than those employed in small enterprises. Unlike, in 2005-06 and 2015-16, microenterprises continued to have higher capital

¹¹ The labour productivity is calculated by dividing total output to total number of employees.

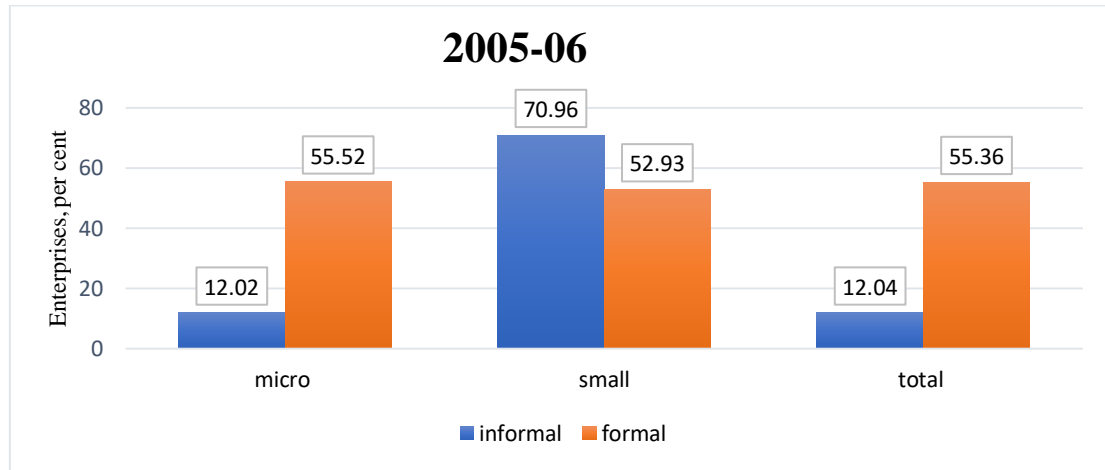
productivity¹² than small enterprises. It indicates that per rupee fixed assets owned (capital) produced more in microenterprises than small enterprises. This claim is consistent with the research by UNIDO (1969) that found small firms often have higher capital productivity than larger enterprises, whereas it is supported by Majumdar (1997), who discovered that larger Indian enterprises are less productive than smaller ones. It has also been demonstrated that microenterprises employ more labour than small enterprises. Microenterprises, as opposed to small enterprises, provide more employment opportunities at cheaper costs, which aids in developing the industrial sector.

The capital-labour ratio measures the amount of capital per employee. For every unit of labour employed the amount of capital employed is measured. In this study, the capital-labour ratio is calculated as total fixed assets owned to total labour employed in the enterprises. A firm is known as capital intensive if it has higher capital-labour ratio than others. Whereas a firm or country is said to be labour-intensive if it has lower capital-labour ratio than others (Vechkanov, 1984). Hence, the analysis reveals that microenterprises were found to be labour-intensive, whereas small enterprises were capital-intensive in 2005-06. And in 2015-16, microenterprises accounted lower capital-labour ratio than small enterprises. It indicates that small enterprises may invest more capital or fixed assets to operate the enterprises compared to labour costs to generate the higher revenue and profit. On the contrary, microenterprises were found to be labour-intensive implying that microenterprises were spending on training labour with a hope to increase the efficiency of labour or labour productivity which result in increased production. Therefore, it concludes that small enterprises spend higher capital (fixed assets) per employee between 2005-06 and 2015-16.

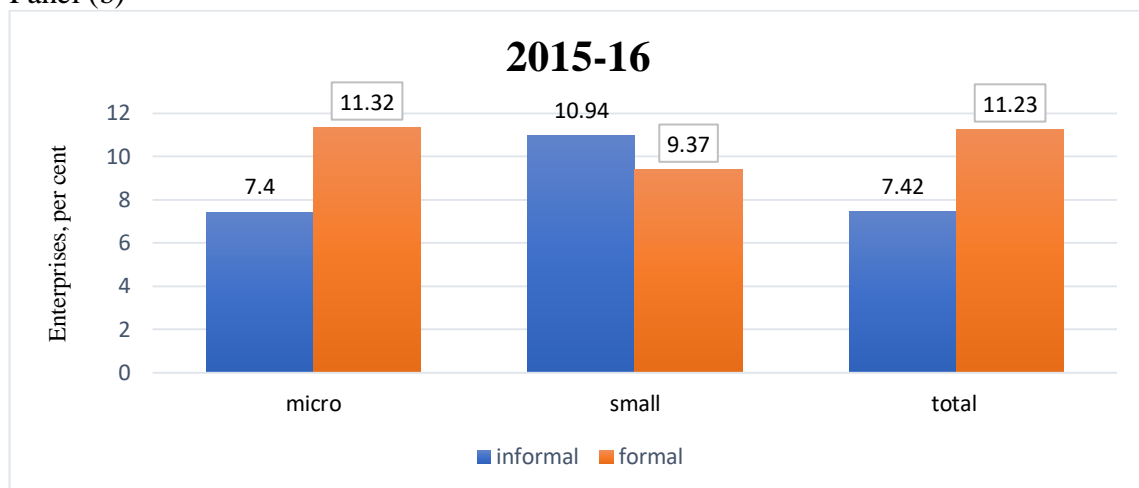
¹² The capital productivity is estimated by dividing total output to total fixed assets.

Figure 2.4 Status of formal and informal MSEs in accessing credit, 2005-06 and 2015-16.

Panel (a)



Panel (b)



Source: Unit Level Data of NSS, 62nd and 73rd Rounds for the years 2005-06 and 2015-16 respectively.

Figure 2.4 displays the credit status for formal (registered) and informal (unregistered) micro and small enterprises for 2005-06 and 2015-16. It can be seen that formal MSEs are more likely to access credit from formal institutional sources. Informal enterprises have more constraints in accessing credit than formal enterprises do. The primary advantage of registration is access to finance because it offers formal MSEs credit guarantees (Bardasi et al., 2011). Hence, formal micro and small enterprises take a large percentage of credit than informal micro and small enterprises in 2005-06 and 2015-16.

Table 2.4: Structure of micro and small enterprises (MSEs) in Delhi, 2005-06 and 2015-16. (in lakhs)

	2005-06			2015-16		
	Micro Enterprises	Small Enterprises	Total Enterprises	Micro Enterprises	Small Enterprises	Total Enterprises
Size of firms	0.96 (99.40)	0.006 (0.60)	0.97 (100)	1.78 (98.48)	2.75 (1.52)	1.81 (100)
No. of women owned enterprises	0.10 (99.98)	0.00002 (0.02)	0.10 (100)	0.14 (100)	0.00 (0)	0.14 (100)
Total employment	4.49 (98.68)	0.06 (1.32)	4.55 (100)	6.73 (94.57)	0.38 (5.43)	7.11 (100)
Total employment per enterprises (in numbers)	5	11	16	4	14	18
No. of women employed in women owned micro enterprises*	0.14 (99.96)	0.00006 (0.04)	0.014 (100)	0.17 (100)	0.00 (0.00)	0.17 (100)
Total fixed Assets owned per enterprises	2.31 (2.087)	108.43 (97.91)	110.74 (100)	17.37 (10.99)	140.67 (88.01)	158.04 (100)
Total Gross Value Added Per enterprise	0.32 (3.36)	9.20 (96.62)	9.53 (100)	0.54 (11.71)	4.07 (88.29)	4.61 (100)

Note: Percentages are given in the parentheses; *number of women employed in women-owned microenterprises is proportion of women employed in women-owned microenterprises.
Source: Unit Level Data of NSS, 62nd and 73rd Rounds for the years 2005-06 and 2015-16 respectively.

Table 2.4 presents the structure of micro enterprises and small enterprises in Delhi. It demonstrates that manufacturing microenterprises were more common than manufacturing small enterprises in 2005-06 and 2015-16, and their numbers have grown over time. Compared to small enterprises, microenterprises have a higher percentage of female entrepreneurs, which has risen over time (Meresa, 2018). However, compared to small enterprises, the total number of employees employed in micro-enterprises was found to be higher. This may be due to the proportion of microenterprises being higher among total MSEs in Delhi. Nevertheless, small enterprises employ more workers per enterprise than micro-enterprises.

Furthermore, more women are working in the microenterprises run by women than in small enterprises run by women. Microenterprises employed lower total fixed assets per enterprise in 2005-06 and 2015-16; however, their proportion increased in 2015-16. Similarly, total gross value added per enterprise also found lower in microenterprises than in small enterprises in 2005-06 and 2015-16.

2.4 Analysis of the performance of MSEs in Delhi

Enterprise performance is impacted by a firm's growth in several ways. The key characteristics of a large enterprises are its wide range of skills, its capacity to make full use of economies of scale and scope, and the formalisation of processes. Due to these features, operations are carried out very effectively, enabling larger enterprises to function better than smaller ones (Penrose, 1959). Alternately, size and monopoly power are connected (Shepherd, 1986), and as a result, marked-up power inefficiencies have developed, resulting in substantially worse performance (Leibenstein, 1976). Additionally, the performance of an enterprise is frequently seen to be directly influenced by issues internal to the enterprise.

In this section, the enterprises' gross revenue is used as the main indicator to measure the enterprises' performance. A firm's gross revenue implies the value of output generated by all enterprises' operations after deductions of intermediary consumption (Khalife et al., 2013). Researchers or entrepreneurs typically use gross revenue to estimate the success or performance of their enterprises. Also, enterprise's profitability is measured by its most crucial measure that is gross revenue because for any enterprise generating profits is its first priority.

This section employs a number of indicators to measure their impact on the performance of micro-enterprises and small-enterprises in Delhi. To analyse the performance of microenterprises and small enterprises in Delhi, it used data at the enterprise level and the Cobb-Douglas production function. Numerous studies on productivity (Banker et al., 2008; Pendharkar et al. 2008)., economics (Meeusen et al., 1977; Dennis et al. 2010), and the advancement of technology have utilised the Cobb-Douglas production function (equation 2.1) (Cobb and Douglas 1928; Varian 1992).

$$Y = A L^{\alpha} K^{\beta} \dots\dots\dots(2.1)$$

Where Y is output; L is labour input; K is the capital input; A is the technology; α and β are the labour output elasticity and capital output elasticity respectively. The range of the output elasticity of labour and capital lease between 0 to 1 that is $0 < \alpha < 1$ and $0 < \beta < 1$. In Particular, Cobb-Douglas production function show the technical relationship between output and inputs. It can be used to explain many types of production activities.

The responsiveness of output to a change in the amount of labour or capital utilised in production is measured by output-input elasticity. In other words, a change in the amount of labour or capital utilised in production will affect how responsive the output is measured by output-input elasticity.

Sometimes the term has a more narrowly defined meaning that calls for the function to exhibit constant returns to scale, which means that use of labour is doubled and capital K will result in a doubling of output Y. This holds if $\alpha + \beta = 1$. Given that returns to scale are declining, increasing labour and capital inputs will have a smaller overall impact on output growth. This is true if $\alpha + \beta < 1$. And in the case of increasing returns to scale the condition hold if $\alpha + \beta > 1$, which implies that greater labour and capital inputs will result in larger percentage increases in production.

However, to analyse the micro enterprises and small enterprises performances, the gross value added (taken to measure performance) regressed on total fixed assets owned by entrepreneurs, total emolument paid to labour employed, raw material used to operate the enterprises and credit (loan) taken by entrepreneurs. A similar approach

was used by Bardasi et al., (2011). The Cobb-Douglas production function (adopted from Rijkers et al., 2010).

A general production function can be written as : $Q = f(K, L, R, C)$

The Cobb-Douglas production function in logarithmic form is given as follows.

$$\log Q = \beta_0 + \beta_1 \log K + \beta_2 \log L + \beta_3 \log R + \beta_4 \log C + u_1 \dots \dots \dots (2.2)$$

Where Q is the Gross value added, K is the total fixed assets owned by entrepreneurs, L is the total emolument paid to labour employed, R is the total value of raw material used to produce commodities in the enterprises, C is total credit taken by entrepreneurs, and u_1 is the normally distributed error term with zero mean and assumed not to be correlated with the independent variables in the model. $\beta_1, \beta_2, \beta_3,$ and β_4 are the output-elasticity coefficient of fixed assets, labour, raw material, and credit, respectively. A separate model has been estimated for microenterprises and small enterprises engaged in manufacturing activities in Delhi.

It is important to select an accurate parameter estimation technique to calculate input-output elasticities with reliability and then calculate the contribution rates of each input factors. Regression analysis is the most popular technique for estimating input-output elasticity coefficients in the Cobb-Douglas production function. It is generally important to take the logarithms at both ends of the Cobb-Douglas production function and change it into a linear function before applying the regression analysis approach to estimate output elasticity coefficients. However, input-output elasticities obtained by the regression analysis might not be favourable or may be negative. Additionally, because input-output elasticities are calculated using a regression analysis method. Thus, the result must be verified and may fail a test to determine their significance.

Table 2.5 reveals that all the inputs are positively associated with the GVA of micro and small enterprises except fixed assets and raw materials in case of small enterprises in 2005-06 and credit input in 2015-16. A positive relation shows that inputs positively contribute to the enterprises' output, whereas negative relation shows excessive use of inputs does not contribute to the output.

Table 2.5: Regression results on performance of micro and small enterprises (MSEs), 2005-06 and 2015-16.

Log GVA	2005-06		2015-16	
	Micro enterprises	Small enterprises	Micro enterprises	Small enterprises
Log labour Emolument	0.23*** (0.001)	0.24*** (0.015)	0.13*** (0.0004)	0.29*** (0.006)
Log fixed assets	0.014*** (0.002)	-0.98*** (0.03)	0.03*** (0.0008)	0.25*** (0.006)
Log raw material	0.05*** (0.001)	-0.09*** (0.0038)	0.06*** (0.0006)	0.33*** (0.003)
Log credit	0.07*** (0.0006)	0.30*** (0.0057)	0.014*** (0.0006)	-0.04*** (0.0017)
Constant	7.267 (0.014)	24.339 (0.7628)	8.579 (0.011)	0.700 (0.0896)
R-squared	0.7084	0.9967	0.5456	0.911
Observations	96894	580	177903	2711
F value	58848.86	43544.17	53434.81	6950.82
Probability	(0.0000)	(0.0000)	(0.0000)	(0.0000)

Note: ***1 per cent level of significance, **5 per cent level of significance, *10 per cent level of significance.

Source: Unit Level Data of NSS, 62nd and 73rd Rounds for the years 2005-06 and 2015-16 respectively.

Table 2.6 shows the results of post estimation test (white test) for the presence of heteroskedasticity. In the white test, OLS is run to estimate the parameters of the model and then \hat{u} and \hat{y} is obtained. Thereafter, \hat{u}^2 and \hat{y}^2 are estimated. If the null is rejected, heteroscedasticity is present. Then, \hat{u}^2 is regressed on \hat{y} , \hat{y}^2 . The null hypothesis is whether the parameters of \hat{u}^2 and \hat{y}^2 are equal to zero. Heteroscedasticity is present if the null hypothesis is rejected. The result of white test (post estimation test) illustrates that the micro-enterprises and small enterprises' performance analysis for the years 2005-06 and 2015-16 shows heteroskedasticity problem except for small enterprises for the year 2005-06. Since, error term is heteroscedastic, this violates the ordinary least square assumption that the deviation of the random error term is constant.

Table 2.6: Results of white test (post estimation) analysis for micro and small enterprises (MSEs), 2005-06 and 2015-16.

Source	2005-06		2015-16	
	Micro enterprises	Small enterprises	Micro enterprises	Small Enterprises
Heteroskedasticity	91.13***	7.00	36.02***	13.87
Skewness	29.80	6.19	13.26	3.94
Kurtosis	5.26	0.05	3.72	0.73
chi2(14)	91.13***	7.00	36.02***	13.87
Prob > chi2	0.00	0.3208	0.0010	0.4593

Note: white's test for Ho: homoskedasticity; against Ha: unrestricted heteroskedasticity; ***1 per cent level of significance, **5 per cent level of significance, *10 per cent level of significance. Source: Unit Level Data of NSS, 62nd and 73rd Rounds for the years 2005-06 and 2015-16 respectively.

To fix the problem of heteroskedasticity, both the input and output variables were transformed. These variables were transformed as emoluments paid per enterprise, raw materials per enterprise, fixed assets per enterprise, credit per enterprise and gross value added (GVA) per enterprise. Afterwards, the weighted least squares (WLS) method was applied instead of the ordinary least square method to deal with the heteroskedasticity problem. According to Wooldridge (2002), if the model specification is correct, both OLS and WLS methods are consistent, but WLS method is efficient.

Weighted least squares method can be used when the linear regression assumption of constant variance in the error is violated (which is called heteroskedasticity). Heteroskedasticity invalidates the Gauss-Markov theorem, which states that among the linear unbiased estimators, an estimator is called efficient or best if it has minimum variance. If the deviation of the error term is non-constant, the OLS estimators are no longer BLUE (Wooldridge, 2002).

So how do we move forward? The traditional method is to test for heteroskedasticity and then attempt to model it if heteroskedasticity is there. We can introduce modified least squares estimators (known as weighted least squares) that recapture some of the advantages that OLS had in a homoscedastic context.

The widely used method for compensating for non-constant error variance is weighted least squares. By providing each observation a specific weight, heteroskedasticity can be eliminated. This specific weight is the square root of the inverse of the error variance of the observations. The main purpose is that observations with a high error variance are given less weight. This compels error term (residual) variance to remain constant. The broader class of Generalised Least Squares (GLS) estimators includes weighted least squares (WLS) method as an example. Aitken first proposed this concept in 1935.

Taking the equation 2.2 and divide it by number of enterprises (N).

$$\log (Q/N) = \beta_0 + \beta_1 \log (K/N) + \beta_2 \log (L/N) + \beta_3 \log (R/N) + \beta_4 \log (C/N) + u_i \dots \dots \dots (2.3)$$

In equation (2.2), we transformed the input and output variables into per enterprises basis. Where Q/N is the Gross value added per enterprise, K/N is the total fixed assets owned per enterprise, L/N is the total emolument paid per enterprise, R/N is the total value of raw material owned per enterprise, C/N is credit taken per enterprise, and u_i is the normally distributed error term with zero mean and assumed not to be correlated with the independent variables in the model. β_1 , β_2 , β_3 , and β_4 are the output-elasticity of fixed assets per enterprise, labour emoluments per enterprise, raw material per enterprise, and credit per enterprise, respectively. After transforming the input and output variables, we take the logarithm on both sides in equation (2.2) and applied the weighted least squares (WLS) method to regression equation (2.2) to analyse the performance of micro and small enterprises.

Table 2.7 presents production functions estimation on separate samples of micro-enterprises and small enterprises for the year 2005-06 and 2015-16. The significance of the F value indicates the overall significance of the model that all the inputs significantly influenced the performance of micro-enterprises and performance of small

enterprises in Delhi in 2005-06 and 2015-16. The coefficient of determination (R^2) indicates that the overall goodness of fit was relatively high for small enterprises than microenterprises, indicating that fixed assets, labour emolument, raw material, and credit can better explain the changes in GVA in small enterprises than microenterprises in 2005-06 and 2015-16.

Table 2.7: Results of weighted least squares method on performance of micro and small enterprises, 2005-06 and 2015-16.

Log gross value added per enterprise	2005-06		2015-16	
	Micro enterprises	Small enterprises	Micro enterprises	Small enterprises
Log emolument per enterprise	0.223*** (0.001)	0.768*** (0.012)	0.154*** (0.0004)	0.291*** (0.006)
Log fixed assets per enterprise	0.047*** (0.002)	0.379*** (0.029)	0.007*** (0.0008)	0.247*** (0.0054)
Log raw material per enterprise	-0.208*** (0.001)	0.134*** (0.031)	0.234*** (0.0006)	0.343*** (0.004)
Log Credit per enterprise	0.039*** (0.001)	0.091*** (0.008)	-0.029*** (0.0006)	-0.054*** (0.0019)
Constant	20.38 (0.053)	-8.02 (1.618)	17.97 (0.0210)	1.99 (0.1779)
R-squared	0.7352	0.9916	0.7636	0.9627
Observations	96894	580	177903	2711
F value	67239.95	16993.86	84611.41	17471.62
Probability	(0.0000)	(0.0000)	(0.0000)	(0.0000)

Note: ***1 per cent level of significance, **5 per cent level of significance, *10 per cent level of significance.

Source: Unit Level Data of NSS, 62nd and 73rd Rounds for the years 2005-06 and 2015-16 respectively.

As per the estimation for the years 2005-06, all of the outputs with respect to their inputs elasticity aside credit are positively correlated with GVA for both small and microenterprises. Regarding the microenterprises, the estimated output elasticity of labour indicates that an increase of one per cent in the emoluments provided to employees of microenterprises increases GVA by 0.223 per cent. Similarly, the calculated output elasticity of fixed assets shows that the mean value of GVA improves

by 0.047 per cent for one per cent increase in fixed assets possessed by entrepreneurs. The output elasticity of credit depicts that the mean value of GVA grows by 0.039 per cent. Furthermore, the estimated output elasticity of raw material explains that an increase of one per cent in the value of raw material decreases 0.208 per cent of mean value of GVA. Among these four input factors, the output elasticity of labour is higher, which explains that in microenterprises the growth of production is strongly impacted by labour and their production is labour-intensive. Fixed asset input has a definite impact on the growth of production of microenterprises, but with the low conversion rate.

For small enterprises, the computed output elasticity of labour shows that GVA increases by 0.768 per cent for one per cent increase in emoluments paid to employees. According to the estimated output elasticity of fixed assets, the mean value of GVA grows by 0.379 per cent. Following the estimated output elasticity of raw material, the mean value of GVA increases by 0.134 per cent for one per cent increase in the value of raw materials used in production. Moreover, the estimated output elasticity of credit indicates that for one per cent increase in credit taken by entrepreneurs increases the mean value of GVA by 0.091 per cent. These findings show that the labour input is highly influential or highly productive on production in small enterprises and statistically significant at a 1 per cent level of significance. The small enterprises production is labour-intensive.

Additionally, the estimation for the period 2015–16 showed that, except for output elasticity credit in both micro and small enterprises, all output elasticity of labour, fixed assets, raw material have a positive association with GVA. In the microenterprises analysis, with an addition of labour, fixed assets, and raw materials, the mean value of GVA increased by 0.154 per cent, 0.0078 per cent, and 0.234 per cent, respectively. The output elasticity of credit showed the opposite result, indicating that it has negative relationship with GVA. Among these four input factors, the output elasticity of raw material was found to be higher, which indicates that growth of production of microenterprises is greatly impacted by raw material. Labour input has productive and significant impact on the gross value added of microenterprises, but the elasticity rate is lesser than raw material.

Similar findings are seen for small enterprises for the year 2015-16, it demonstrates that except credit, the output elasticity of labour, fixed assets, and raw materials show that the mean value of GVA increases by 0.291 per cent, 0.247 per cent, and 0.343 per cent with an increase in employment, fixed asset and raw material, respectively. Here also, credit has negative association with the GVA. Similar to microenterprises results, the raw material-output elasticity was found higher in small enterprises followed by labour input, which shows that raw material has the largest impact on production growth.

The regression analysis found a statistically significant relationship between the gross value added produced by micro and small enterprises (MSEs) and the fixed assets owned, labour, raw material, and credit taken during 2005-06 and 2015-16.

The analysis reveals that the primary factor contributing to a higher proportion of GVA of micro and small enterprises is the labour input in 2005-06. Inputs such as fixed assets and credit also played significant role whereas raw material was found negatively associated with GVA of microenterprises. Furthermore, raw materials became the primary driver of growth in production for both micro and small enterprises in 2015-16. Similarly, credit has negative relationship with GVA in 2015-16 indicating that taking credit does little to promote the performance of an enterprise.

With respect to all input variables, it is also discovered that small enterprises are performing better than microenterprises. It may be due to expanding an enterprise's size benefits its ability to take advantage of economies of scale and, as a result, increase profitability. Other reasons could be as larger enterprises often have a wider range of talents and skills than smaller ones, which results in superior performance (Majumdar 1997; Penrose 1959; Hall et al., 1967; Ramasamy et al., 2005; Gebreeyesus, 2009; and Whittington, 1980).

The return to scale is a concept that describes changes in output when all components change similarly (Koutsoyiannis, 1979). Returns to scale describe how total output behaves when all inputs are varied (Leibhafsky, 1963). Increasing returns to scale, constant returns to scale, and diminishing returns to scale are the three different types of returns to scale.

The concept of returns to scale is mathematically described in relation to a firm's production function. It is said that, production function is having a constant returns to scale (CRS) if the sum of output elasticity of inputs is equal to one ($\beta_1 + \beta_2 + \beta_3 + \beta_4 = 1$); increasing returns to scale (IRS) if the sum has the value more than one ($\beta_1 + \beta_2 + \beta_3 + \beta_4 > 1$); and decreasing returns to scale (DRS) if the sum has the value lesser than one ($\beta_1 + \beta_2 + \beta_3 + \beta_4 < 1$) (Wang et al., 2021).

Comprehensively, when all production variables expanded, output increases at a higher rate, which is referred to as increasing returns to scale or diminishing cost. When all the production factors together are increased in a certain proportion, output increases in a lesser proportion, a production situation known as diminishing returns or increasing costs. The production scenario where output grows precisely in the same proportion as the increase in the production factors is referred to as having constant returns to scale or constant cost (Murti et al., 1957).

However, the regression analysis shows the sum of output elasticity of labour, fixed assets, raw materials, and credit. It found that small enterprises have a sum of output elasticity of inputs more than one (1.372), indicating increasing returns to scale (IRS), and microenterprises have a sum value lesser than one, that is 0.10, indicating decreasing returns to scale (DRS) in 2005-06. In contrast, both microenterprises (0.36) and small enterprises (0.83) had DRS in 2005-06.

However, as per the regression analysis, microenterprises had DRS between 2005-06 and 2015-16, whereas small enterprises had DRS in 2015-16. It may be due to various reasons. The availability of production factors is limited in the first place. The factor input manufacturers need for production may not be fulfilled with the steady development of their production scale. Even if it is, it may cost a lot of financial resources because of the limits of their geographic location, raw material availability, labour market, and other variables. Second, because of the reduction in large-scale manufacturers' management effectiveness, flaws in internal supervision and control systems, information leakage, and other variables, it is simple to pass up a good decision-making opportunity, leading to a decline in production (Harvey et al., 2017).

In 2005-06, the small enterprises had increasing returns to scale. This may be due to several causes. The first one is the division of labour and labour specialisation. There is scope for industries to create the division of labour and specialisation because high

level of technology is present in current industrial sectors. The division of labour in industrial sectors increases the degree of production specialisation. Specialisation creates the mechanism of increasing returns to scale to increase worker productivity. Second, resource utilisation in current industrial sectors is extensive. Modern industrial sectors prioritise the use of several machines with similar performance while also implementing socialised mass production. As a result, manufacturers can get their machines to work at higher efficiency to create the mechanism of increasing returns to scale. In this situation, there is a low probability that machines will shut down due to operating failures on the one hand and a reduction in costs due to workers receiving standardised training for the same type of work on the other. The third is the interdependence of production components, and due to their interdependence, several production elements can only operate at their fullest potential within a specific range. Manufacturers with larger production volumes may employ these production factors more efficiently than those with smaller volumes, and by increasing production capacity, they can achieve increasing returns to scale. Last, large volume production manufacturers frequently have more bargaining power when it comes to the distribution channels, product transportation, and other issues that allow them to buy raw materials for less cost and have a more vital ability to build distribution channels with lower per-unit distribution costs (Benhabib et al., 1994).

2.5 Summing Up

The micro, small and medium enterprises (MSME) sector in India has grown as dynamic and vibrant sector that plays a crucial role in creating employment opportunities as well as in the industrialization of rural and underdeveloped areas. They are recognised as a driving force behind the Indian economy's expansion. MSMEs are widely scattered throughout India and offer various manufacturers that serve various market segments. They play a critical role in the context of economic growth with equity and eliminating regional disparities due to their global dispersion, a wide range of product offerings, and capacity for innovation and employment generation. Generally, MSMEs constitute the foundation of the Indian economy (Annual Report of MSME, 2021).

Using unit-level data from the 62nd and 73rd rounds of a National Sample Survey, this chapter has examined the structure and performance of MSEs at the macro level in Delhi.

It summarises that the proportion of microenterprises found highest among total MSEs operating in Delhi between 2005-06 and 2015-16. The compound annual growth rate of small enterprises was found higher than microenterprises in Delhi.

The characteristics of micro and small enterprises during 2005-06 and 2015-16 postulates that compared to small enterprises, microenterprises were little perennial in operation, less preferred to operate outside of the household, less expanded, hired more worker, more informal in operating the enterprises, less dependent on credit and government assistance. Microenterprises accounted low capital-labour ratio (labour intensive), low worker's productivity and more capital productivity than small enterprises. The ownership of microenterprises was highly visible in backward social groups (OBCs/ SCs/ STs) whereas ownership of small enterprises was found higher among others category of social group.

The analysis of structure of MSEs in Delhi show that microenterprises found large in terms of absolute numbers, employed large proportion of labour, estimated higher number of female entrepreneurs, employed large proportion of female worker, contributed low GVA per enterprise, required less total fixed asset per enterprise to operate and employ less worker per enterprise than small enterprises in Delhi in 2005-06 and 2015-16.

The performance of microenterprises and small enterprises accounted by total fixed assets owned, total emolument paid, raw materials, and credit. A multiple regression model has been applied to analyse the performance of micro enterprises and small enterprises in Delhi. By demonstrating how such factors affect enterprise performance (gross value added), the comparison between micro and small enterprises' performance helped to explain how their performance varied in 2005-06 and 2015-16. The significant relationship was found between the gross value added of MSEs (micro and small enterprises) and total fixed assets owned, total labour emolument, raw material and credit in the years 2005-06 and 2015-16. Labour emoluments was a major contributing determinant for both micro and small enterprises in 2005-06. In contrast,

raw material became highly productive factor contributing to the performance of both micro enterprises and small enterprises in 2015-16. The performance analysis reveals that small enterprises perform better than microenterprises in terms of fixed assets, emolument paid, raw materials, and credit. The small enterprises had depicted increasing Returns to Scale in 2005-06, while micro and small enterprises in 2015-16 and microenterprises in 2005-06 had shown decreasing returns to scale.

CHAPTER 3
CHARACTERISTICS OF WOMEN-OWNED MICROENTERPRISES
IN DELHI

3.1 Background

The ability of women to access the elements of progress, including education, health, employment opportunities, rights, and political engagement, is defined as women empowerment. In other words, women's empowerment is defined as the participation of women in the economic development (O'Neil et al., 2014). However, the position of women in India depends several factors, including social status and educational attainment. In less developed nations, the topic of women's empowerment is crucial. Even though women are seen as significant members of every society, they play a minor role in economic activity and decision-making. Economic growth and women's empowerment are interconnected (World Bank, 2018). On the one hand, growth alone can significantly reduce gender disparity, while on the other, empowering women can benefit society (Eswari, 2019).

Within the process of economic development, women must be regarded as equal partners. For a community or nation to see overall economic success, women must experience social and economic advancement. However, they continued to receive ill-treatment due to centuries of abuse and slavery. The majority of women in India have been left out. Despite making up an equal share of the population and labour force, they are no longer actively participating in development (World Bank, 2018). Females often have the best chance of surviving in their families, but they typically receive little attention and are put at the bottom of the food chain (Jayachandran, 2015).

The female population as an independent account for 586.46 million and constitute 48.46 per cent of India's population (Population Census, 2011). The importance of entrepreneurial development skills has expanded in today's ever-changing world. Numerous business opportunities are emerging in various industries, including electronics, computer systems, food technology, agribusiness, pharmaceuticals, fashion design and many others. Women's business ownership is acknowledged as an economic growth engine. The long-term advancement of gender equity occurs when entrepreneurship is acknowledged as crucial to global economic growth and sustainability (Wong, 2012). It is crucial to allow women, who make up half of the

global population and represent the workforce, to participate constructively in the economic activities in their nation or region despite the global employment difficulties (Cooney, 2012).

Conversely, in many emerging nations, female entrepreneurs have not received the same support when starting their enterprises (Roomi et al., 2008a and 2008b). Despite their sustainable contributions to GDP (Kelley et al., 2010) and the eradication of poverty, women entrepreneurs in emerging economies have sadly received far less attention (Khan, 2014). Comparing the success of enterprises owned by men, women entrepreneurship received less research attention, making it a crucial issue that needs to be looked into.

The fundamental qualities needed for entrepreneurs and the fundamental traits of Indian women reveal that the majority of Indian women have a lot of potential in terms of their entrepreneurial capacity. Therefore, Indian women entrepreneurs are making more money than women everywhere else in the world (OECD, 2004). This potential must be understood, recognised, unlocked, and used in the manufacturing and service sectors to advance the state. The strengths of female entrepreneurs in India include their aptitude for picking up new skills quickly, their persuasiveness, their open-minded approach to problem-solving, their readiness to take chances and risks, their capacity to inspire people, and their understanding of how to win and lose courteously. A fundamental component of strategies that enable economies to benefit from the skills, creativity, vigour, and productivity increment that women bring to the labour market is the development of entrepreneurship (Global Entrepreneurship Monitor, 2015).

Due to their great drive, traits, and abilities for strong economic development, women are now recognised as successful business owners as women have made such a significant contribution to economic development. Women's entrepreneurship is a developing phenomenon around the world that has received some research attention in recent years (Henry et al, 2016). It contributes to economies not only in terms of economic growth and job creation (Bosma et al., 2010). However, it is also a source of developing entrepreneurial types in various economic environments (Verheul et al., 2006). As such, it is a crucial focal point for concerted scholarly research.

According to a comparative study, the major drivers for female entrepreneurs are the desire to work independently, management and decision-making flexibility, and social

acceptance (Sadi et al. 2012). Consider how support from their families, education, and encouragement have benefited female entrepreneurs (Terjesen et al. 2015). Push factors have traditionally outweighed pull factors in encouraging women to start enterprises. The drive for success and independence, self-fulfilment, and social status operate as pull aspects, while financial recessions, financial reasons, and job discontent act as push elements (Itani et al. 2009; Sarri et al., 2005). While Ganesan et al. (2002) identify a few more drivers, including the desire to rise in high status, provide work for others, fulfil family needs, and receive encouragement from friends.

Women entrepreneurship, women employment and effective labour market engagement are crucial for the general socio-economic development of the nation in light of India's dropping female labour force participation rate and rising informalisation of the economy (UNIDO Gender, 2014). India currently has the lowest rate of female labour force participation (LFPR) of any country in the world, dropping from 31.2 per cent in 2011- 2012 to 23.3 per cent in 2017- 2018. (Economic Survey, 2019-20). However, women's participation in entrepreneurship and innovation are complex issues in emerging nations. While women dominate household chores and unpaid caregiving in these nations, their economic contributions go unnoticed. The National Sample Survey Office (NSSO) data surveys reveal a decline in the percentage of women participating in the labour force, a concentration of women in vulnerable occupations, an increase in the informalization of the labour force, and a rise in entrepreneurship in India. For policymakers, all of these provide significant challenges, making it vital to emphasise economic development and women's economic empowerment (Franzke et al., 2022).

Given this context, encouraging women's entrepreneurship to ensure India's economic empowerment continues to be a concern for policymakers. Gender disparities in labour force participation highlight a significant loss in incomes and economic growth. Those with the largest disparities suffer losses of up to 30 per cent of GDP per annum (Global Employment Trends, 2014).

According to the research on the Global Entrepreneurship Monitor (GEM, 2015), entrepreneurs benefit all of their stakeholders, including workers, investors, suppliers, and the organisations they collaborate with, in addition to creating jobs for themselves. They advance their society through bringing forward inventions that improve people's quality of life, solving social issues, and starting new industries. Also, they frequently

engage in paid work out of necessity rather than a desire to start their own business or create jobs, and they wish to continue to be self-employed. According to the Global Entrepreneurship and Development Institute's estimates, India is ranked 70th out of 77 countries in the globe overall in the Global Female Entrepreneurship Index (GFEI) (FEI 2015 in Terjesen et al., 2015).

Therefore, the question arises that whether women in countries like India choose entrepreneurship out of preference or necessity?. Such complex query highlight the requirement for in-depth investigation into the issue of women's empowerment through entrepreneurship development. Recently growing research on women's entrepreneurship has focused on the performance gap between male entrepreneurs and female entrepreneurs, which has simply added that if such gender discrimination exist, it will signal that countries are no longer utilising their physical and human capital effectively instead it will have negative repercussions for the country's boom potential (Bardasi et al, 2011).

There exists diverse perspectives on the relationship between characteristics of male-owned and female-owned microenterprises and their performance. Moreover, not much literature is available on this subject in developing countries like India, particularly Delhi. Against the above background, the present chapter analyses the characteristics of women owned microenterprises at firm level in terms of numbers of units, employment, capital, sources of finance and gross value added (GVA) and the constraints they face while opting for entrepreneurial activities. The present chapter has used data from Unorganised Manufacturing Enterprises Survey, 2005-06; and, Unincorporated Non-Agricultural Enterprises (Excluding Construction), 2015-16 published by National Sample Survey Organisation (NSSO), Ministry of Statistics and Programme Implementation (MoSPI), Government of India.

3.2 Analyses of characteristics of women entrepreneurs in Delhi

According to Schaper et al. (2004), there are strong motivations for women to engage in entrepreneurship, financial independence, social networks, marketing, planning, and receiving assistance from public corporations. Manuela (2010) points out that women choose the entrepreneurial avenues to live in the modern world. This enables women to balance the conflicting demands of paid and unpaid employment more successfully, ensuring their responsibilities toward work and family lifestyles (Greene et al 1998;

Walker et al. 2007). Itani et al. (2009) claim that women start their firms to escape domestic and workplace dominance. This section analyses the characteristics of male-owned and female-owned microenterprises in Delhi for the years 2005-06 and 2015-16.

Table 3.1: Distribution of male-owned and female-owned MSEs in Delhi during 2005-06 and 2015-16. (in thousands)

MSEs	2005-06			2015-16			CAGR (2005-06 to 2015-16) (Per cent)		
	Male owned	Female owned	Total enterprises	Male owned	Female owned	Total enterprises	Male owned	Female owned	Total enterprises
Micro enterprises	78.39 (88.28)	10.41 (11.72)	88.80 (99.71)	161.31 (91.86)	14.28 (8.14)	175.60 (98.46)	7.48	3.22	7.06
Small enterprises	.257 (99.14)	.002 (0.86)	.259 (0.29)	2.74 (100)	0.00 (0.00)	2.74 (1.54)	26.72	-100	26.62
Total enterprises	78.64 (88.31)	10.41 (11.69)	78.83 (100)	164.06 (91.99)	14.28 (8.01)	178.35 (100)	7.63	3.21	8.51

Source: Unit Level Data of NSS, 62nd and 73rd Rounds for the years 2005-06 and 2015-16 respectively. Percentages are given in parentheses.

Table 3.1 demonstrate that the proportion of female-owned enterprises was found less among all MSEs in Delhi in 2005-06 and 2015-16. This may be due to women being disproportionately overrepresented in unpaid, seasonal, and part-time work (Bosma et al., 2004; Coad et al., 2012; Coleman, 2007; Radović et al., 2008). Therefore, their proportion is limited in the sphere of entrepreneurship. Moreover, the smaller share of women-owned enterprises implies that they have lower survival rate than their male counterparts (Robb, 2000).

Among the female-owned enterprises, their proportion in microenterprises was found higher than small enterprises in 2005-06 and 2015-16. In fact, there were no small enterprises in Delhi during 2015-16. Therefore, this chapter mainly focuses on

microenterprises and analyses the different dimensions of male-owned and female-owned microenterprises in 2005-06 and 2015-16.

The proportion of female-owned MSEs is lower than the proportion of male-owned MSEs. Though, female engagement in entrepreneurship (in terms of numbers) grew during 2005-06 and 2015-16, This may be due to the job distress caused by their previous positions, women end up participating in their present venture. As a result, choosing to work for oneself or start a business appears to be both a necessity and a forced desire (Hisrich et al., 1984; Henry et al., 2016).

The growth in female-owned MSEs (3.21 per cent) is lower than that of male-owned MSEs (7.63 per cent). It also shows that women-owned MSEs grew at slower rate which has been confirmed by Mead (1998), McPherson (1996), and Shiferaw (2009). This may be due to the number of regulations, the initial capital requirement, and the entrepreneur's experience. Further, there are challenges experienced by female entrepreneurs such as lack of infrastructure facilities, local problems/harassments, non-availability of electricity, shortage of labour/labour problems, shortage of capital, and competition from large units.

It is a matter of importance, that the unfair and highly competitive work environment has occasionally prompted women to pursue other options for expanding their careers, such as working for themselves or starting their own enterprise. People from different socio-economic groups who experience discrimination in job, have a larger incentive to pursue self-employment because they anticipate lower salaries or adverse employment opportunities in the labour market. As a result, self-employment and entrepreneurship are viewed as viable alternatives to wage work and a way out of poverty (Deshpande et al, 2013).

Table 3.2 compares the characteristics of male and female-owned microenterprises for the years 2005-06 and 2015-16. Out of the total male-owned and female-owned microenterprises during 2005-06 and 2015-16, female-owned microenterprises have expanded more than the male-owned microenterprises in 2005-06 and its opposite result found in 2015-16. However, the expanded enterprises' proportion was found lesser in the total male-owned microenterprises and female-owned microenterprises in Delhi.

Female entrepreneurs prefer to establish their enterprises within the household premises compared to their male counterparts. Mead (1998) and Fairlie et al., (2009) show that setting up enterprises within the household premises helps to manage the family and working life simultaneously. So, it can be the major reason behind their preference for setting up of firms within the household. However, the percentage of female-owned microenterprises located outside the household has increased during 2005-06 and 2015-16.

Large number of microenterprises (owned by men and women) found unregistered under any Act. Female owned microenterprises were more formal than their male counterparts in 2005-06, however, this trend reversed in 2015–16. The informality may be a decision made by enterprises' owners when establishing their companies, or it may be the result of weak governance and institutions (Mcpherson, 1996).

In addition, only a small percentage of female microentrepreneurs takes contracts compared to male microentrepreneurs during 2005-06 and 2015-16. Nonetheless, it is possible that the absence of social networking to bring in more contractors and the lower production benefits associated with working for contractors could be the reason behind it (Danah et al., 2008).

With respect to the types of enterprises (establishment), male preferred to operate establishments (NDME or DME) while female entrepreneurs preferred to operate own account enterprises (OAEs). This may be due to less initial capital availability. During 2005-06 and 2015-16, less proportion of women entrepreneurs received government assistance than men entrepreneurs. In contrast, small proportion of male entrepreneurs (15.95 per cent) obtained loans as compared to female entrepreneurs (16.13 per cent) in 2005-06 only. The pattern changed in 2015-16 with 8.75 per cent of male entrepreneurs and only 1.72 per cent of female entrepreneurs obtained loans from formal institutions.

Table 3.2 shows that compared to male-owned formal enterprises, female-owned formal microenterprises preferred to take credit from various sources in 2005-06, while preferences reduced in 2015-16 and it found that higher proportion male-owned formal microenterprises preferred to take credit in 2015-16. Similarly, compared to male-owned informal microenterprises, female-owned informal microenterprises less preferred to take credit during 2005-06 and 2015-16.

Table 3.2: Characteristics of male-owned and female-owned microenterprises in Delhi, 2005-06 and 2015-16. (per cent)

Characteristics of microenterprises	2005-06		2015-16	
	Male owned	Female owned	Male owned	Female owned
Expanded enterprises only	9.32	11.34	17.00	12.57
Location (outside household)	70.80	27.33	71.53	40.86
Formal enterprises	7.02	17.65	23.76	6.76
Status of contractual work	57.18	19.71	38.91	18.68
Types of enterprises (establishment)	87.99	37.50	66.55	35.99
Assistance received from govt.	13.57	4.98	0.10	0.00
Credit taken	15.95	16.13	8.75	1.72
Credit taken by formal firms	55.01	66.16	11.12	0.35
Credit taken by informal firms	13.01	5.40	8.01	1.82
Characteristics of entrepreneurs				
Literate	97.53	85.63	-	-
Social group				
ST	-	-	0.86	0.00
SC	-	-	8.43	14.21
OBC	-	-	33.89	23.68
Others	-	-	54.51	60.85
Unknown	-	-	2.31	1.27

Note: - data not available.

Source: Unit Level Data of NSS, 62nd and 73rd Rounds for the years 2005-06 and 2015-16 respectively.

Entrepreneurship is closely associated with level of education of individuals. About 97.53 per cent of male entrepreneurs and 85.63 per cent of female entrepreneurs (2005-06) engaged in entrepreneurship were literate. Female entrepreneurs were less literate than male entrepreneurs in Delhi.

Compared to male counterparts, female entrepreneurship prevails more among others and SCs. Whereas male entrepreneurs comparatively higher among OBCs than female entrepreneurs in Delhi. Among the social groups, larger proportion of both male entrepreneurs and female entrepreneurs belong to others category of social groups, followed by other backward caste (OBCs), scheduled caste (SCs) and scheduled tribe (STs) in 2015-16. However, this finding shows that the vulnerable sections has less participation in the ownership of enterprises. Lack of opportunities and skills, cultural and social barriers, awareness among vulnerable sections about entrepreneurship and having less capital among these sections could be the reasons behind it.

Table 3.3 provides the various types of government assistance received by male and female entrepreneurs in Delhi. It shows that a large proportion of entrepreneurs (both male and female) do not receive government assistance. In 2005-06, the maximum proportion of male entrepreneurs (31.51 per cent) and female entrepreneurs (93.11 per cent) preferred to take non-institutional loans while in 2015-16 very small proportion of male entrepreneurs interested in taking institutional loans. Out of that they preferred to take financial loan (96.78 per cent) while no female entrepreneur took assistance from government.

Among the male entrepreneurs, large proportion of male owners of microenterprises are qualified with middle level of education (30.12 per cent), followed by higher secondary (21.78 per cent) level of education (Figure 3.1). In contrast, among all the female entrepreneurs, the largest proportion of female owners of microenterprises are qualified with middle level of education (22.8 per cent), followed by primary level (22.04 per cent), and in gradation level, the proportion of male entrepreneurs is 10.82 per cent and 3.55 per cent of female entrepreneurs. In other words, female entrepreneurs attained lower education than male entrepreneurs in all general education categories, excluding literate but below primary level, and primary level in 2005-06. Most literate male and female entrepreneurs took up education up to the middle general education level in 2005-06. Most literate male and female entrepreneurs were found to take up the education up to middle general education level in 2005-06. Notwithstanding the differences in level of education among male and female entrepreneurs, entrepreneurship involved the educated entrepreneurs.

Table 3.3: Distribution of male-owned and female-owned microenterprises received different types of assistance from government in Delhi, 2005-06 and 2015-16.

(Per cent)

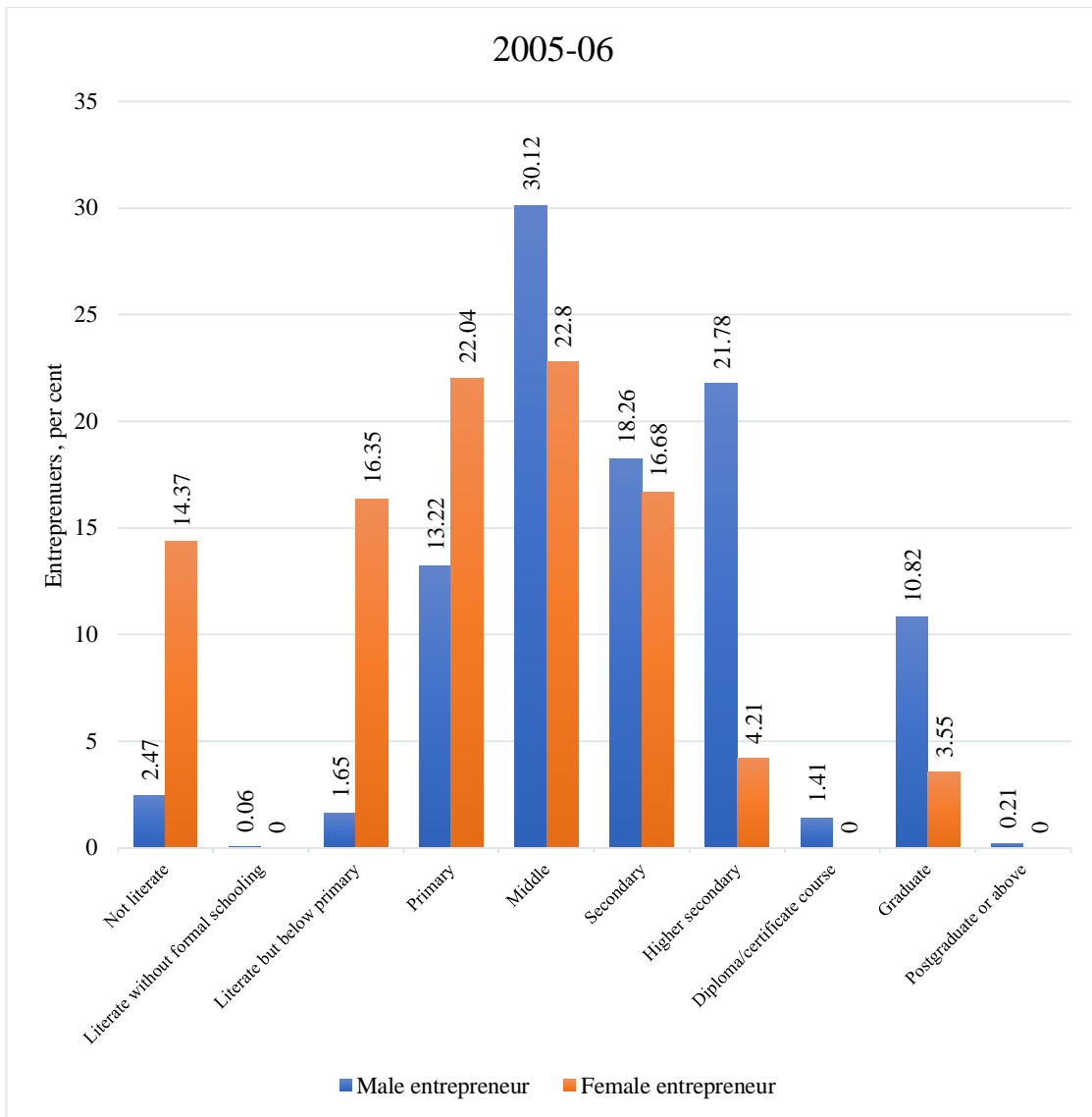
Type of government assistance received	2005-06		2015-16	
	Male-owned	Female-owned	Male-owned	Female-owned
Financial Loan (Institutional)	28.76	6.89	96.78	0.00
Financial Loan (Non-Institutional)	31.51	93.11	0.00	0.00
Subsidy	0.09	0.00	0.00	0.00
Skill Development	0.00	0.00	3.22	0.00
Marketing	14.55	0.00	0.00	0.00
Procurement of Raw Material	15.72	0.00	0.00	0.00
Others	9.38	0.00	0.00	0.00
No Assistance Taken	86.43	95.02	99.90	100
Total (Assistance Taken)	13.57	4.98	0.10	0.00

Source: Unit Level Data of NSS, 62nd and 73rd Rounds for the years 2005-06 and 2015-16 respectively.

Figure 3.2 depicts to analyse of the social group-wise distribution of expanded microenterprises (in the last 3 years prior to 2015-16) owned by male and female entrepreneurs. It reveals that among the all categories of social group in total, the proportion of enterprises owned by entrepreneurs belong to the Others category of social-group was higher than those owned by OBCs, SCs, and STs category of social group of entrepreneurs in Delhi. Among the expanded microenterprises owned by female entrepreneurs, their proportion was found higher in Others category (61.76 per cent) of social groups followed by OBCs (19.28 per cent) and SCs (18.96 per cent). Similarly, among the expanded microenterprises owned by male entrepreneurs, their proportion found higher in Others category of social group (60.05 per cent) followed by OBCs (28.84 per cent), SCs (9.96 per cent), and STs (1.15 per cent). It indicates that proportion of expanded microenterprises found higher among entrepreneurs belongs to OBCs, SCs, STs than others category of social groups. In comparison to male-owned microenterprises, the share of expanded microenterprises-owned by female entrepreneurs found higher among others category of social groups and SCs. In

contrast, compared to female-owned microenterprises, the proportion of expanded enterprises found among OBCs category of social group. No female-owned microenterprises were found in STs category of social group in Delhi.

Figure 3.1: General education level of owners of microenterprises in Delhi, 2005-06.

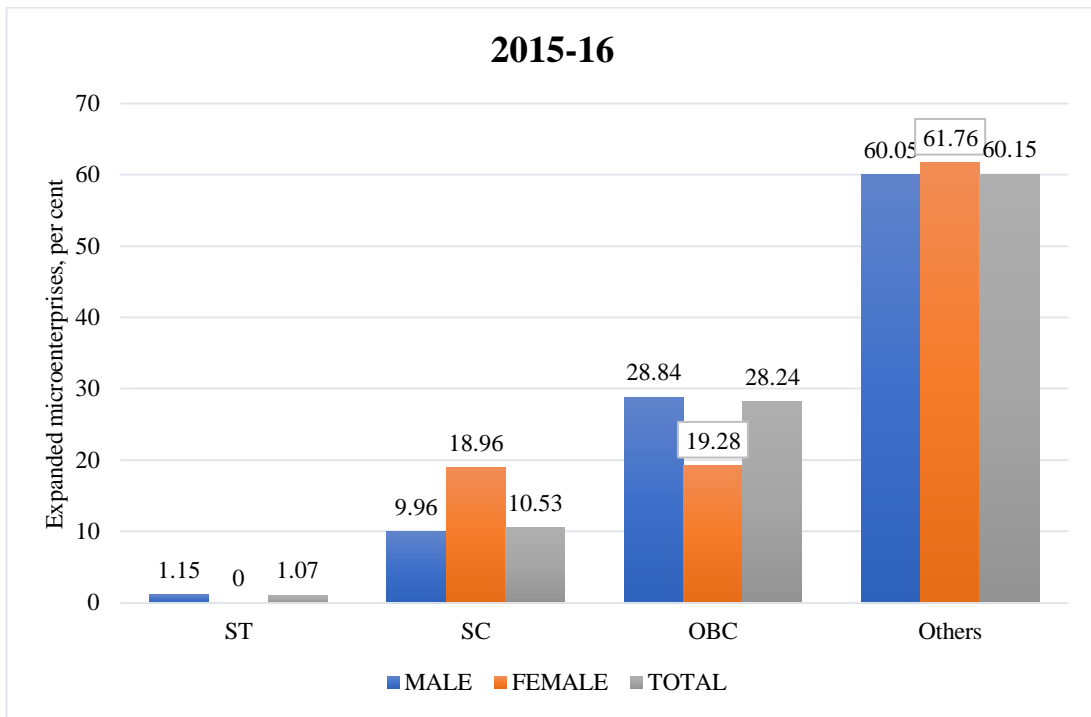


Note: Data for general education levels of entrepreneurs is available only for the year 2005-06.

Source: Unit Level Data of NSS, 62nd Round, 2005-06.

To examine the distribution of labour productivity in registered (formal) and unregistered (informal) enterprises, figure 3.3 and figure 3.4 compares the disparity in labour productivity between registered and unregistered microenterprises operated by men and women entrepreneurs.

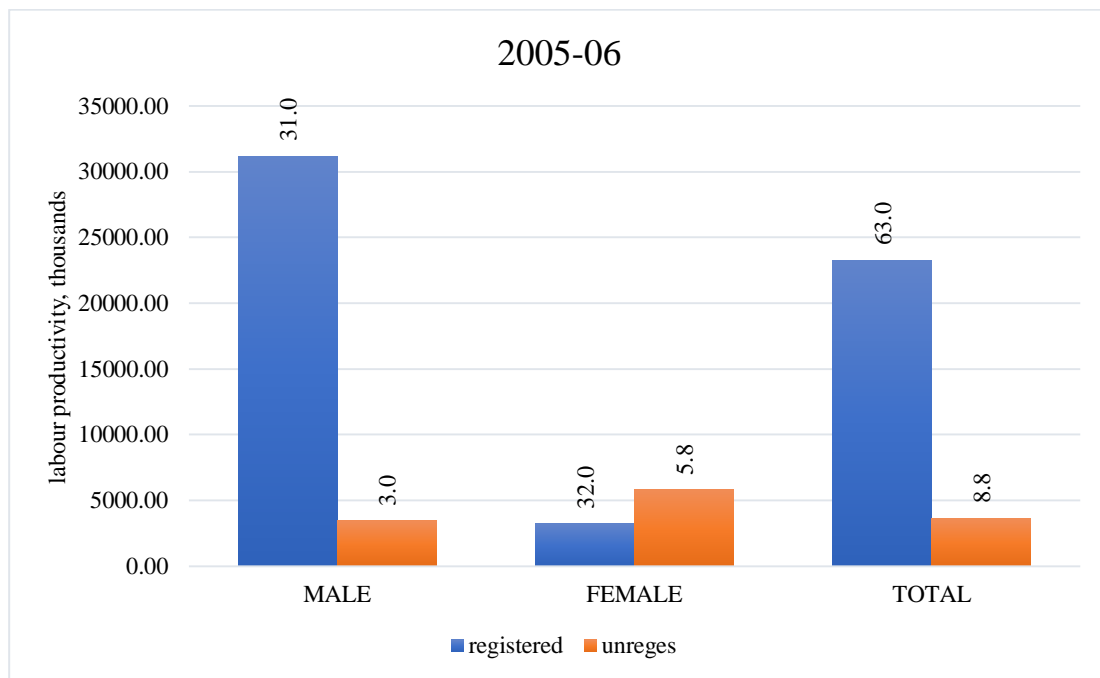
Figure 3.2: Social Group-wise distribution of expanded microenterprises (in last 3 years prior to 2015-16) owned by male and female entrepreneurs in Delhi, 2015-16.



Note: Social groups data of entrepreneurs is available only for the year 2015-16.

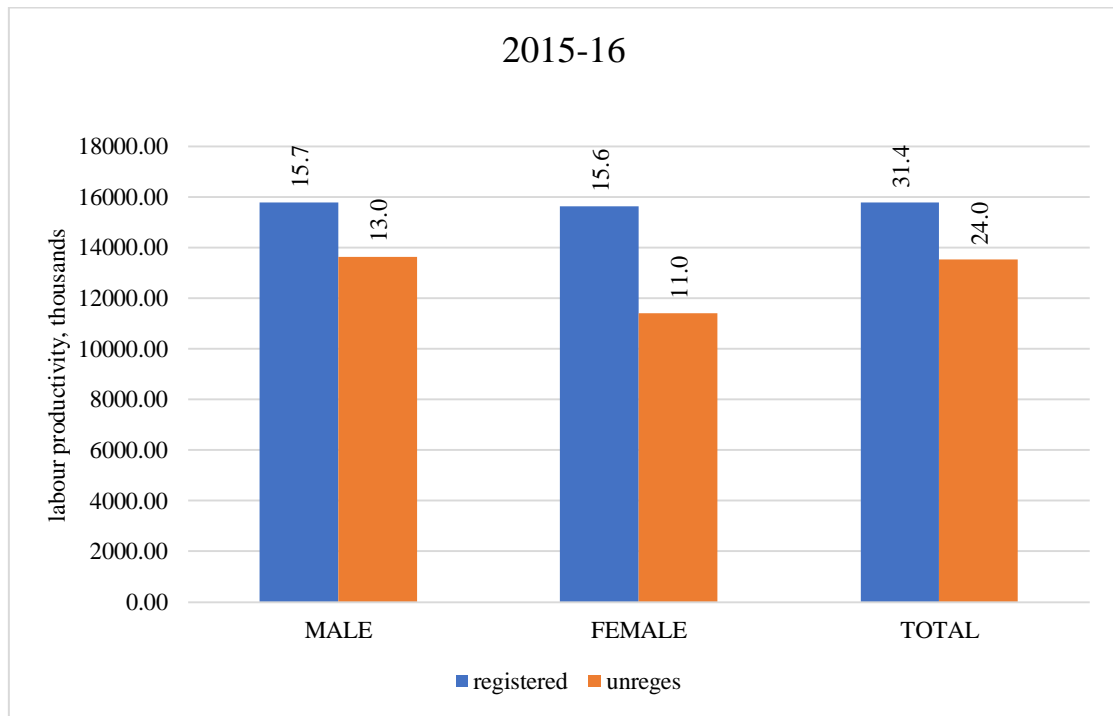
Source: Unit Level Data of NSS, 62nd Round, 2015-16.

Figure 3.3: Labour productivity in registered and unregistered male-owned and female-owned microenterprises in Delhi, 2005-06. (in thousands)



Source: Unit Level Data of NSS, 62nd and 73rd Rounds for the years 2005-06 and 2015-16 respectively.

Figure 3.4: Labour productivity in registered and unregistered male-owned and female-owned microenterprises in Delhi, 2015-16. (in thousands)



Source: Unit Level Data of NSS, 62nd and 73rd Rounds for the years 2005-06 and 2015-16 respectively.

In 2005-06, male-owned formal microenterprises had higher labour productivity than female-owned formal microenterprises. In contrast, female-owned informal microenterprises accounted for higher labour productivity than male-owned informal microenterprises (Figure 3.3). In 2015-16, male-owned formal microenterprises estimated slightly higher labour productivity than female-owned formal microenterprises whereas male-owned informal microenterprises estimated higher labour productivity than female-owned informal microenterprises (Figure 3.4).

Table 3.4: Structure of male-owned and female-owned microenterprises in Delhi, 2005-06 and 2015-16. (in lakhs)

Variables	2005-06		2015-16	
	Male owned	Female owned	Male owned	Female owned
Enterprises (in thousands)	78.39 (88.28)	10.41 (11.72)	161.31 (91.86)	14.28 (8.14)
Total GVA per enterprises (in lakhs)	0.31	0.13	0.56	0.023
Average employment (in numbers)	5	2	4	2
Total employment (in lakh)	3.73	0.26	6.31	0.27
Total fixed-owned assets per enterprises (in lakh)	2.08	1.96	17.73	10.36
Total Workers' productivity (output per worker in thousands)	6.4	5.4	14.4	11.7
Total Capital productivity (output per capital in rupees)	0.15	0.07	0.032	0.022

Source: Unit Level Data of NSS, 62nd and 73rd Rounds for the years 2005-06 and 2015-16 respectively. Per centages are given in parentheses.

Table 3.4 represents the structure of microenterprises owned by male and female entrepreneurs for the year 2005-06 and 2015-16. It demonstrates that female-owned microenterprises are fewer in numbers and their ownership proportion declined from 11.72 per cent in 2005-06 to 8.14 per cent in 2015-16. These enterprises generated low of employment, owned less fixed assets per enterprise and generates less GVA per enterprise. Similar findings can be found in Chaudhari, 2020; Loscocco et al., 1991; Chaganti et al., 1996; Bardasi, 2007; and Coleman, 2007). Compared to male-owned microenterprises, female-owned microenterprises have lower capital productivity. This is true for 2005-06 and 2015-16. They accounted for lower worker productivity in 2005-06 and 2015-16. This may be because of less initial capital requirement and having less prior work experience (Bardasi, 2007; Khalife, 2013; and Robb et al, 2009).

Table 3.5: Problems faced by male-owned and female-owned microenterprises in Delhi, 2005-06 and 2015-16. (per cent)

Problems	2005-06		2015-16.	
	Male	Female	Male	Female
Local problems/harassments	22.92	29.53	0.00	0.00
Non-availability of electricity	0.00	0.00	0.00	0.00
Competition from large units	54.97	51.51	0.00	0.00
Shortage of labour/labour problems	0.14	0.00	0.00	0.00
Erratic power supply/ power cuts	0.00	0.00	22.85	30.02
Shortage of capital	0.00	0.00	0.00	0.00
Shortage of raw materials	0.00	0.00	1.24	12.32
Shrinkage /fall of demand	0.00	0.00	54.33	46.23
Non-availability / high cost of credit	0.00	0.00	5.57	3.01
Non-recovery of financial dues	17.70	18.96	4.12	2.08
Non-availability of labour as and when needed	0.00	0.00	1.58	0.00
Lack of other infrastructure facilities	4.26	0.00	0.00	0.00
Non-availability of skilled labour as and when needed	0.00	0.00	4.13	5.88
Labour disputes and related problems	0.00	0.00	0.07	0.00
Others specify	0.00	0.00	6.1	0.45
No specific problem faced	65.48	90.56	46.95	54.29

Source: Unit Level Data of NSS, 62nd and 73rd Rounds for the years 2005-06 and 2015-16 respectively.

Table 3.5 lists the various issues entrepreneurs faced during the operation of enterprises in Delhi. In 2005-06, the large proportion of male entrepreneurs (35 per cent) reported operational problems than female entrepreneurs (9.44 per cent). This proportion increased to 54 per cent for male entrepreneurs and 45 per cent for female entrepreneurs in 2015-16. This implies that female entrepreneurs faced lesser operational challenges than male entrepreneurs during 2005-06 and 2015-16.

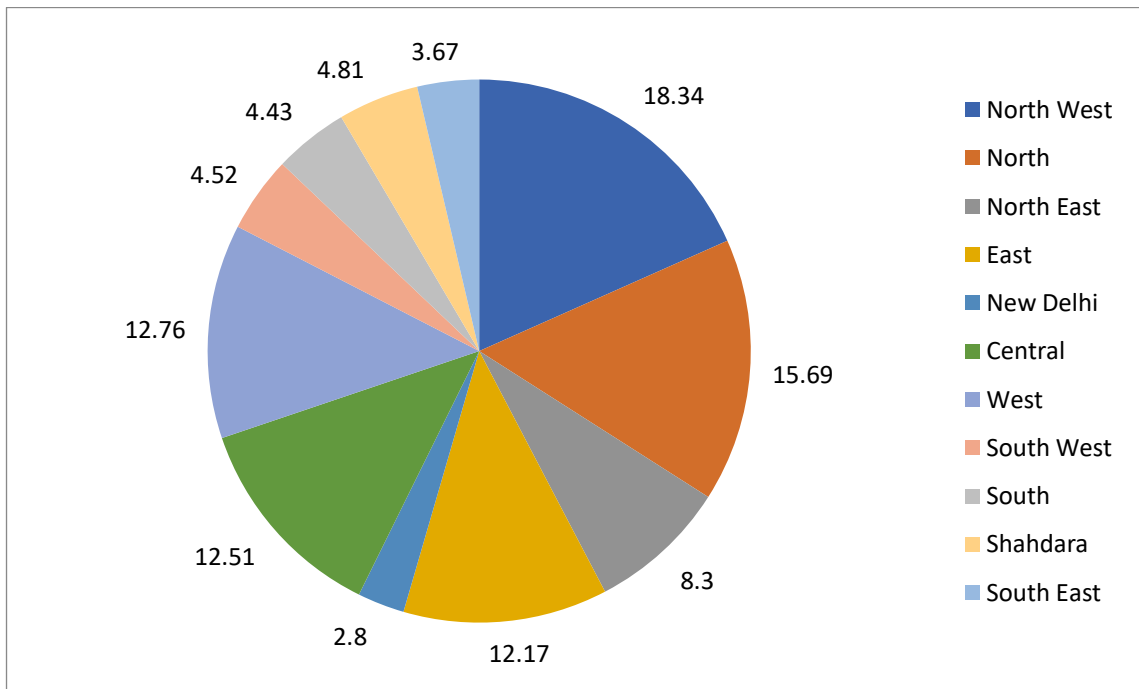
Further analysis is focused on the various types of problems that entrepreneurs have faced. Are their problems changed in 2015-16 or are they facing the same problems as 2005-06?. Table 3.5 shows that in 2005-06, both male entrepreneurs and female entrepreneurs faced the same problem, that is, erratic power cuts and shortage of capital. In 2015-16, again both male entrepreneurs and female entrepreneurs faced the same problems that are power cuts, fall in demand, and no availability of skilled labour. There is need for policy makers to resolve these problems so that MSME sector can grow more efficiently and smoothly as it is the second highest employment provider in India after agriculture.

3.3 District-level analysis of women-owned microenterprises in Delhi.

Up to this point, we have looked at the macro level picture of male-owned and female-owned microenterprises in Delhi. The district-level analysis is presented in this section. Figures 3.5 and 3.6 show the distribution of male and female entrepreneurs in 2015-16. North West Delhi district has the highest percentage of male entrepreneurs (18.34 per cent) who owned microenterprises followed by North Delhi district (15.69 per cent) and New Delhi district accounted least male entrepreneurs with 2.8 per cent share. This shows that the West Delhi district seemed to have the largest percentage share of female entrepreneurs (18.08 per cent) who owned microenterprises in Delhi, followed by North West (17.84 per cent) and North Delhi district estimated negligible proportion of women entrepreneurs (2.64 per cent).

Figure 3.5: Distribution of male-owned microenterprises operating in Delhi, 2015-16.

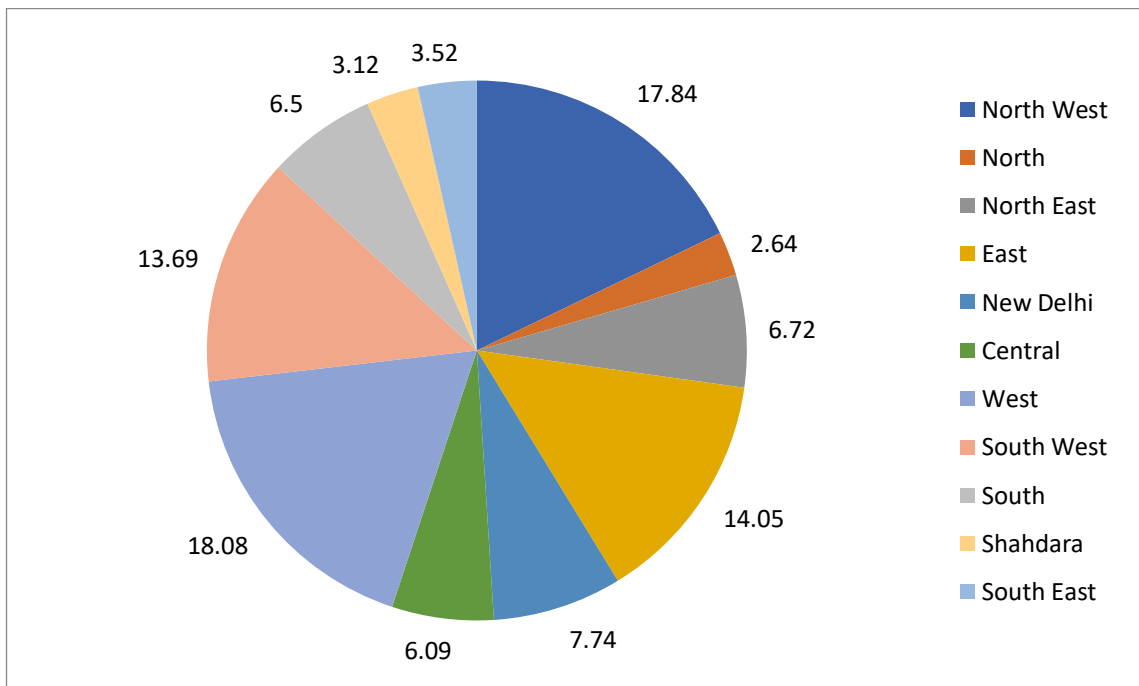
(Per cent)



Source: Unit Level Data of NSS, 73rd Rounds, 2015-16.

Figure 3.6: Distribution of female-owned microenterprises operating in Delhi, 2015-16.

(Per cent)



Source: Unit Level Data of NSS, 73rd Round, 2015-16.

Table 3.6 : District-wise distribution of microenterprises by types of ownership in Delhi, 2015-16. (per cent)

Districts	Men owned	Women owned	Partnership with members of the same household	Partnership between members not all from the same household	Total
North West	91.64	7.9	0.19	0.27	100
North	97.28	1.45	1.21	0.06	100
North East	89.43	6.42	4.02	0.13	100
East	89.04	9.11	1.35	0.5	100
New Delhi	77	18.85	4.03	0.12	100
Central	94.58	4.08	0.76	0.58	100
West	86.82	10.9	1.5	0.78	100
South West	78.83	21.17	0.00	0.00	100
South	87.15	11.34	1.51	0.00	100
Shahdara	93.68	5.38	0.78	0.16	100
South East	91.87	7.8	0.31	0.02	100
Total	90.42	8.01	1.25	0.32	100

Source: Unit Level Data of NSS, 73rd Round, 2015-16.

The district-wise ownership of microenterprises can be seen in Table 3.6. The observations came out that, male entrepreneurs owned or operated most of the microenterprises in Delhi and all districts of Delhi, followed by female entrepreneurs, partnerships with other members of the same household, and partnerships between members in which all are not from the same household. Among all the districts, North District of Delhi calculated for the highest proportion of male entrepreneurs engaged in the manufacturing sector (97.28 per cent) followed by New Delhi District (77 per cent) accounted the lowest proportion of male entrepreneurs engaged in manufacturing sector. For female entrepreneurs, South West Delhi (21.17 per cent) has the highest proportion of female entrepreneurs and North Delhi (1.45 per cent) district depicts the least proportion of female entrepreneurs engaged in manufacturing sector.

Table 3.7: District-wise distribution of women-owned microenterprises by nature of operation in Delhi, 2015-16. (per cent)

Districts	Perennial	Seasonal	Casual	Total
North West	100	0.00	0.00	100
North	56.46	0.00	43.54	100
North East	100	0.00	0.00	100
East	46.89	25.45	27.66	100
New Delhi	100	0.00	0.00	100
Central	100	0.00	0.00	100
West	100	0.00	0.00	100
South West	100	0.00	0.00	100
South	100	0.00	0.00	100
Shahdara	100	0.00	0.00	100
South East	84.18	15.82	0.00	100
Total	90.83	4.13	5.04	100

Source: Unit Level Data of NSS, 73rd Round, 2015-16.

Based on the analysis of the nature of operation of women-owned microenterprises in Delhi (Table 3.7), all districts, except North, East, and South East Delhi, have women-owned microenterprises that are 100 per cent running on perennial basis implying that they are stable and operating successfully. East Delhi is the district where least stable (46.89 per cent) and more seasonal (25.45 per cent) and casual (27.66 per cent) women-owned enterprises were found.

The status of firms owned by male entrepreneurs and female entrepreneurs by scale of operation over the last 3 years preceding the date of survey at the district level in Delhi is presented in Table 3.8. It is important to know whether the firms have expanded, contracted or remain constant in last 3 years prior to 2015-16?. The analysis demonstrates that both male-owned microenterprises (55.47 per cent) and female-owned microenterprises (55.05 per cent) were found stagnant. It outlines that there is a need for improvement in how they manage their enterprises and calls for attention to remove the obstacles preventing their expansion. Among the enterprises reported expanding, male-owned microenterprises were found to be more with 17 per cent than female-owned microenterprises (12.57 per cent). Among the districts, highest proportion of stagnant and expanding male-owned microenterprises was found in

south-west Delhi (29.59 per cent) and North Delhi (70 per cent), respectively. Among female-owned enterprises, most stagnant enterprises were found in South-West Delhi (60.97 per cent) and expanding in South East Delhi (61.03 per cent).

Table 3.8: District-wise distribution of status (in last 3 years prior to 2015-16) of male-owned and female-owned microenterprises in Delhi, 2015-16. (per cent)

Districts	Male Entrepreneurs				Female Entrepreneurs			
	Expanding	Stagnant	Contracting	Operated for less than three years	Expanding	Stagnant	Contracting	Operated for less than three years
North West	18.52	51.98	12.42	17.08	3.71	43.82	7.74	44.72
North	13.9	70.14	7.15	8.81	2.18	3.09	94.73	0.00
North East	9.06	53.75	21.57	15.62	0.00	51.03	0.00	48.97
East	15.98	53.21	9.15	21.66	28.35	45.99	19.49	6.17
New Delhi	37.83	55.67	0.66	5.84	0.00	100	0.00	0.00
Central	19.18	62.69	11.42	6.71	26.34	38.35	8.03	27.27
West	15.82	58.41	16.11	9.65	16.6	50.49	2.87	30.04
South West	29.59	42.67	5.49	22.25	0.00	60.97	8.94	30.09
South	11.81	57.65	26.43	4.11	6.3	56.22	0.00	37.48
Shahdara	14.19	53.54	16.94	15.33	28.83	27.82	0.00	43.35
South East	18.22	62.62	9.95	9.22	61.03	11.84	15.82	11.3
Total	17	57.9	12.38	12.72	12.57	51.11	8.25	28.07

Source: Unit Level Data of NSS, 73rd Round, 2015-16.

Further analysis focuses on the manufacturing activity that contributes large proportion in gross output by female-owned microenterprises. Table 3.9 list of manufacturing activities in which female-owned microenterprises were found engaged. The manufacturing activities are classified as per the National Industrial Classification (NIC)-2008 and they ranked as per their contribution to the gross value of output

generated by female-owned microenterprises (per manufacturing) to total manufacturing activities engaged by women entrepreneurs in Delhi in 2015-16.

In table 3.9, the GVA contribution in women-owned microenterprises is estimated as the total GVA generated by per manufacturing activities in which women entrepreneurs were engaged in divide by total GVA generated by all economic activities in which women entrepreneurs were engaged in Delhi.

Mathematically,

$$\text{GVA contribution} = \frac{\text{GVA generated by per manufacturing activities}}{\text{GVA generated by all manufacturing activities}} * 100$$

It can be observed from table 3.9 that the custom tailoring activity was found to be highest GVA generating manufacturing activity among all other manufacturing activities in which women entrepreneurs were engaged in 2015-16. It also reveals that the GVA contribution by custom tailoring activity has increased from 10.36 per cent to 51.23 per cent between 2005-06 and 2015-16.

Women entrepreneurs were also found involved in some new manufacturing activities in 2015-16 in which they were not engaged in 2005-06, like the manufacture of electric fans (other than exhaust fans); manufacture of wearing apparel; printing of magazines and other periodicals, maps, books and brochures, posters, atlases etc.; and other manufacturing activities. The activity, namely the manufacture of different primary paper materials, including paper board and composite paper n.e.c, was the least GVA generating activity in 2015-16.

For more clarity, information presented in the table 3.9 for the year 2015-16 is shown in figure 3.7. It reveals that custom tailoring (NIC code 14105) is the highest GVA contributing manufacturing activity in which women entrepreneurs are engaged in Delhi. Custom tailoring is included in Division 14 of this section's classification of "Manufacture of Wearing Apparel," Group 141 of this definition of "Manufacture of Wearing Apparel, other than Fur Apparel," class 1410 of this classification of "Manufacture of Wearing Apparel, other than Fur Apparel," and subclass 14105 of this description of "Custom Tailoring."

Table 3.9: List of manufacturing activities of women entrepreneurs as per their gross value added contribution in Delhi, 2005-06 and 2015-16. (per cent)

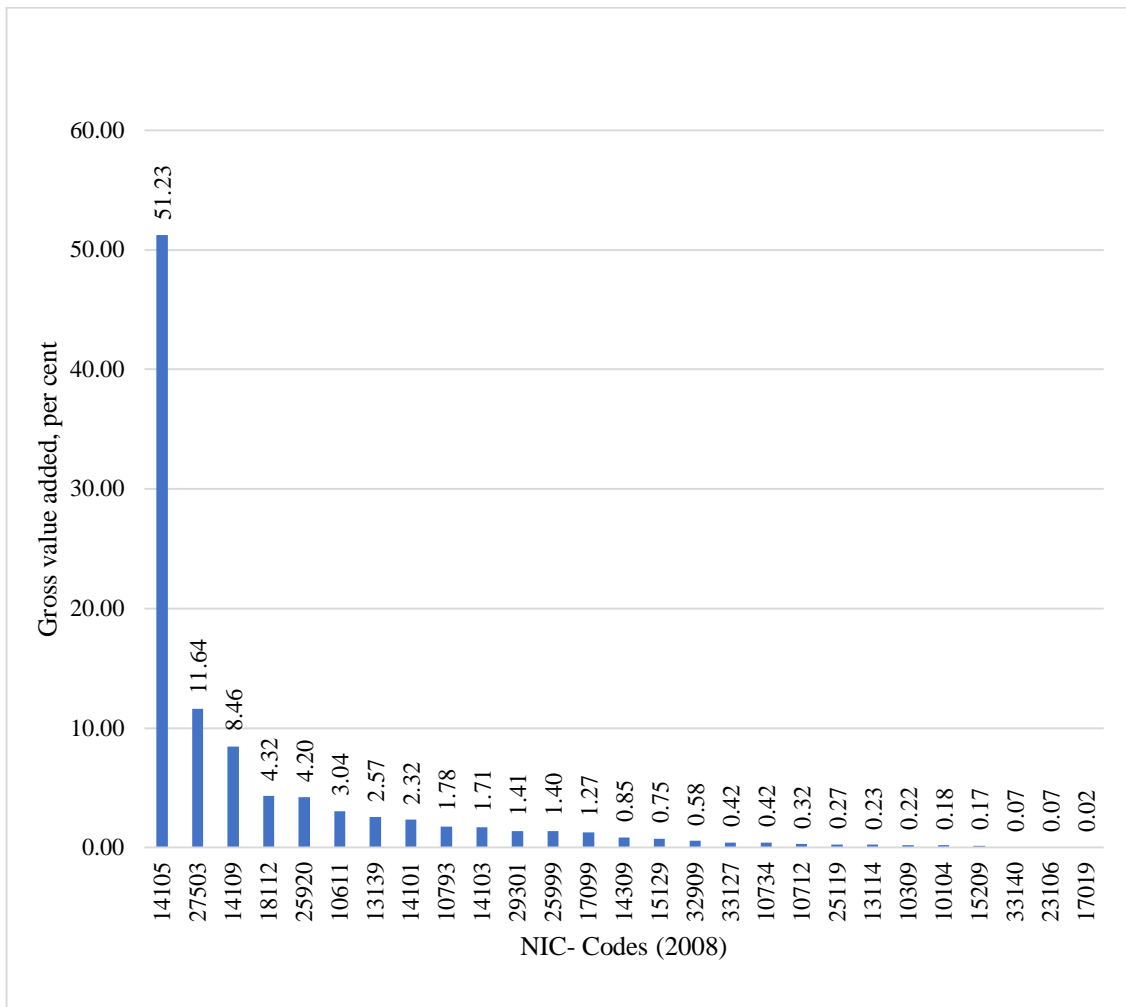
Sr. No.	NIC codes-2008	Description of NIC codes	GVA Contribution (2005-06)	GVA Contribution (2015-16)
1	14105	Custom tailoring	10.36	51.23
2	27503	Manufacture of electric fans (except exhaust fans)	0.00	11.64
3	14109	Manufacture of wearing apparel n.e.c.	0.09	8.46
4	18112	Printing of magazines and other periodicals, books and brochures, maps, atlases, posters etc	0.00	4.32
5	25920	Machining; treatment and coating of metals	0.00	4.20
6	10611	Flour milling	0.00	3.04
7	13139	Other activities relating to finishing of textile	0.00	2.57
8	14101	Manufacture of all types of textile garments and clothing accessories	0.92	2.32
9	10793	Processing of edible nuts	0.00	1.78
10	14103	Manufacture of hats, caps and other clothing accessories such as gloves, belts, ties, cravats, hairnets etc.	0.00	1.71
11	29301	Manufacture of diverse parts and accessories for motor vehicles	0.00	1.41
12	25999	Manufacture of other fabricated metal products n.e.c.	1.39	1.40
13	17099	Manufacture of other paper products n.e.c.	0.00	1.27
14	14309	Manufacture of other knitted and crocheted apparel including hosiery	0.00	0.85
15	15129	Manufacture of other consumer goods of leather and substitutes of leather n.e.c.	0.00	0.75
16	32909	Manufacture of other articles n.e.c.	0.00	0.58
17	33127	Repair and maintenance of textile apparel, leather production machinery and papermaking machinery	0.00	0.42
18	10734	Manufacture sweetmeats including dairy based sweetmeats	0.00	0.42
19	10712	Manufacture of biscuits, cakes, pastries, rusks	0.00	0.32
20	25119	Manufacture of other structural metal products	0.00	0.27
21	13114	Preparation and spinning of man-made fiber including blended* man-made fiber	0.00	0.23
22	10309	Preservation of fruit and vegetables n.e.c.	0.00	0.22
23	10104	Poultry and other slaughtering, preparation	0.00	0.18
24	15209	Manufacture of other footwear n.e.c.	0.00	0.17
25	33140	Repair of electrical equipment	0.00	0.07
26	23106	Manufacture of glass bangles	0.00	0.07
27	17019	Manufacture of other primary paper materials including composite paper and paper board	0.00	0.02
Total			12.76*	100.00

*Noted that table 3.9, includes only those manufacturing activities for the year 2005-06 which remain operated by female entrepreneurs in 2015-16. The remaining activities which are not listed above are included in the appendix (Table 3.1A).

Source: Unit Level Data of NSS, 62nd and 73rd Rounds for the years 2005-06 and 2015-16, respectively.

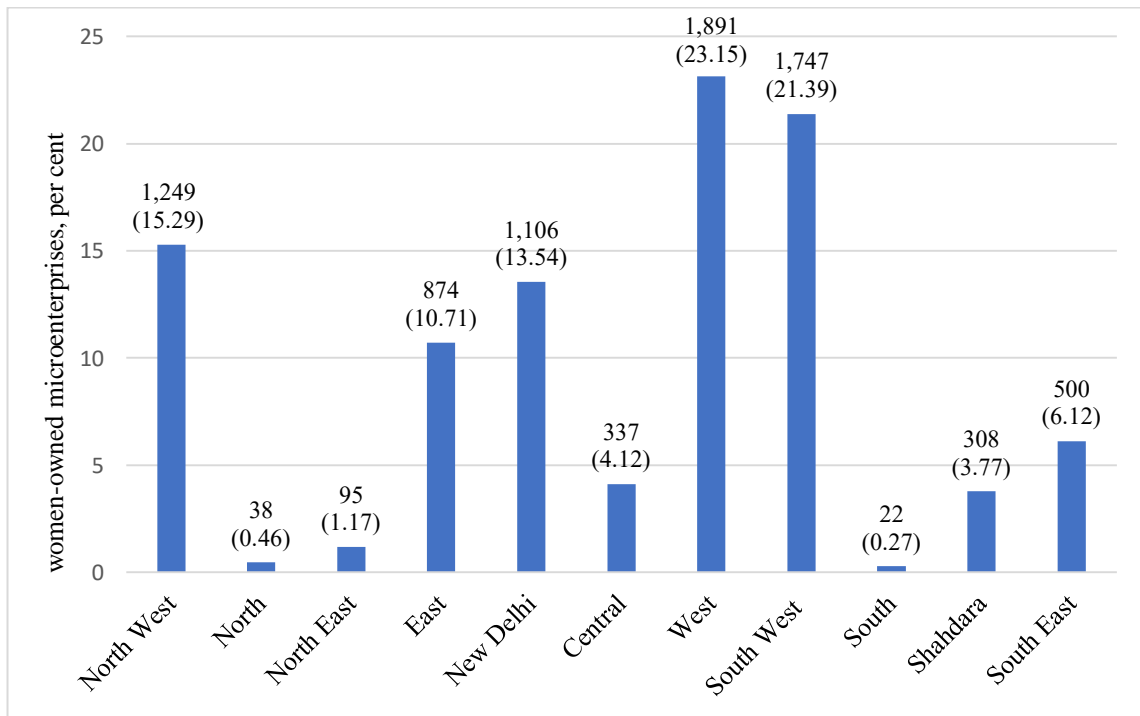
Figure 3.8 depicts the number and proportion of female entrepreneurs engaged in custom tailoring activity in all districts of Delhi. It reveals that there are 8,167 women-owned micro-enterprises in Delhi. Out of that, women-owned microenterprises in West Delhi are engaged in custom tailoring with the highest percentage, having a share of 23.15 per cent, followed by South West Delhi (21.39 per cent), North West Delhi (15.29 per cent), New Delhi district (13.54 per cent), East Delhi district (10.71 per cent), and South East Delhi District (6.12 per cent) and Central Delhi District (4.12 per cent).

Figure 3.7: Distribution of manufacturing activities of women entrepreneurs as per their GVA contribution in Delhi, 2015-16. (per cent)



Source: Unit Level Data of NSS, 73rd Round, 2015-16.

Figure 3.8: Distribution of women-owned microenterprises engaged in custom tailoring activity by districts in Delhi, 2015-16. (Number and per cent)



Source: Unit Level Data of NSS, 73rd Round, 2015-16; per cent are given in paratheses.

It is clear from the above analysis that the West Delhi district region has accounted for the largest proportion of female entrepreneurs engaged in custom tailoring activity in Delhi. Through discussing with the officials of the ministries and Non-Government Organisations (NGOs), it was found that Janakpuri which is part of the West Delhi district, which has the highest proportion of women-owned microenterprises that are involved in custom tailoring. Custom tailoring is the activity in which the apparel is manufactured and altered as per the individual's specifications or requirements (McMohan, 1961).

3.4 Determinants of performance of male-owned and female-owned microenterprises in Delhi

This section assesses the performance of male owned microenterprises and female-owned microenterprises in Delhi using data at the enterprise level. The Gross Value Added (GVA) of the enterprises is used to measure the performance of the male owned microenterprises and female-owned microenterprises. So, GVA is the dependent variable and input variables, namely total fixed assets owned by entrepreneurs, total

emoluments paid, and raw material and credit used as the independent variables. Similar variables were used by Bardasi et al. (2011). Therefore, in the regression analysis, GVA is regressed on total fixed assets owned by entrepreneurs, total emoluments paid, and raw material and credit.

To analyse the performance of male-owned microenterprises and female-owned microenterprises, two separate production functions, one for male-owned microenterprises and the other for female-owned microenterprises were estimated. The equations are as follows:

The Cobb-Douglas production function for male-owned microenterprises :

$$Q = f(K, L, R, C) \dots \dots \dots (3.1)$$

The Cobb-Douglas production function for female-owned microenterprises :

$$Q^* = f(K^*, L^*, R^*, C^*) \dots \dots \dots (3.2)$$

These functions can be specified as:

$$\log Q = \beta_0 + \beta_1 \log K + \beta_2 \log L + \beta_3 \log R + \beta_4 \log C + u_1 \dots \dots \dots (3.3)$$

$$\log Q^* = \beta_0 + \beta_1 \log K^* + \beta_2 \log L^* + \beta_3 \log R^* + \beta_4 \log C^* + u_1^* \dots \dots \dots (3.4)$$

Where Q and Q* are gross value added of male-owned microenterprise and female-owned microenterprise, respectively; K and K* are total fixed assets owned by male and female entrepreneurs, respectively; L and L* are total numbers of labour employed in male-owned microenterprise and female-owned microenterprise, respectively; R and R* are the total value of raw material used by male-owned microenterprise and female-owned microenterprise, respectively; C and C* are the total value of credit taken by male-owned microenterprise and female-owned microenterprise, respectively, and u₁ and u₁* are the error terms with zero mean for male-owned and female-owned microenterprise regression equations and assumed to be non-correlated with the independent variables in the model.

Table 3.10 represents the regression results of performance of male-owned and female-owned microenterprises for the year 2005-06 and 2015-16. All the input variables are statistically and positively associated with the GVA of the enterprises except raw

material input in the case of female-owned microenterprises for the year 2005-06 and fixed assets for the year 2015-16 as they are significant but negatively associated with GVA of the enterprises. This may be due to the excess use of input which may not be contributing to output appropriately.

Table 3.10: Regression results on performance of male-owned and female-owned microenterprises, 2005-06 and 2015-16.

Log GVA	2005-06		2015-16	
	Male	Female	Male	Female
Log labour emoluments	0.223*** (0.0007)	0.205*** (0.002)	0.127*** (0.003)	0.141*** (0.001)
Log fixed assets	0.017*** (0.001)	0.040*** (0.005)	0.038*** (0.001)	-0.028*** (0.002)
Log raw material	0.048*** (0.001)	-0.005*** (0.001)	0.048*** (0.001)	0.191*** (0.002)
Log credit	0.066*** (0.0006)	0.103*** (0.002)	0.010*** (0.0005)	0.062*** (0.005)
Constant	7.29 (0.0148)	6.78 (0.053)	8.75 (0.009)	8.04 (0.024)
R-squared	0.655	0.8392	0.5085	0.7425
Observations	78390	10411	160826	14289
F value probability	37282.56 (0.0000)	13581.72 (0.0000)	41629.33 (0.0000)	10298.28 (0.0000)

Note: ***1 per cent level of significance, **5 per cent level of significance, *10 per cent level of significance.

Source: Unit Level Data of NSS, 62nd and 73rd Rounds for the years 2005-06 and 2015-16 respectively.

Table 3.11 presents the results of post estimation test (white test) of micro-enterprises owned by male and micro-enterprises owned by female performance analysis for the year 2005-06 and 2015-16. It shows the presence of heteroskedasticity in the model.

Therefore, the weighted least squares method was used to resolve the heteroskedasticity problem. Both dependent and independent variables were divided by number of enterprises. Hence, the input and output variables in regression equations 3.3 and 3.4 were transformed as emoluments paid per enterprise, fixed assets per enterprise, raw material per enterprise, credit availed per enterprise, and GVA per enterprise

Table 3.11: Results of white test (post estimation) analysis for male-owned and female-owned microenterprises, 2005-06 and 2015-16.

Source	2005-06		2015-16	
	Male	Female	Male	Female
Heteroskedasticity	79.08***	28.95***	35.38***	24.55***
Skewness	23.15	11.59	14.63	6.95
Kurtosis	3.65	0.53	3.73	1.59
chi2(14)	79.08***	28.95***	35.38***	24.55***
Prob > chi2	0.00	0.00	0.0013	0.0392

Note: white's test for Ho: homoskedasticity; against Ha: unrestricted heteroskedasticity; ***1 per cent level of significance, **5 per cent level of significance, *10 per cent level of significance. Source: Unit Level Data of NSS, 62nd and 73rd Rounds for the years 2005-06 and 2015-16 respectively.

Mathematically, taking equation 3.3 and equation 3.4 and divided them by the number of enterprises (N for male-owned microenterprises and N* for female-owned microenterprises) to transform the input and output variables on a per enterprise basis.

$$\log(Q/N) = \beta_0 + \beta_1 \log(K/N) + \beta_2 \log(L/N) + \beta_3 \log(R/N) + \beta_4 \log(C/N) + u_i \dots\dots\dots(3.5)$$

$$\log(Q^*/N^*) = \beta_0 + \beta_1 \log(K^*/N^*) + \beta_2 \log(L^*/N^*) + \beta_3 \log(R^*/N^*) + \beta_4 \log(C^*/N^*) + u_i^* \dots\dots(3.6)$$

Where Q/N and Q*/N* are gross value added per enterprise owned by male entrepreneurs and female entrepreneurs, respectively; K/N and K*/N* are fixed assets owned by male entrepreneurs and female entrepreneurs, respectively; L/N and L*/N* are labour emoluments per enterprise owned by male entrepreneurs and female

entrepreneurs, respectively; R/N and R^*/N^* are the total value of raw material used per enterprise owned by male entrepreneurs and female entrepreneurs, respectively; C/N and C^*/N^* are the total value of credit taken per enterprise owned by male entrepreneurs and female entrepreneurs, respectively, and u_i and u_i^* are the error terms with zero mean for male-owned and female-owned per microenterprise regression equations and assumed to be non-correlated with the independent variables in the model. β_1 , β_2 , β_3 , and β_4 are the output-elasticity of fixed assets per enterprise, labour emoluments per enterprise, raw material per enterprise, and credit per enterprise, respectively. After transforming input and output variables, we take the logarithm on both sides in equation 3.5 and equation 3.6 and applied the weighted least squares (WLS) method on regression equations to analyse the male-owned and female-owned microenterprise performances in Delhi.

Table 3.12 analyses the performance of micro-enterprises owned by male and microenterprises owned by female entrepreneurs. The significance of the F value indicates that the overall fitness of the model is good.

The coefficient of determination (R^2) indicates that the overall goodness of fit for female-owned microenterprises was higher than male-owned microenterprises in 2005-06. It reversed in 2015-16, where female-owned microenterprises accounted for relatively less goodness of fit than their male counterparts.

The estimation of female owned microenterprises and male owned microenterprises for the year 2005-06 shows that all the output-input elasticity except the raw materials found positively related to GVA at 1 per cent level of significance. In other words, regarding the male-owned microenterprises, the estimated output elasticity of labour indicates that for one per cent increase in the emoluments paid to employees enables the mean value of GVA to grow by 0.218 per cent. Similarly, the computed output elasticity of fixed assets shows that the mean value of GVA grows by 0.0418 per cent for every additional increase in fixed assets. The output elasticity of credit demonstrates that the mean value of GVA increases by 0.04 per cent. In contrast, the estimated output elasticity of raw material shows that the mean value of GVA decreases by 0.217 per cent for one per cent increase in the value of raw materials utilised.

Table 3.12: Results of weighted least squares method on determinants of performance of male-owned and female-owned microenterprises, 2005-06 and 2015-16.

Log gross value added per enterprises	2005-06		2015-16	
	Male	Female	Male	Female
Log labour emoluments per enterprise	0.218*** (0.001)	0.146*** (0.003)	0.148*** (0.0004)	0.163*** (0.001)
Log fixed assets per enterprise	0.042*** (0.002)	0.076*** (0.007)	0.0123*** (0.0008)	-0.061*** (0.002)
Log raw material per enterprise	-0.217*** (0.001)	-0.194*** (0.003)	0.219*** (0.0006)	0.369*** (0.002)
Log credit per enterprise	0.040*** (0.0008)	0.130*** (0.003)	-0.034*** (0.0006)	-0.002*** (0.005)
Constant	27.18 (0.058)	18.95 (0.219)	18.33 (0.0218)	16.71 (0.061)
R-squared	0.736	0.783	0.746	0.731
Observations	78390	10411	160826	14289
F value	54543.80	3927.61	20378.43	7217.13
probability	(0.0000)	(0.0000)	(0.0000)	(0.0000)

Note: ***1 per cent level of significance, **5 per cent level of significance, *10 per cent level of significance.

Source: Unit Level Data of NSS, 62nd and 73rd Rounds for the years 2005-06 and 2015-16 respectively.

Among the four input factors, the output elasticity of labour was found to be the highest, indicating that labour has the most significant impact on the growth of production in both male-owned and female-owned microenterprises, and their production is labour-intensive. Comparative, fixed asset input has a low impact on the production growth of both male-owned and female-owned microenterprises.

Regarding female-owned microenterprises analysis for the year 2005-06, the estimated output elasticity of labour shows that GVA per enterprise increases by 0.146 per cent for one per cent increase in emoluments paid to employees. The effect of fixed assets on the mean value of GVA was increased by 0.076 per cent. The estimated output elasticity of credit was 0.130 per cent. In contrast, the computed output elasticity of raw

material depicts that the mean value of GVA decreased by 0.194 per cent for an additional one per cent increase in the value of raw materials utilised.

Among the four input factors, the output elasticity of labour was found to be highest, indicating that labour has the largest impact on the growth of production in both female owned microenterprises and male owned microenterprises and their production is labour-intensive. Comparative, fixed asset input has low impact on the production growth of both female owned microenterprises and male owned microenterprises in 2005-06.

The estimation for the period of 2015–16 revealed that, except for credit in both female owned microenterprises and male owned microenterprises and fixed-owned assets in the case of female-owned microenterprises, all inputs are positively associated with GVA. The mean value of GVA owned by male entrepreneurs increased by 0.148 per cent, 0.012 per cent, and 0.219 per cent with an addition of labour, fixed asset, raw material used, respectively. Credit elasticity indicates the opposite result that with each additional per cent increase in credit taken by male entrepreneurs per enterprises decreases the GVA by 0.03 per cent.

Similarly, the regression results for female entrepreneurs in 2015-16 reveal that GVA per enterprises found positively associated with all inputs except the credit and fixed assets at 1 per cent level of significance. However, the labour and raw material elasticities indicate that GVA per enterprise increases by 0.163 per cent and 0.369 per cent with one per cent increase in employment, and raw material, respectively while it decreases by 0.002 per cent and 0.061 per cent for credit and fixed assets, respectively.

The regression analyses for the year 2015-16 reveal that the output elasticity of labour was found to be the highest among the four inputs, indicating that raw material has a higher impact on production in both male-owned and female-owned microenterprises. Labour emoluments input has comparatively low impact on output production in male-owned and female-owned microenterprises in Delhi.

The results of regression analysis of male-owned and female-owned microenterprises show that all input factors are statistically significant. Out of four inputs, labour emolument per enterprises input come out as the major determinants of the

performance or success of microenterprises owned by male and female entrepreneurs in 2005-06. In contrast, raw material became the major contributor or a crucial factor affecting microenterprises owned by males and microenterprises owned by females in 2015-16.

The performance of male-owned microenterprises compared to female-owned microenterprises, showed that microenterprises owned by females perform better than microenterprises owned by males in terms of fixed assets owned, raw materials used and credit accessed in 2005-06. Whereas, in 2015-16, female-owned microenterprises show better performance than male-owned microenterprises in terms of labour emoluments, raw materials used and credit accessed. Therefore, the regression analysis of performance of male-owned and female-owned conclude that female-owned microenterprises performed better than male-owned microenterprises, given the estimated output-input elasticities between 2005-06 and 2015-16. It may be due to variations in prior work experience between male and female entrepreneurs and other socio-cultural constraints (Bosma, 2011).

For the returns to scale results, the analysis reveals that output elasticity of labour, fixed assets, raw materials, and credit is less than one ($\beta_1 + \beta_2 + \beta_3 + \beta_4 < 1$) for both male and female-owned microenterprises in Delhi. The sum of input-output elasticities in male-owned microenterprises is 0.083; female-owned microenterprises is 0.158 in 2005-06; and 0.34 in male-owned microenterprises and 0.469 in female-owned microenterprises in 2015-16. This finding indicates that both male and female-owned microenterprises have decreasing production returns to scale (DRS) between 2005-06 and 2015-16. This may be due to limited production input availability and inefficient management (Ren et al., 2019).

3.5 Summing Up

This chapter discussed the characteristics of male-owned and female-owned microenterprises operating in Delhi. NSS data for 2005-06 and 2015-16 were used to examine the characteristics of women-owned microenterprises in terms of fixed-owned assets, labour, raw material, GVA and credit. Analysis has shown that female owned and male owned microenterprises differ in their characteristics. As compared to male-owned microenterprises, female-owned microenterprises tend to expand their activities

over time, prefer to operate within the household premises, are more informal, prefer to operate own account enterprises, take less credit and government assistance, less literate, highest among others social group and SCs.

The distribution of male-owned and female-owned microenterprises in the manufacturing sector demonstrates that female entrepreneurs are low in proportion compared to male entrepreneurs in Delhi during 2005-06 and 2015-16. Compound annual growth in microenterprises run by women was lower than that of microenterprises run by men. Even though the absolute number of female entrepreneurs increased in 2015-16.

The characteristics of male-owned and female-owned microenterprises illustrates that compared to male-owned microenterprises, female-owned microenterprises prefer to operate their enterprises within the household, preferred to run OAEs (own account enterprises), less rely upon credit and government assistance. However, the variation of female entrepreneurship found in being informal enterprises. In 2005-06, female-owned microenterprises were found less in proportion than male-owned microenterprises but their proportion increased in 2015-16. With respect to social group, female entrepreneurship found more noticeable among Other and SCs than male entrepreneurs in Delhi. In contrast, male entrepreneurs found more visible in OBCs social group than female entrepreneurs. Female entrepreneurs were found to be less literate than male entrepreneurs.

The structure of male-owned and female-owned microenterprises reveals that compared to male-owned microenterprises, female-owned microenterprises generate a lower level of employment, own less fixed assets and, generate less GVA, have lower capital productivity and lower worker's productivity during the study period.

This chapter also looked into the factors affecting the performance of female-owned microenterprises during 2005-06 and 2015-16. There is a significant relation between all inputs and GVA in female owned and male owned microenterprises. With respect to all the input variables, it found that microenterprises owned by females perform better than microenterprises owned by males in 2005-06 and 2015-16. Both male and female-owned microenterprises have decreasing returns to scale (DRS) in production between 2005-06 and 2015-16.

The district-level analysis has shown that custom tailoring contributed to higher GVA in 2015-16. Hence, the West Delhi district of Delhi was chosen to conduct the field survey for the year 2019-20 for unravelling the ground realities of working of women-owned microenterprises.

CHAPTER 4

ANALYSIS OF THE TECHNICAL EFFICIENCY OF WOMEN-OWNED MICROENTERPRISES IN DELHI

4.1 Background

The growing trend of women starting their own enterprises encourages women's empowerment and helps to boost economic growth (Gill et al., 2007). Globally, female entrepreneurship is becoming somewhat well-known. The contribution of women is increasingly recognised as one of the key factors in the growth of the nation. No matter whether they work for small or medium-sized organisations, in the informal or formal sectors, or both, they make a significant contribution to GDP. Therefore, women's entrepreneurship is crucial for their survival and preserving their social status, eradicating poverty, and increasing productivity (Singh et al., 2008).

Women entrepreneurship is currently a top priority on the economic agendas of many countries (Radovic et al., 2008). The diversity of entrepreneurship within economic development is facilitated by female entrepreneurs (Verheul et al. 2001). However, the role of female entrepreneurs was not acknowledged in many countries until ten years ago. Their potential contribution to increasing women's employment opportunities was formerly unknown. Female entrepreneurs' contribution to a country's productivity, economic potential, and competitiveness was no longer recognised. Women did not receive enough social support to develop their managerial and entrepreneurial skills (Radovic et al., 2011a).

Furthermore, there are still obstacles to advancing gender-based business in emerging economies. Females, particularly those who have continued to be unemployed, are disproportionately represented in these countries' informal employment. They work in the industries that may be the least profitable or unorganised, that is, in the residence or region. The economic crisis that began in 2008 has worsened their function (Radovic et al., 2011a). However, there are significant regional differences in the participation of women in entrepreneurship.

The academic literature on female entrepreneurship started to grow in the middle of the 1990s, but it lacked a consistent definitional framework. Since then, number of

researchers have become interested in higher expertise women's entrepreneurship, mainly as a result of the prominence that women are achieving in the entrepreneurial field (Radović 2009, 2013). Researchers' interest in entrepreneurship is growing because it is frequently stated that encouraging entrepreneurship is associated with tremendous economic growth (Weeks et al., 2001). Several recent theoretical and empirical research has been conducted to broaden the subject's methodological approaches. Nearly all of them have made an effort to learn more about how gender constructs play a role in entrepreneurship (Radović, 2013).

The construction process may be a significant factor in the development process by generating more jobs, boosting exports, and decreasing imports. However, to compete with other nations, efficiency is the first requirement that must be addressed. Industries must be technically efficient to speed up the development process (Baten, 2006). In a competitive economic environment, effective financial management is a vital sign of an enterprise's performance. Any company's managers would like to find and reduce inefficiency's root causes to assist their enterprises in obtaining a strategic advantage and sustain it, or at the very least, withstand competition from others (Haron et al., 2013).

Technical efficiency is the capacity to use fewer inputs in a given production or the capacity to maximise output (Kumbhakar et al., 2003). Since Koopmans (1951), Farrell (1957), and Debreu (1951) theoretical foundations on technical efficiency have been well established. An enterprise is technically efficient when increasing production involves increasing at least one input or any other inputs (Koopmans, 1951; Porcell, 2009).

The "efficiency of technology" is described by Debreu (1951) and Farrell (1957) in order to eliminate the equally decrease in all inputs while maintaining the ability to generate a specific output. Technical efficiency, which demonstrates the ability of a firm to create a large product from a specific set of components, and distribution efficiency, which demonstrates the firm's ability to use inputs in the right proportions given their various costs and production technologies (Coelli et al. 2005).

The various interpretations of efficiency are part of the assessment of overall performance of firms. Efficiency is the reduction of costs associated with employing

resources to achieve specific business operating goals while maximising output through the use of efficient resource allocation (Lee et al., 2010; Ojo et al., 2006). Despite being a crucial area for economic growth, the manufacturing industry's technological efficiency by types of ownership is given very little consideration. This study intends to address the gap in the literature by analysing the technical efficiency of women-owned microenterprises engaged in custom tailoring activity in Delhi.

Unfortunately, there is not much data on the personal characteristics of the entrepreneur in the Enterprise Survey data for 2005–06 and 2015–16 published by the National Sample Survey Organisation (NSSO). Primary survey data enables to distinguish between various categories of entrepreneurs and their enterprises in order to create characterisation of men and women entrepreneurs.

The analysis of the production efficiency of enterprises and industries may provide policy makers with essential data to help them allocate resources wisely and create industrial policies. The study, following other studies, attempts to measure enterprises' efficiencies that are engaged in custom tailoring activity in the West Delhi district of Delhi. This chapter aims to analyse the micro-enterprises technical efficiency that is run by male and female entrepreneurs in Delhi.

This chapter is organised into four sections. Section 4.2 is devoted to the introduction of the stochastic frontier model. Section 4.3 examine the structure and characteristics of women-owned microenterprises: a primary data analysis. Technical efficiency of male and female-owned microenterprises engaged in custom tailoring in West Delhi is analysed in Section 4.4. Finally, section 4.5 sums up with major findings.

4.2 Stochastic Frontier Analysis

Both parametric and non-parametric techniques can be used to determine efficiency. If all parameter in a parametric model is in a space with finite dimensions, the model is said to be parametric. If all of a model's parameters are contained within an infinite dimensional parameter space, the model is non-parametric.

The relative importance of parametric models for various cost/production drivers. Also, the parameters in possibly random noise and efficiency is often analysed.

So for this study, we adopted a parametric approach. This method can be classified into stochastic and deterministic models. There are statistical and non-statistical models in the deterministic model. When a model lacks statistical features, it is referred to be deterministic non-statistical. Though any hypothesis testing is impossible because it is difficult to draw a statistical conclusion about the estimated results.

The specific probability distribution is used to define the error term and the estimators have statistical characteristics, the deterministic models are statistical. In the econometric approach, the model-based statistical characteristics will be utilised to estimate the frontier function parameters and how statistical inference would perform based on those estimates. The fundamental benefit of deterministic statistical models is how simple it is to derive the every single independent estimates of productivity for productive units. It is assumed that every divergence from the frontier is regarded as that it is not efficient when estimating a deterministic frontier for all shared production units. The deterministic statistical frontier of maximum output is provided by a function where the error term only accounts for the technical efficiency of the decision-making units (DMU). The term 'unilateral error' also refers to other events that are outside its control and have an impact on its behaviour. Deterministic approaches, therefore, overvalue the residual estimation they produce.

The distribution free approach (DFA), stochastic frontier approach (SFA) and thick frontier approach (TFA) are the three main models in the parametric approach. Although DFA divides the inefficiencies in a different method, it must still describe a functional form for the frontier. According to DFA, random errors will average out to zero while each firm's efficiency is assumed to be constant and unchanging throughout time. This method does not provide any particular distribution types for the term "inefficiency." TFA, in which the difference between the highest average cost and lowest cost quartile indicates inefficiencies, is based on the assumption that the deviations from the predicted cost of each quartile represent random error. In contrast, in SFA, random errors in efficiency estimation is able to be accommodated. This method is adaptable for measuring the frontier production function and provides an accurate measurement estimate. SFA enables the testing of hypotheses pertaining to the model's goodness of fit. Therefore, in this section, we applied the SFA technique to analyse the technical efficiency of male-owned and female-owned microenterprises

engaged in custom-tailoring activity. SFA is a parametric approach that hypothesises functional form and econometrically estimate the parameters by using the data of that function and using their entire set of units that are responsible for decision-making.

Many studies have been conducted to estimate the technical efficiency of the manufacturing sector globally. Many researches have used stochastic frontier analysis (SFA) in their studies. The ability to predict an enterprise's technical efficiency within an industry depends on its frontier production functions (Njikam, 2003). In this situation, the production function places a cap on the maximum amount of output a business can hope to achieve with a specific set of parameters and a specific level of technical proficiency at a particular point in the production cycle. A method for estimating cost functions or production functions in economics that explicitly takes into consideration the possibility of enterprise inefficiency is called stochastic frontier analysis (SFA). The term "inefficiency" means that producers may have sub-optimal goals while making decisions to maximise, for instance, profits, production, revenue objective function, or decrease cost objective function.

A specific firm may also utilise stochastic frontier analysis to examine the comparative performance of its various business units (e.g., branches of bank or string of fast food outlets or merchandise stores). Production frontier is typically used to describe the connection between input and output. The maximum output that can be produced at various levels of input is predicted by the production frontier. As a result, it captures the industry's current technological status. This chapter uses stochastic frontier analysis (SFA), to estimate production functions while explicitly accounting for firm's inefficiency (Coelli, 2005).

Aigner et al. (1977) and Meeusen et al. (1977) first independently proposed the stochastic frontier production function. A production function with a two-part error component, one to be said for random effects and the other to be said for technical inefficiencies, was part of the original specification for cross-sectional data. The following form can be used to express this model:

$$Y_i = X_i \beta + (U_i - V_i) \quad i=1, \dots, N, \quad (4.1)$$

Where U_i are random variables that are presumed to be iid (identically and independently distributed) ($U \sim N(0, \sigma_u^2)$), Y_i is the production (or logarithm of the

production) of the i^{th} enterprises, X_i is an input quantity of the i^{th} enterprises, and β is an unknown parameter.

V_i is non-negative ($v \geq 0$) unobservable random variables that are assumed to account for technical inefficiency of production and are assumed to be iid (identically and independently distributed), ($V \sim N(0, \sigma^2)$). Moreover, V_i is a component of efficiency that also shows the variations from the maximum possible output that is due to inefficiency. These one-sided error can follow the distributions like half-normal, gamma and exponential. U is termed as the two sided normally distributed random error term $U \sim N(0, \sigma_u^2)$ that captures the stochastic effects (Aigner et al., 1977; Meeusen et al, 1977).

The Battese and Coelli (1995) introduced technical inefficiency effect model as

$$V_{it} = Z_{it} \lambda \quad (4.2)$$

Where Z_{it} is a vector of factors that may have an impact on an enterprise's efficiency, and λ is a vector of parameters that need to be calculated.

The maximum likelihood estimator was used by Battese et al. (1988). V_i and U_i are the random variables which are considered to be model variables that are mutually not dependent and also independent of the input variables. The assumed distribution is half-normal if $V_i = 0$. The technical efficiency of the i^{th} firms is calculated as a ratio of the determined to maximum feasible output, where the latter is provided by stochastic frontier production, where outputs are expressed in logarithms. The technical efficiency is measured as

$$TE_i = \exp(X_i \beta + U_i - V_i) / \exp(X_i \beta + U_i) \quad (4.3)$$

$$TE_i = \exp(-V_i) \quad (4.4)$$

The enterprises are completely technologically efficient if $V_i = 0$. FRONTIER 4.1, created by Coelli in 1994, is used to obtain maximum-likelihood estimates of the model parameters.

The technical inefficiency model can only be calculated in the case of cross-sectional data U_i 's are stochastic, if there is an effect of inefficiency, also, they have specific distributional properties (Coelli et al, 1995).

According to Farrell (1957), technical efficiency is the capacity to generate a certain output utilising a small amount of inputs when using a particular production method. The technical efficiency of production is measured by stochastic frontier production factor, was also established by Aigner et al. (1977) and Meeusen et al. (1977). The stochastic frontier production function reduces the shortcomings of the assumed error term in conventional production functions, which impose restrictions on statistical inference of the parameters and the ensuing efficiency of estimates, making it more appropriate for measuring technical efficiency. The stochastic frontier model's ability to distinguish between the contribution of variations in technical efficiency and the effects of exogenous shocks on output is one of its appealing features (Jondrow et al. 1982).

4.3 Structure and characteristics of women-owned microenterprises: primary data analysis

The analysis is based on 137 entrepreneurs (79 male entrepreneurs and 58 women entrepreneurs) working in the custom tailoring enterprises. Entrepreneurs samples are selected purposively. Only the owners who are chosen as respondents made up the sample. In person interviews with the sampled respondents utilising a pre designed questionnaire is used to gather data for custom tailors. The demographic characteristics of entrepreneurs involved in custom tailoring, background information on micro-enterprises, inputs used, amount and value of production and cost of production are among the data gathered through the interview schedule.

So before analysing the technical efficiency of the enterprises engaging in custom tailoring activity. This section examined the basic characteristics of men-owned and female-owned microenterprises engaged in custom tailoring activity.

Table 4.1 presents enterprise characteristics of entrepreneurs engaged in custom tailoring activity in the West Delhi district of Delhi. These characteristics reflect the substantial variation across the type of entrepreneurs. Some of the characteristics used are given below.

Table 4.1: Socio-economic background of male and female entrepreneurs engaged in custom tailoring activity in West Delhi, 2019-20.

Characteristics of entrepreneurs	Male entrepreneurs		Female entrepreneurs	
	Frequency	Percentage	frequency	Percentage
Age of enterprises (in years)				
<10	49	62.02	51	87.90
10-19	23	29.12	4	0.05
20-29	7	8.86	1	0.02
More than 30	0	0.00	2	0.03
Total	79		58	
Experience (in months)				
<10	21	26.58	51	87.93
10-19	55	69.62	4	6.89
20-29	3	3.80	1	1.72
More than 30	0	0.00	2	3.46
Total	79		58	
General Education Level				
Illiterate	6	7.59	10	17.24
Primary	23	29.11	0	0.00
Middle	29	36.71	7	12.07
Secondary	12	15.19	13	22.41
Senior secondary	6	7.59	15	25.86
Graduation and above	3	3.80	13	22.41
Total	79		58	
Social group				
ST	0	0.00	0	0.00
SC	8	10.13	2	3.45
OBC	26	32.91	8	13.79
Others	45	56.96	48	82.76
Total	79		58	

Source: Field survey, 2019-20.

Entrepreneurs' characteristics

Age of the enterprises: Age is captured as year of establishment of the enterprises.

Work experience: The number of months' work experience an entrepreneur had before setting up own enterprise.

Entrepreneur's level of education: The level of education is as the number of years of schooling completed.

Social Group: Group to which an entrepreneur belongs to like Others, Other Backward Caste (i.e. OBCs), Scheduled Caste (i.e. SCs) and Scheduled Tribes (i.e. STs).

Table 4.1 illustrates that many enterprises (male-owned and female-owned) have been established in recent years (within 10 years). A higher percentage of male entrepreneurs (69.62 per cent) reported having experience ranging from 10 to 19 months, whereas the majority of female entrepreneurs (87.93 per cent) reported having experience of up to 10 months. This implies that female entrepreneurs have less prior work experience in the similar business than their counterparts.

In the general education levels estimation, 82 per cent of female entrepreneurs and nearly 92 per cent of male entrepreneurs engaged in custom tailoring activity are literate. It implies that literate entrepreneurs are engaged in custom tailoring activity. In other words, there is a positive correlation between entrepreneurship and the level of general education. Out of that, a large proportion (36.71 per cent) of male entrepreneurs studied up to the middle level of education, while female entrepreneurs (25.86 per cent) were literate up to the senior secondary level. It implies that female entrepreneurs in comparison to male entrepreneurs, are less likely to have a very low level of general education. However, large number of female entrepreneurs hold graduate degrees in comparison to the male entrepreneurs.

With respect to the social categories, female and male entrepreneurs who fall under the others social group category are quite active in the custom tailoring activity. It is observed that entrepreneurs from upper castes with extensive expertise and education are engaged in the custom tailoring activity.

Table 4.2 demonstrate the characteristics of microenterprises involved in the custom tailoring activity. It shows that male-owned enterprises were less likely to expand (20.25 per cent) than female-owned enterprises (68.97 per cent), prefer to establish outside the home (96.20 per cent), were more formal (27.85 per cent), and were more contractual (29.11 per cent), priorities to set up establishment (96.20 per cent) than female entrepreneurs (60.34 per cent). However, both entrepreneurs prefer to set up an establishment (NDME and DME) rather than operate it solely (OAEs). Furthermore, the proportion of male entrepreneurs (29.11 per cent) who have accepted government aid is larger than that of their female counterparts (17.24 per cent). It also demonstrates that male entrepreneurs prefer to take credit (12.67 per cent) as compared to their counterparts (5.17 per cent). Out of which, male-owned formal enterprises prefer to take credit for operational purposes as compared to female-owned enterprises formal enterprises. Similarly, male-owned informal or unregistered enterprises are more exposed to credit risk than female-owned informal enterprises.

Table 4.2: Characteristics of male-owned and female-owned microenterprises engaged in custom tailoring activity in West Delhi, 2019-20.

Characteristics of microenterprises	2019-20	
	Male-owned	Female-owned
Expanded enterprises only (in last 3 years prior to 2019-20)	20.25	68.97
Location (outside household)	96.20	67.24
Formal enterprises	27.85	17.24
Contractual status	29.11	13.79
Types of enterprises (establishment)	96.20	60.34
Assistance received from government	29.11	17.24
Credit taken	12.67	5.17
Credit taken by formal enterprises	13.64	0.00
Credit taken by informal enterprises	12.28	6.25

Source: Field survey, 2019-20.

Table 4.3 presents the structure of enterprises owned by male and female respectively. Compared to male-owned microenterprises, female-owned microenterprises are producing less gross output, employ less number of employees, owned large fixed assets, and accounted for high worker productivity but low higher capital productivity. It also shows that female entrepreneurs hire more female workers than male entrepreneurs.

Table 4.3: Structure of male-owned and female-owned microenterprises engaged in custom tailoring activity in West Delhi, 2019-20. (in lakhs)

Variables	Male entrepreneurs	Female entrepreneurs
Enterprises (in numbers)	79 (57.66)	58 (42.34)
Gross output (in lakhs)	766	355
Total employment (in numbers)	272	98
Total female workers (in numbers)	9	11
Fixed owned assets (in lakhs)	48.53	90.59
Workers' productivity (output per labour) (in lakhs)	2.82	3.63
Capital productivity (output per fixed asset owned) (in lakhs)	5.60	3.92

Source: Field survey, 2019-20.

Though there are many difficulties in operating a business but women entrepreneurs confront less difficulties than their male counterparts. Women entrepreneurs must accept responsibility for patriarchal, commercial, and societal behaviours, including economic, social, and financial difficulties. Women are mostly viewed as domestic caretakers and childcare providers in many regions of the world. Many women may give up on their aspirations of starting their own business or pursuing a career due to family obligations, motherhood, and other factors (Buttner, 1993).

Table 4.4: Problems faced by male and female entrepreneurs engaged in custom tailoring activity in West Delhi, 2019-20. (per cent)

Problems	Male-owned	Female-owned
Local problems/harassments	0.00	1.72
Shrinkage /fall of demand	49.37	51.72
Non-availability / high cost of credit	18.99	3.45
Non-availability of labour as and when needed	7.59	5.17
Non-availability of skilled labour as and when needed	16.46	17.24
No specific problem faced	7.59	20.69

Source: Field survey, 2019-20.

Table 4.4 showed that only a small percentage of entrepreneurs, which is 7.59 per cent of male entrepreneurs and 20.69 per cent of female entrepreneurs, are having difficulties in operating their enterprises. Notwithstanding, male entrepreneurs face more challenges than their female counterparts. The major challenge faced by both male and female entrepreneurs is shrinkage/fall of demand, and the proportion of female entrepreneurs that experience this issue is larger (51.72 per cent) than male entrepreneurs (49.37 per cent). The second-most common issue for both male and

female entrepreneurs is non-availability / high cost of finance followed by unavailability of trained manpower whenever required.

4.4 Results of stochastic frontier analysis

The SFA technique is used in this section to estimate technical efficiency and analyse its drivers. In spite of its well-known shortcomings in comparison to more adaptable functional forms, like, the trans-log and quadratic forms, the Cobb-Douglas functional form is chosen to express the stochastic production frontier. First, multicollinearity issues are prone to these flexible functional forms (Lyu et al. 1984; Pavelescu 2011). Second, rather than analysing the overall structure of production technology, the research relies on the factors that determine efficiency. Third, there are many environmental factors and inputs to the production function that hinder convergence. Fourth, the Cobb-Douglas production function fits a variety of datasets and provides improved estimates when some fundamental presumptions are broken (Miller, 2008). The Cobb-Douglas production function has been used as an appropriate depiction of production technology (Taylor et al. 1986).

This Cobb-Douglas specification has the following logarithmic form:

$$\log Y = \beta_0 + \beta_1 \log L + \beta_3 \log K + \beta_4 \log R + \beta_5 \log C + U_i - V_i \dots\dots\dots(4.1)$$

$$\log Y^* = \beta_0 + \beta_1 \log L^* + \beta_3 \log K^* + \beta_4 \log R^* + \beta_5 \log C^* + U_i - V_i \dots\dots\dots(4.2)$$

Where: Y and Y* are Gross output for male entrepreneurs and female entrepreneurs; K and K* are total fixed assets owned (Rs) by male entrepreneurs and female entrepreneurs; L and L* are total amount of emoluments paid to worker employed (Rs) by male entrepreneurs and female entrepreneurs; R and R* are the value of raw material used (Rs) by male entrepreneurs and female entrepreneurs; C and C* are the value of accessed credit (Rs) by male entrepreneurs and female entrepreneurs.

U_i= random variable in model

V_i= random variable that are assumed to estimate for technical inefficiency.

Inefficiency model

$$V_{it} = \delta_0 + \delta_1 \text{Age} + \delta_2 \text{Experience} + \delta_3 \text{Dummy assistance} + \delta_4 \text{Dummy education} + \delta_5 \text{Dummy contract} + \delta_6 \text{Dummy location} + \delta_7 \text{Dummy registration status} + W_{it} \dots (4.3)$$

Where age is the age of the enterprises; experience is experience gained by entrepreneurs in different fields (like management, skilling, training, marketing etc)

before setting up their own enterprises; Dummy assistance is demonstrated as a dummy variable in which 1 denotes the entrepreneurs who have received assistance and 0 for those who have not received assistance; Dummy education is a dummy variable in which 1 for literate entrepreneurs and 0 for illiterate; Dummy contract is a dummy variable in which 1 for entrepreneurs have taken contracts of work and 0 for those have not taken; Dummy location is a dummy variable in which 1 for enterprises set up within the household boundary and 0 for those are operating outward of the household in any kind of premises; Dummy registration status is a dummy variable in which 1 for enterprises that are registered and 0 for those enterprises are not registered; and, W_{it} is the random error term.

In this study, four inputs are used for analysing the technical efficiency of enterprises engaged in custom tailoring activity, namely, fixed assets owned, raw materials, labour emoluments, and credit taken.

Regarding male-owned microenterprises, only fixed assets and raw materials are significantly associated with the gross output of the enterprises, at 5 per cent level of significance. Whereas fixed assets, labour emolument and credit found positive with gross output while raw material found negative relation with it. The sum of the elasticity of all four inputs is 0.842 which is less than one, implying decreasing returns to scale in production.

Regarding female-owned microenterprises, raw materials used, fixed owned assets and labour emoluments are three inputs (except credit) significantly different from zero at a 5 per cent level of significance. This indicates that all three of these inputs significantly influence the outcome produced by custom tailors in West Delhi. The output elasticity of labour emoluments and fixed assets demonstrated the favourable and statistically strong relationship with the gross output. In contrast, the output elasticity of raw material found negatively significant, indicating that those entrepreneurs using more raw material have significant impact on output or contribute to less in gross output. In other words, entrepreneurs using more raw material have a lesser contribution in gross output of the enterprises. This may be due to the excess use of raw material not contributing for output adequately. Moreover, the coefficient of credit is positively insignificantly positive indicates that those entrepreneurs taking more credits do not significantly impact on output or contribute positively in gross output.

Table 4.5: Determinants of stochastic production frontier and technical inefficiency models, 2019-20.

Determinants of stochastic production frontier	Male entrepreneurs	Female entrepreneurs
Constant (β_0)	0.69 (0.91)	1.75 (0.54)
Labour emoluments (β_1)	0.01 (0.011)	0.02** (0.008)
Fixed assets (β_2)	1.17** (0.116)	1.26** (0.04)
Raw material (β_3)	-0.34** (0.07)	-0.54** (0.05)
Accessed credit (β_4)	0.002 (0.005)	0.013 (0.01)
Determinants of technical Inefficiencies		
Age (δ_1)	-4.95 (7.26)	-5.00* (2.71)
Experience (δ_2)	-2.11 (2.16)	-1.38 (1.50)
Dummy assistance (δ_3)	-0.40 (3.43)	1.94 (1.84)
Dummy education (δ_4)	0.632 (3.43)	-0.210 (2.58)
Dummy contract (δ_5)	-6.36 (6.18)	-4.26* (2.53)
Dummy location (δ_6)	-0.56 (4.31)	-1.28 (1.74)
Dummy registration status (δ_7)	-2.40 (4.74)	0.54 (1.86)
Constant	9.83 (15.99)	9.31 (7.16)
sigma-squared ($\sigma^2 = \sigma_u^2 + \sigma_v^2$)	0.027 (0.02)	0.049 (0.04)
Sigma-squared (σ_u^2)	0.002	0.004
Sigma-squared (σ_v^2)	0.025	0.045
Sigma (σ_u)	0.039	0.061
Sigma (σ_v)	0.159	0.213
Lamda ($\lambda = \sigma_u / \sigma_v$)	0.250 (2.76)	0.285 (12.35)
Gamma ($\gamma = \sigma_u^2 / \sigma^2$)	0.058	0.075
Log-likelihood	36.164	14.857
Number of observations	79	58
Mean efficiency (per cent)	97.36	96.49

Note: ***1% level of significance, **5 % level of significance, *10% level of significance.

Source: Computed from field survey data, 2019-20

The results imply that fixed assets is the crucial determinant among all other input which significantly and positively influences the performance of the enterprises owned by both male and female entrepreneurs. It also reveals that for women entrepreneurs fixed assets, labour emoluments and credit play more significant role in rising output than male entrepreneurs engaged in custom tailoring activity.

Furthermore, Coelli (1995) pointed out that the residuals from an OLS regression would be adversely skewed if an inefficiency term was present. Coelli developed a one-sided test for the presence of the inefficiency component by recognising negative skewness in the residuals when an inefficiency term was present. The factors that contribute to technical inefficiency are shown in lower part of Table 4.5. The null hypothesis that there is no inefficiency thus rejected. It should be noted that the inefficiency level parameter's typically enters the inefficiency effects component of the model (second stage) as the dependent variable in the stochastic frontier estimate. A negative coefficient variable is therefore viewed as having a positive impact on efficiency (also known as a reduction in inefficiency). Similarly, a positive coefficient, on the other hand, is regarded as having a negative impact on efficiency (increasing inefficiency) (Brummer et al., 2000; Coelli, 1995).

The computed inefficiency effects show that many of the explanatory variables for technical inefficiency are statistically insignificant and have the expected signs in the stochastic frontier of both male and female entrepreneurs. The results show that every estimated coefficient has a negative sign, except for the dummy education for male-owned microenterprises and the dummy registration status and dummy assistance for female-owned microenterprises.

Additionally, regarding male-owned microenterprises, the coefficient of the age of the enterprises and the experience that entrepreneurs had before establishing the microenterprise, found both negative which depicts that older and more experienced enterprises become much more efficient over the time. Similarly, a negative coefficient for dummy assistance, dummy contract, dummy location, and dummy registration status demonstrates that enterprises operating with government support, working for contractors, setting up inside the home, and more formal in nature were found more efficient than enterprises operating without government assistance, not working for contractors, setting up outside the home, and more informal in nature. Their

coefficients, however, are not statistically significant. This indicates that none of these factors strongly affect the efficiency/inefficiency of the enterprises.

Regarding female-owned enterprises, age of the enterprises and dummy contract variables have significant impact on efficiency, at 10 per cent level of significance. This implies that as an enterprise's age increases, its efficiency also increases (Bhasin et al, 2000). The coefficient of dummy contract represents that enterprises working for contractors found more efficient than those are not. The enterprise efficiency is positively and insignificantly associated with experience, dummy education, and dummy location. It reveals that when highly experienced entrepreneurs operate the enterprises, the firm become more efficient. Moreover, the efficiency of the enterprises' increases as more literate people manage them. Household-based enterprises are more efficient than those that located outside the household (Bhasin et al, 2009).

The finding with respect to the technical efficiency determinants are in conformity with Weir (1999), Ajibefun et al., (1999), Obwona (2000), Weir et al., (2000), Bhasin et al., (2001). Weir (1999) discovered that increased schooling reduces the inefficiency. Ajibefun et al., (1999) and Bhasin et al., (2001) supported found that level of education and experience significantly influences the efficiency. Obwona (2000); Weir et al., and (2000) favoured that efficiency and level of education are positively associated. Bhasin (2002) supported that experience significantly influence the efficiency.

These results reflect that the efficiency differs significantly between male and female owned microenterprises. It states that female entrepreneurs found slightly less technical efficient (96.49 per cent) than male entrepreneurs (97.36 per cent). This may be due to uneven distribution of resources and various resource management techniques among the selected enterprises (Li et al., 2007).

Furthermore, the gamma coefficient (coefficient of technical efficiency) has values of 0.0586 and 0.0752 showing that random error U_i , technical inefficiency V_i , accounts for the great majority of the error variation. This leads to the conclusion that the random components of the inefficiency effect are not contributing significantly to the analysis. A low gamma values represents that there is presence of insignificant random shocks in the performance or production of female owned and male owned enterprises.

Using their existing level of inputs use more efficiently, male custom tailors (entrepreneurs) may increase output by an average of 3 per cent, whereas female entrepreneurs may increase output by an average of 4 per cent. This concludes that women entrepreneurs engaged in custom tailoring found less efficient than men entrepreneurs.

4.5 Summing Up

This chapter analysed the structure of male owned and female owned enterprises engaged in custom tailoring activity and their characteristics. It also discusses the entrepreneur problems faced during running their enterprises in West Delhi. This chapter also measures the level of technical inefficiency in custom tailoring activity in Delhi. The Stochastic frontier model was employed on cross-sectional data covering randomly sampled 137 manufacturing microenterprises, out of that 79 enterprises are owned by male entrepreneurs and remaining 58 are owned by female entrepreneurs in West Delhi district of Delhi.

The socio-economic characteristics of male and female entrepreneurs show that custom tailoring activity (entrepreneurship) is the occupation of literate and highly experienced entrepreneurs belonging to upper caste, the other category of social groups. Notably, the economic characteristics of enterprises reveal that male-owned microenterprises found less expanding, more likely to set up outside the household, more exposed to work on contract, comparatively takes higher government assistance and credit taken than female owned microenterprises. Moreover, both male and female entrepreneurs preferred to set up establishment (NDME and DME) rather than own account enterprises but the proportion of operation of establishment is higher for male entrepreneurs.

The structure of female owned enterprises and male owned enterprises engaged in custom tailoring activity illustrates that male owned enterprises generated higher GVA, employ more workers, less owned fixed assets, and generated higher capital productivity than female owned enterprises; they accounted higher labour productivity and employed higher female workers than male owned enterprises engaged in custom tailoring activity.

The estimation of the stochastic production frontier function for custom tailoring enterprises in West Delhi explains that raw materials found as the major factor that significantly and positively affect the production of the female owned and male owned enterprises engaged in custom tailoring activity in west Delhi district of Delhi. Female-owned microenterprises are found to be less efficient than male-owned microenterprises.

This result implies that by making better use of their current level of inputs, custom tailors may increase the gross output of their enterprises.

CHAPTER 5
THE ROLE OF NETWORKING IN MANUFACTURING
AND MARKETING OF WOMEN-OWNED MICROENTERPRISES IN DELHI

5.1 Background

Entrepreneurship is the sole act of transforming resources into commercial goods and services through innovation, investment, and business skills (tangible or intangible). This creates new enterprises or help revitalise existing enterprises (Shane, 2003). The entrepreneurial process is far more involved and requires much more effort and commitment than simply starting a new project. Before starting a business, the entrepreneur wants to take several actions. People have known to stake a business idea on coincidence, willpower, and deliberate search (Bygrave et al., 2010).

According to traditional economic theory, factors like capital, labour, land and entrepreneurship are the primary elements of production (Bhattacharyya et al., 2010). Other than these, network also plays an important role in the entrepreneurial activity to run the enterprise and to increase its efficiency. Many scholars have claimed that specific characteristics of social networks can be advantageous in the context of enterprises (Hite et al., 2001; Johannisson et al., 1994).

Networks are mostly about social interaction. They play a dynamic role in the ongoing development of an individual and collective identities. Networks are essential to entrepreneurship because they enable the effective distribution of resources (knowledge, cash) and the transfer of information about entrepreneurs to a larger community. Networking is a process by which entrepreneurs learn about innovative entrepreneurial ideas (Birley,1985; Blake, 2001; Birley et al.,1991).

Business networks ought to include both formal participants and informal participants (Davidsson et al., 2003). Informally or formally structured groups of enterprise owners are referred to as entrepreneurial networks. It helps to boost the efficiency of their business through activities of their members (Birley, 1985). Entrepreneur's strong networks consist of his/her family, friends, and other close associates. Deep and protracted contacts frequently result in the formation of these connections (Greve et al., 2003; Davidsson et al., 2003; Jack, 2005). Weak networks is a group of entrepreneurs who do not have deep connections and only occasionally interact with each other, such

as those who belong to the same social circle as entrepreneurs, friends of friends, or random people (Granovetter, 1982; Aldrich et al., 1995).

Networking creates routes for transferring sensitive information and makes it easier to communicate data that is useful and crucial to business operations. Entrepreneurs rely on their networks of personal and professional ties to make decisions, address issues in their firms, and develop strategic approaches. Although male and female entrepreneurs may have different social networks, this can affect their results (Martinez et al., 2011). Networking is useful in expansion of business by creating good business ideas and practices (Brüderl et al., 1998).

These networks can offer beneficial services that the entrepreneur does not "own," which are crucial in helping the entrepreneur accomplish the aims and objectives of his enterprise. The entrepreneurial network's members support both personal and financial resources. A typical instance is a successful businessman who uses social media to look for finance (Johannisson, 2011).

The importance of these networks in the growth and success of enterprise operations has been strongly emphasised in the literature as they are now a valuable asset (Gedajlovic et al., 2013; Johannisson et al., 1984; Hite et al., 2001). Networks play a crucial part in people's goals as well as the abilities required to succeed in business (Scott et al. 1988; Matthews et al., 1996).

An entrepreneur's close associations with his "external actors or outsiders" are known as entrepreneurial networks (Aldrich et al., 1986). In order to obtain information, assistance with other resources and moral support, the small business owners have a network of long-term relationships with external actors which provides support to the preceding notion (Dubini et al., 1991; Birley et al., 1991).

According to Hair et al. (2010), contacts in these social networks—also known as social funds—can offer entrepreneurs helpful information, resources, and explanations (De Beer et al., 2016). Studies by Watson (2007) and Westlund et al. (2010) and others have demonstrated that the performance of small and medium enterprises is positively related to funds available from networks. Arregle et al. (2013) discussed that networks and community-based entrepreneurs collaborated with their work. Networks allow entrepreneurs to access assets and money that may be utilised to buy other resources.

Many new business owners are stated to have limited expertise, abilities, successful experience, and the capacity to provide a mortgage at the beginning of the process (Cassar, 2004). Therefore, convincing others outside the banking system is the only way to get funding and minimising the risks associated with the business (Martinez et al., 2011).

Entrepreneurs can use the entrepreneurial network as an important information source to eliminate uncertainty and identify and embrace opportunities. Given the absence of practical business experience previously noted, new business owners frequently lack the abilities and information required to form a positive business mindset, such as marketing and consumer demands, technology, and resource management (Vohora et al., 2004; Shane et al., 2000;). However, according to some researchers, these abilities can be developed through close interaction (Mosey et al., 2007; Liñán et al., 2007; Davidsson et al., 2003).

At various stages of the business process, contacts in the entrepreneurial network can offer moral support, guidance, inspiration, and encouragement (Lián et al., 2007). In line with this, Johannisson (2000) discovered that social media users play a significant role in promoting a company by giving entrepreneurs advice and moral support through the business plan and information.

When a shared value needs to be traded, networks are crucial. Women and men use their networks differently. Women's business networks are comparatively smaller than business networks of men and are primarily created by other women (Staber, 2001). Members of the network work together to help those with limited time and financial resources accomplish market research (Malecki et al., 1994). However, most business owners operate their companies to obtain competitiveness rather than collaborate and build alliances with similar enterprises (Rocha et al., 2009). The benefits of networking activities attained by an entrepreneurs can be find out through its establishment and how it promotes its cooperative entrepreneurial networks (Doris, 2016).

The social networks are the key which helps to learn about entrepreneurship by focusing on the individualistic perspectives of family members or social communication. One or more of the following traits may be present in a relationship: i) the verbal exchange of advice or information between two people, ii) the exchange of

services or goods between two people, and iii) the expectations each person has of others as a result of some unique characteristics they acquire (normative content). The frequency and cooperation of interpersonal relationships should be considered when calculating the strength of the tie to determine whether it is a strong tie or a weak tie (Aldrich et al., 1986).

No matter how far the social networking field of study develops, gender-related observations in mainstream network literature are typically restricted to comparing how women and men use social networks (Jennings et al., 2013; Aldrich et al., 1989). A progressive field of study focuses on understanding the "gender gap" instead of gender inequality and provides several justifications for it. It concludes that the gender difference in entrepreneurship is related to gender inequality in social networks (Klyver et al., 2010; Brush et al., 2012; Shaw et al., 2009). Many studies describe specific networking strategies that women find helpful for expanding their groups (Bogren et al., 2013; McGowan et al., 2015).

An important business skill for start-ups and their expansion is the ability to create and manage functional networks. The growth of networks and communication tools for female business owners has received scant attention, and few such works have been done for technology-based enterprises (Brush et al., 2012). There is limited data to support the idea that female entrepreneurs may adopt different strategies for networking and participation than their male partners. This chapter focuses on role of networking in marketing and manufacturing of product produced in microenterprises, particularly women-owned microenterprises in Delhi.

It is crucial for researchers, decision-makers, and entrepreneurs to examine the characteristics of networking structures and how entrepreneurs use social connections to access other resources. In light of the significance of women's entrepreneurship in job creation, the function of networking in encouraging the growth and success of female entrepreneurs relative to male entrepreneurs is of extreme significance. It has been suggested that networking among female business owners can enhance the performance of a business (Skokie, 2015). This chapter investigates whether social networking plays a role in the marketing and manufacturing of products produced by men and women entrepreneurs.

This chapter analysis is based on primary data of entrepreneurs engaged in custom tailoring activity in the west Delhi district of Delhi. In this study, social networking is captured on the basis of five factors and these factors are adopted from Omwenga et al. (2013). The scale consisted of five factors covering; active participation of family members, relatives and friends; accessibility and availability of advisors and mentors in business matters; the role of social media; involvement with women's groups enhances networking; and networking and support system among entrepreneurs. The responses for these five factors are captured on a five-point Likert scale. The participants' responses indicated how much they agreed with each statement; 1 goes for strongly disagree; 2 for disagreed, 3 for neither agree nor disagree, 4 for agree and 5 for strongly agree. The scale of the social network demonstrated superior reliability.

In this chapter, the mean of each social networking factor is utilised to assess the association between the study variables. The relative importance index (RII) is also estimated to analyse the relative importance of the factors of social networking. After that, the two-stage least squares method (2 SLS) was applied to examine the impact of social networking on the performance of male and female-owned enterprises.

This chapter contains the following sections: Section 5.2 explains the Likert scale data collection based on five statements representing networks of male and female entrepreneurs. Section 5.3 analyses the effect of networking on the performance of microenterprises, particularly custom tailoring activity, run by male and female entrepreneurs. Section 5.4 concludes the chapter with major findings.

5.2 Social Networking Analysis

For social networking analysis, the respondents were given five statements that were then taken as factors of social networking listed as the active participation of family members, relatives and friends; availability and accessibility of mentors and advisors; the role of social media; social networking of women entrepreneurs; support system (relatives, friends, family) and networking among entrepreneurs. Moreover, their responses were placed on a Likert scale of 1 to 5, which says 1 as strongly disagreed, 2 as disagreed, 3 as neither agree nor disagree, 4 as agree and lastly, 5 as strongly agree (Jeff et al., 2004).

Table 5.1: Average responses (on Likert scale) for each social networking factors by entrepreneurs engaged in custom tailoring activity in West Delhi, 2019-20.

Factors of networking	Response	Male entrepreneurs			Female entrepreneurs		
		Frequency	Per cent	Mean	Frequency	Per cent	Mean
Active participation of family, relatives and friends	Strongly Agree	23	29.11	4.23	21	36.21	4.14
	Agree	51	64.56		24	41.38	
	Neutral	5	6.33		13	22.41	
	Disagree	0	0		0	0	
	Strongly Disagree	0	0		0	0	
Availability and accessibility of mentors and advisors	Strongly Agree	20	25.32	4.23	11	18.97	3.79
	Agree	57	72.15		24	41.38	
	Neutral	2	2.53		23	39.66	
	Disagree	0	0		0	0	
	Strongly Disagree	0	0		0	0	
Role of social media	Strongly Agree	5	6.33	3.71	3	5.17	3.52
	Agree	46	58.23		24	41.38	
	Neutral	28	35.44		31	53.45	
	Disagree	0	0		0	0	
	Strongly Disagree	0	0		0	0	
Social networking of women entrepreneurs	Strongly Agree	24	30.38	4.24	14	24.14	4.22
	Agree	50	63.29		43	74.14	
	Neutral	5	6.33		1	1.72	
	Disagree	0	0		0	0	
	Strongly Disagree	0	0		0	0	
Support system (relatives, friends, family)and networking among entrepreneurs	Strongly Agree	22	27.85	4.15	13	22.41	3.83
	Agree	47	59.49		22	37.93	
	Neutral	10	12.66		23	39.66	
	Disagree	0	0		0	0	
	Strongly Disagree	0	0		0	0	
Overall mean				4.11			3.89

Source: Field survey, 2019-20

Table 5.1 presents the mean of each factors of social networking and overall mean of all the social networking factors. Since, the average mean is in fractions (decimal) that make it difficult to demonstrate the average character of each of the social networking factors. Therefore, the range of responses is calculated by applying the range¹³ formula that is difference of largest value and smallest value divided by largest value of response (Table 5.2).

Table 5.2: Results of Likert Scale analysis, 2019-20.

Scale	Range	Response	Modified categories for interpretation
1	1.00-1.80	Strongly Disagree	Very low
2	1.81-2.60	Disagree	Low
3	2.61-3.40	Moderately Agree (neutral)	Moderately high
4	3.41-4.20	Agree	High
5	4.21-5.00	Strongly Agree	Very high

Source: Field survey, 2019-20.

Table 5.2 presents the modified range of responses. Taking the mean value of each of the social networking factors from Table 5.1 and comparing it with the range of responses in Table 5.2. Regarding the male entrepreneurs, the mean value of factors including active participation of family members, relatives and friends; accessibility and availability of advisors and mentors; social networking of women entrepreneurs was 4.23, 4.23, and 4.24 respectively which indicate that average responses of male entrepreneurs were strongly agree with the above three factors of social networking. These factors help male entrepreneurs to build social networking that benefit them to market their products and generate higher revenue through rise in sales. The mean value of remaining two factors of social networking revealed that male entrepreneurs were only agree with these two factors. In contrast, regarding female entrepreneurs, only one factor of networking that is social networking of women entrepreneurs found strongly helpful for female entrepreneurs to create useful social networking. However,

¹³ Range = (largest value-smallest value) / highest number of scale = (5-1)/5= 0.80.

it also concludes that none of the entrepreneurs responded against the five factors of social networking.

The estimation of overall mean, in Table 5.1, was estimated to understand the average character of the overall responses for all the factors of social networking combinedly. Therefore the overall mean is computed on the basis of the geometric mean by taking an average of all the five factors of social networking. The formula to estimate the geometric mean is

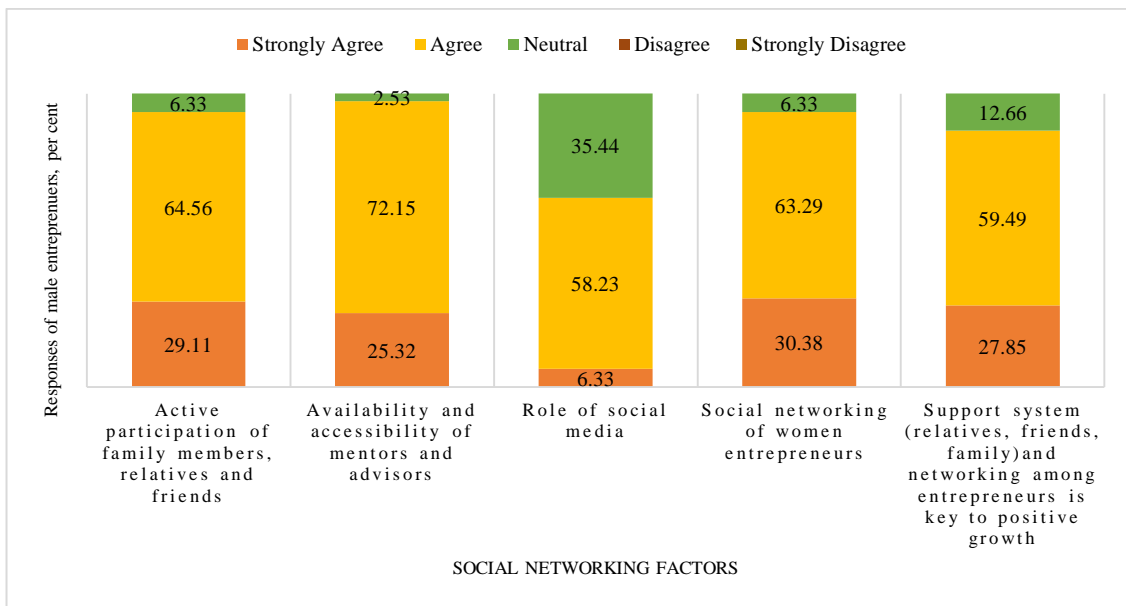
$$\text{Geometric Mean} = \sqrt[5]{f_1 * f_2 * f_3 * f_4 * f_5}$$

Where f_1 is the average of the first factor of social networking, that is, active participation of family members, relatives and friends; f_2 is the average of the second factor of social networking, is availability and accessibility of mentors and advisors; f_3 is the average of the third factor of social networking that is the role of social media; f_4 is the average of the fourth factor of social networking that is social networking of women entrepreneurs; and, f_5 is the average of fifth and last factor of social networking that is a Support system (relatives, friends, family) and networking among entrepreneurs.

Comparing the overall mean of female and male entrepreneurs (Table 5.1) with the modified range of responses (Table 5.2), it reveals that both female and male entrepreneurs agreed with all five factors of social networking and that these factors help to build better social networking. Compared to male entrepreneurs (4.11), the overall mean value of social networking factors (3.89) for female entrepreneurs reveals that female entrepreneurs comparatively less agreed with the factors of social networking than male entrepreneurs.

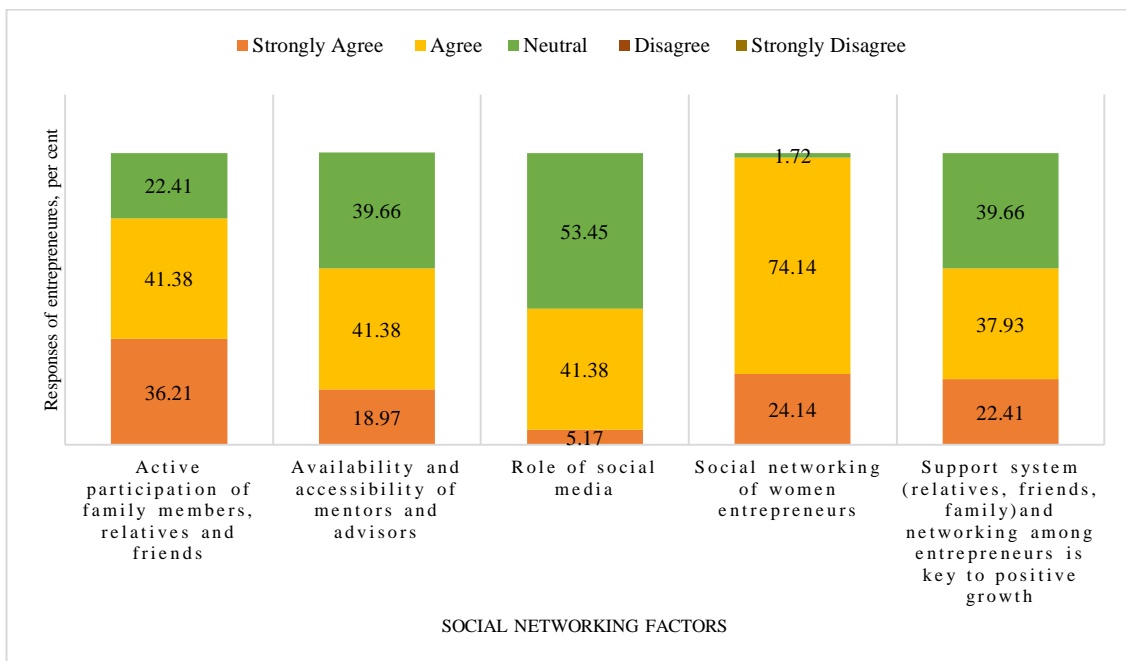
For more clarity, the responses given by both female entrepreneurs and male entrepreneurs for each social networking factor are presented in Figures 5.1 and 5.2.

Figure 5.1 Response of male entrepreneurs for each factors of social networking, 2019-20. (Per cent)



Source: Field survey, 2019-20.

Figure 5.2 Response of female entrepreneurs for each factors of social networking, 2019-20. (Per cent)



Source: Field survey, 2019-20.

A Relative Importance Index (RII) (Khatib, 2014) was computed to determine the relative importance of social networking factors. The values of the Likert scale used are equal to the value of W, the weight given by respondents to each factor. The Relative Importance Index (RII) is estimated using equation (5.1).

$$\text{Relative Importance Index (RII)} = \sum W / AN \dots\dots\dots(5.1)$$

Where: W stands for the weight given to each factor by the respondent; N for the total number of respondents; A for the highest weight given research;

Since there are five factors of social networking, the formula used in the present study is as follows.

$$\text{Relative Important Index (RII)} = \frac{5n_5 + 4n_4 + 3n_3 + 2n_2 + 1n_1}{A * N}$$

Where n_1 = number of response for Strongly Disagree

n_2 = number of response for Disagree

n_3 = number of response for Neutral

n_4 = number of response for Agree

n_5 = number of response for Strongly Agree

A (highest weight) = 5

N (Total number of respondents) = 137 (79 male entrepreneurs and 58 female entrepreneurs)

Table 5.3 shows the rank and value of the Relative Importance Index (RII) according to networking factors. The Relative Importance Index (RII) analysis reveals that factor 4 of social networking, that is, entrepreneurs' involvement with women's groups, is found relatively very important for male-owned microenterprises to create better social networking to market and manufacture the product to improve sales in the future. In contrast, male entrepreneurs are given least importance to factor 3 which is the role of social media. Regarding female entrepreneurs social networking, factor 5 that is support system (relatives, friends, family) and networking among entrepreneurs, attained the top priority. In contrast, factor 3, the role of social media, again placed at least important factors of social networking.

Table 5.3: Results of relative importance index (RII), 2019-20.

Male Entrepreneurs																
	n ₅	n ₄	n ₃	n ₂	n ₁	5n ₅	4n ₄	3n ₃	2n ₂	1n ₁	tota l	N=7 9	A= 5	A* N	RII	RAN K
Factor 1	2 3	5 1	5	0	0	11 5	20 4	15	0	0	334	79	5	395	0.846	2
Factor 2	2 0	5 7	2	0	0	10 0	22 8	6	0	0	334	79	5	395	0.846	2
Factor 3	5	4 6	2 8	0	0	25	18 4	84	0	0	293	79	5	395	0.742	4
Factor 4	2 4	5 0	5	0	0	12 0	20 0	15	0	0	335	79	5	395	0.848	1
Factor 5	2 2	4 7	1 0	0	0	11 0	18 8	30	0	0	328	79	5	395	0.830	3
Female Entrepreneurs																
	n ₅	n ₄	n ₃	n ₂	n ₁	5n ₅	4n ₄	3n ₃	2n ₂	1n ₁	tota l	N=5 8	A= 5	A* N	RII	RAN K
Factor 1	2 1	2 4	1 3	0	0	10 5	96	39	0	0	240	58	5	290	0.828	3
Factor 2	1 1	2 4	2 3	0	0	55	96	69	0	0	220	58	5	290	0.759	4
Factor 3	3	2 4	3 1	0	0	15	96	93	0	0	204	58	5	290	0.703	5
Factor 4	1 4	4 3	1	0	0	70	17 2	3	0	0	245	58	5	290	0.845	2
Factor 5	1 3	2 2	2 3	0	0	65	88	93	0	0	246	58	5	290	0.848	1

Note: factor 1-active participation of family members, relatives and friends; factor 2- Availability and accessibility of mentors and advisors; factor 3-role of social media; factor 4- Social networking of women entrepreneurs; and factor 5- Support system (relatives, friends, family) and networking among entrepreneurs.

Source: Field survey, 2019-20.

5.3 Two-stage least squares regression model

A two-stage least squares (2SLS) regression analysis statistical method is used in the analysis of structural equation. It is applied when the independent variables and the error terms of the dependent variable are correlated. The value of the error terms is fundamentally assumed to be independent of predictor variables in the ordinary least square approach. When this assumption is violated, the two-stage least squares regression is used to fix this problem (James et al., 1978).

For two-stage least squares analysis, it is presupposed that a secondary predictor exists that is connected with the predictor (first stage) but not with the error term. Given that the instrument variable is present, the following two techniques are:

In the first stage: the instrument variable is used to construct a new variable. The second stage involves computing an OLS model for the target response by substituting the model-estimated values from stage one for the real values of the endogenous variables.

Therefore, in two-stage least-squares regression, the value of the endogenous variable is determined by the instruments in the first stage, then, that value of the endogenous variable is used to predict the dependent variable in the linear regression model in the second stage. (Angrist et al., 1995).

In other words, the underlying assumption in ordinary least square regression is that, the independent variable (s) are not related to the errors of the dependent variable. When this is not the case, ordinary least squares (OLS) no longer produces the optimal model estimates. In two-stage least-squares regression, the estimated values of the predictor(s) are first calculated using instrumental variables that are not correlated with the error terms. Then, the value of the endogenous variable is used to predict the dependent variable in the linear regression model in the second stage. The outcomes of the two-stage model are consistent since the computed values are based on factors that are not connected with the error term (Scott et al., 1982).

Consider the following linear model:

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + u_i \dots\dots\dots(5.1)$$

Where Y_i is the dependent variable; X_1 , X_2 , and X_3 are the independent variables; and u_i is the error term. If one or more independent variables, say X_3 , is endogenous that mean it is correlated with the error term u . In other word, if an explanatory variable is correlated with the error term in the model, then the Ordinary Least Squares (OLS) estimator is called as inconsistent estimator. If this problem arises in the OLS model, it question the reliability of the model. The estimator generates the biased value which is not equal to the true value of the estimator.

One way to resolve this problem is to break the X_3 explanatory variable into two parts. The first part has no correlation with the error term, and this portion is an exogenous portion of the X_3 variable. Then, placed it back in the model in equation 5.1. Moreover, the second part of X_3 is correlated with the error term and removed from the model, and it is an endogenous component of the X_3 variable.

The second way to resolve the problem is to Identify a variable Z_3 that is an instrument for X_3 . With the following properties:

1. It (Z_3) is correlated with X_3 , which means it satisfies the first of the standards as mentioned above.
2. It (Z_3) satisfies the second requirement that it is not correlated with the error term.

Now, replacing the endogenous variable X_3 with Z_3 in the model given in equation 5.1, we get equation 5.2

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 Z_3 + u_i \dots\dots\dots(5.2)$$

In the equation 5.2, all the explanatory variables are exogenous. The two-stage Least-squares regression method can be reliably used to estimate this model (equation 5.2).

5.4 Effect of networking on the performance of male-owned and female-owned microenterprises.

Performance describes how well an organisation is doing or succeeding. Productivity, efficiency, sustainability, and competitiveness are all aspects of performance. The ability of the company to access and utilise resources efficiently while making a profit and justifying the risk taken and the interest earned is a key component of its economic performance (Ciurea et al., 2015; Musau et al., 2018). Many studies have taken product quality, sales growth, returns on investment, returns on equity, returns on assets, employment growth, gross profit margin and market share growth as indicators of an enterprise performance. In this research, to measure the performance of enterprises the dependent variable is profit (Kiveu et al., 2019).

To know the effect of social networking on the performance of women and men owned microenterprises, it is important to analyse whether there is any influence of social networking on the performance of the microenterprises. For that purpose, the two-stage least squares regression technique was applied (Land et al., 1992). The null hypothesis is that networking positively influences the manufacturing and marketing of products of microenterprises. Furthermore, an alternative hypothesis is that networking negatively influences the manufacturing and marketing of products in microenterprises.

The two stage least square regression equation is as follows

$$\text{Log Profit} = \beta_0 + \beta_1 \log \text{SN} + \beta_4 \log \text{Int} + \beta_5 \log \text{L} + \beta_6 \log \text{R} + \text{Ui} \dots\dots\dots \text{(first stage)}$$

$$\text{Log Social Networking} = \beta_0 + \beta_1 \log \text{AGE} + \beta_2 \log \text{EXP} + \beta_3 \text{EDU} + \text{Ui} \dots \text{(second stage)}$$

In the first stage, the profit is estimated as difference between gross output and total operating cost of a firm, SN is social networking, L is labour emoluments, R is raw material used, and Int is interest paid by entrepreneurs.

In second stage, SN becomes the dependent variable whereas AGE is firm's age, Exp is experience of entrepreneurs obtained, EDU is general education received by entrepreneurs. Ui is a random term that the model uses to account for the impact of unknown variables.

Dependent variable in the first stage

Profit: It is calculated as difference between gross output and total operating cost.

Independent variables in the first stage

Social Networking (SN): The response for all five factors of social networking were used to create a new variable, namely social networking index, by applying the min-max method of normalisation.

Formula for min-max method of normalisation =
$$\frac{X - \text{minimum value}}{\text{Maximum value} - \text{minimum value}}$$

Where X is the response value for each factors of social networking by each entrepreneurs.

Before applying the min-max method of normalisation, we first sum the responses by each entrepreneur for all five factors of social networking and then applied the min-max method of normalisation formula to estimate the new variable that is social networking for further analysis.

Interest paid in a year (Int): It is estimated as the interest rate paid by entrepreneurs against their borrowings or debts.

Labour emolument (L) : It is calculated as the emoluments paid to labour against their work.

Raw material (R): It is estimated as raw material used to produce their final goods.

Instrumental variables in the second stage

In the two-stage least squares analysis, Instrumental variables are needed in the first stage to estimate the predicted values for the endogenous variables (Hsiao, 1997).

Firm's age (AGE) is estimated as the number of years since firm was established.

Entrepreneurs' experience (EXP) is by number of months of experience before setting up the enterprises by the entrepreneur.

Entrepreneurs' education (EDU) measures levels of general education where level 1 is for illiterate; level 2 is for literate up to primary; level 3 is for literate up to middle;

level 4 is for literate up to secondary, level 5 is for literate up to senior secondary, level 6 is for literate up to degree and above).

Table 5.4 presents the coefficient of determination (R^2), indicating that the overall goodness of fit was relatively high for female entrepreneurs (0.577) than for male entrepreneurs (0.087). It indicates that the interest paid, labour emoluments, raw material and social networking can better explain the changes in profit in female-owned microenterprises than in male-owned microenterprises engaged in custom tailoring activity in West Delhi. The F-values of models I and II indicate that the overall regression analysis is statistically significant.

In the first stage of model I, the coefficient of social networking reveals that social networking is significantly and firmly associated with the profit of male-owned microenterprises. However, as per model II, social networking was positive but insignificant to the profit of female-owned microenterprises engaged in custom tailoring activity. This may be due to the degree of participation in the networks, and the reliability of the information and resources gathered from networking provided as proof of this. Through networking, a business owner can establish vital relationships, collaborate with others, and create collaborations that ultimately result in new business opportunities (Wallace, 2006; Buckley et al., 2016; Das et al., 2019; Kariuki, 2015; Veleva et al., 2018; Adomako et al., 2018). However, it implies that social networking helps to boost the performance of female and male owned microenterprises.

In model I, the coefficient of interest paid indicates a negative but insignificant association between interest paid and profit generated by the male entrepreneurs. Similarly, in model II, the coefficient of interest paid reveals no impact of interest paid on the profit of enterprises owned by female entrepreneurs. The coefficient of raw material indicates that there is no significant influence of raw materials on profit in male and female-owned microenterprises. The coefficient of labour emoluments reveals that it positively and significantly influences the profit of male-owned microenterprises (model I). In contrast, it is insignificant to the profit of the enterprises (model II) engaged in custom tailoring activity in West Delhi.

Table 5.4: Two-stage least squares regression results: effects of networking on the profitability of enterprises, 2019-20.

Profit (First Stage)	Male entrepreneurs (Model I)	Female entrepreneurs (Model II)
Log social networking	1.87** (0.781)	1.82 (1.92)
Log interest Paid	-0.0004 (0.015)	0.037 (0.047)
Log labour Emolument	0.081*** (0.025)	0.057 (0.064)
Log raw material	0.173 (0.128)	-0.005 (0.142)
Constant	9.76 (1.21)	11.49 (1.16)
Social Networking (Second Stage)		
Log age	-0.105 (0.045)	0.0435 (0.048)
Log experience	-0.009 (0.036)	0.0123 (0.023)
Primary education level	-0.057 (0.068)	0.00 (0.00)
Middle education level	-0.112 (0.073)	0.132 (0.068)
Secondary education level	-0.033 (0.081)	0.0474 (0.058)
Higher secondary education level	-0.078 (0.093)	0.084 (0.062)
Degree and above education level	-0.007 (0.108)	0.127 (0.071)
Constant	0.87 (0.54)	-0.196 (0.24)
N	79	58
Chi ² value	43.80	90.73
P value	(0.00)	(0.00)
R-squared	0.087	0.577

Note: ***significant at 1 per cent level of confidence; **significant at 5 per cent level of confidence; instruments are age, experience, and educational levels; No sample found for female entrepreneur literate up to primary level.

Source: Computed from field survey data, 2019-20

Compared to all independent variables in stage one of the model I and model II, social networking was highly productive for the profit generation of enterprises operated by male and female entrepreneurs. Social networking was a highly contributing variable in the performance of male-owned microenterprises than female-owned microenterprises in West Delhi.

The second stage of model I and model II indicates that, social networking is linked positively with female-owned enterprises and negatively with male-owned enterprises to the firms' age and experience of the entrepreneur. It indicates that as the firm became older, entrepreneurs with higher experience adversely impacted male entrepreneurs' social networking (in the model I). In contrast, old enterprises and experienced female entrepreneurs associated positively with social networking (in model II).

The coefficients of general education levels indicate that the social network of male-entrepreneurs was negatively related to different education levels, and they have no impact on social networking (model I). In contrast, it is positively but insignificantly associated with the social network of female entrepreneurs in west Delhi.

5.5 Summing up

This chapter contributes to the literature on the role of social networking in marketing and manufacturing of product produce in male-owned and female-owned microenterprises in Delhi. The analysis is based on field survey data for the year 2019-20. The data for social networking is collected based on five factors, namely active participation of family members, relatives and friends; accessibility and availability of advisors and mentors in business matters; the role of social media; involvement with women's groups enhances networking; and a support system and networking among entrepreneurs. The responses for these five factors were captured on a five-point Likert scale of 1 to 5.

The average response for each factor of social networking and the overall mean of average of each factor of social networking was estimated; the relative importance index (RII) was estimated to examine the relative importance of five factors of social networking, and two-stage least squares regression technique was applied to analyse the role of social networking on the performance of the male-owned enterprises and female-owned enterprises engaged in custom tailoring activity in West Delhi.

The overall mean of the average of five factors of social networking shows that male entrepreneurs comparatively highly agreed with the factors of social networking than the female entrepreneurs responses indicate that these five factors help to create better social networking to market the product produced by male and female entrepreneurs engaged in custom tailoring activity in West Delhi.

The estimation of RII reveals that Social networking of women entrepreneurs was highly important in creating social networking that helps to market and manufacture the products produced in male-owned microenterprises. In contrast, Support system (relatives, friends, family) and networking among entrepreneurs is key to useful marketing growth and manufacturing of the product in female-owned microenterprises. It also implies that social media played the least role in marketing and manufacturing the product in both male and female-owned microenterprises.

The two stage least square regression findings confirmed a significant and positive impact of social networking on the performance of microenterprises owned by male entrepreneurs but insignificant on the performance of microenterprises owned by entrepreneurs engaged in custom-tailoring activities. Furthermore, social networking contributes more to male-owned microenterprises than female-owned microenterprises. Among the remaining determinants of performance of male-owned microenterprises, labour emoluments and social networking were positive and significant.

CHAPTER 6

SUMMARY AND CONCLUSION

6.1 Introduction

In many developing nations, like India, the private sector is being given a prominent role during this era of globalization of world trade. As part of this transformation, the emergence of micro, macro, and small-scale entrepreneurial activity as a substantial component of economic development and employment has occurred concurrently. In many countries, entrepreneurial activities are increasingly recognized as a way to provide sustainable employment prospects, especially for individuals who are on the edge of the economy (thus women, the poor, and people with disabilities) (Bardasi et al., 2011).

The world's fastest-growing segment of entrepreneurs are likely to be women (Brush et al, 2012; Patil et al., 2018). Women's as the business owners is widely seen as an important sign of global growth. Particularly in developing nations, women entrepreneurs contribute significantly to the education, creation of jobs, human development, health, the decrease in poverty and nation development. For the long term, economies would not succeed significantly without the contribution of women entrepreneurs. Women are more inclined to share their gains in health, education, and other resources with their family members and communities at large and they are crucial for the country's sustainable development (Orser et al., 2006). Women-owned enterprises are the ones that are expanding rapidly in the world and have significantly influenced innovation, employment, and wealth accumulation (Bullough et al., 2015).

According to Nafukho et al. (2004), human resources are crucial to economic development and have a favourable impact on the economy's growth. The optimal utilisation workforce assured growth, but in the least developed nations, a large amount of the workforce is made up of women who are either unemployed or go unrecognised, which can be a barrier to development. This obstacle can be removed by encouraging and assisting women in starting their own independent enterprises (Vinay et al., 2015).

Women constitute 50 per cent of the population of India and they accounted 18 per cent of the labour force only (Population Census, 2011). This statistical encourages women to the fact that their share in entrepreneurship is necessary towards the economic growth of the nation. Therefore women should step forward and hold the position of entrepreneurs.

With the growth of MSMEs in India, many women have rooted themselves into entrepreneurship. In India, by the way of women entrepreneurship, that is, a group of women are inventing new avenues of economic participation. Women entrepreneurs play a very important role in the industrial development as well as economic development of a country. Women entrepreneurs is defined as a “Woman or a group of woman who plans, organize and operates a business enterprise” (OECD, 2004).

But only few entrepreneurial research studies focus on women entrepreneurs and the overall impact of female entrepreneurs on economic development is understudied (Brush et al, 2012). Considering the above, it is crucial that the literature take into account the neglected and unrecognised contribution of women entrepreneurs to global economic growth. A significant impact is seen on global economic development by the female entrepreneurs (Akehurst et al., 2012).

It is indeed interesting to consider how gender and entrepreneurial performance relate to one another, in part because different viewpoints exist. According to the "constraint-driven gap" perspective, female enterprise success are limited due to the hurdles arising out of gender-specific society. These obstacles refer to challenges that women may experience when trying to obtain loans, build business networks, interact with government and other officials, etc. Many of these challenges can be a result of pre-existing cultural norms that limit women's mobility or isolate them in a male dominated field. The "preference-driven gap" position, in contrast, includes the possibility that female-owned and male-owned enterprises perform differently (Bardasi et al., 2011).

The focus of the growing literature on female entrepreneurship and the differential performance between male and female entrepreneurs. This is the fact that there exists a huge gender gap due to the existence of inefficiencies, it would signal those nations which are not making the best use of their physical and human capital, which would have a significant adverse impact on their ability to expand as a whole. The evaluation

of the underlying causes and relevant policy responses thus becomes crucial (Islam et al., 2016).

Empirically, there hasn't been much comprehensive study done on women entrepreneurship, especially in developing nations. In economics, the majority of research on entrepreneurship has leaned to concentrate solely on male business owners, largely omitting the important subject of female business ownership (Brush, 1992). Studies on female entrepreneurship have mainly concentrated on industrialised nations and employed small polls that are typically not representative of the nation. But there has been a positive move recently, and the study of female entrepreneurship has increased (Minniti 2009; Klapper et al., 2011). In this thesis, an attempt has been made to analyse the performance of female owned enterprises based on NSSO data and field survey conducted in Delhi.

The analysis is carried out under four objectives: to examine structure and performance of microenterprises at macro level in Delhi; to analyse the characteristics of microenterprises run by male and female entrepreneurs at firm level in terms of numbers of units, employment, investment, output and sources of finance; to analyse the technical efficiency of microenterprises run by men entrepreneurs and women entrepreneurs in Delhi; to examine the role of networking in manufacturing and marketing of the products of microenterprises run by men and women in Delhi.

For the analysis of the above objectives, this study has used primary and secondary data. The secondary data sources are Unorganised Manufacturing Enterprises Survey, 2005-06 and Unincorporated Non-Agricultural Enterprises (Excluding Construction), 2015-16, published by the National Statistical Sample Organization (NSSO), Ministry of Statistics and Programme Implementation (MoSPI), Government of India.

The primary data was gathered by choosing a city region (Janakpuri) in the west Delhi District of Delhi where the number of women entrepreneurs involved in the custom tailoring activity was found to be quite high. The West Delhi District's Janakpuri area was chosen for a field survey with the reference period of April 2019 to March 2020.

The survey was carried out using a purposive sampling method. From a sample of microenterprises in Delhi's west district, a sub-sample of entrepreneurs has been chosen

(137 entrepreneurs out of which 79 were male and 58 female entrepreneurs). The study applied regression techniques such as weighted least squares (WLS) method, two-stage least squares (2SLS) regression, stochastic frontier production analysis techniques and other relevant statistical tool for data analysis.

6.2 Summary of findings

The thesis is organised into six chapters. Chapter 1 discusses the background and motivation for the study, the research questions, objectives, data sources and methodology. Chapter 2 analyses the structure and performance of microenterprises at macro level in Delhi. For that purpose, we estimated distribution of micro and small enterprises (MSEs), their characteristics, structure and performance in Delhi for the year 2005-06 and 2015-16.

The distribution of micro and small enterprises has shown that the proportion of microenterprises was highest among all MSMEs operating in Delhi. The proportion of microenterprises to all MSEs in Delhi has increased during 2005-06 and 2015-16. small enterprises registered higher growth than microenterprises in Delhi.

The characteristics of micro and small enterprises during 2005-06 and 2015-16 revealed that compared to small enterprises, microenterprises found less perennial in operation, less preferred to operate outside the household, less expanded in last 3 years prior to 2015-16, less prefer to operate establishment, less dependent on loan and government assistance. Microenterprises were less Labour productive, high capital intensive, employed workers in large proportion than small enterprises. With respect to the social groups, entrepreneurship of microenterprises more prevail among OBCs, SCs, and STs. Large proportion of owners of small enterprises belongs to others category of social groups.

The structure of micro and small enterprises postulates that compared to small enterprises during 2005-06 and 2015-16, microenterprises was found large in size, accounted for higher proportion of female entrepreneurs, provided employment to large share of labour force, hire more women workers, required less total fixed assets per enterprise and generate less GVA per enterprise.

The performance analysis of micro and small enterprises shows that there is a significant relationship between GVA and fixed assets, labour emolument, raw material, credit during 2005-06 and 2015-16. It also revealed that labour emoluments came out as the major determinants behind the micro and small enterprises performance in Delhi in 2005-06. Moreover, raw materials became the primary driver of output of micro and small enterprises in Delhi in 2015-16. These results indicate that with respect to all the input variables, small enterprises perform better than the microenterprises during 2005-06 and 2015-16. It also depicted that small enterprises had increasing returns to scale (IRS) in 2005-06, while micro and small enterprises in 2015-16 and microenterprises in 2005-06 had shown decreasing returns to scale (DRS).

Chapter 3 analysis the characteristics of women owned microenterprises and men owned microenterprises in Delhi. The distribution of male-owned microenterprises and female-owned microenterprises demonstrates that proportion of female-owned microenterprises found lower than male-owned microenterprises. Since, there were no small enterprises found in 2015-16, a comparison was made between female and male-owned microenterprises in Delhi in 2005-06 and 2015-16. It was found that female-owned microenterprises grew at slower rate than male-owned microenterprises.

The analysis of female owned microenterprises and male owned microenterprises characteristics revealed that female owned microenterprises preferred to operate their enterprises within the household, run OAEs (Own Account Enterprises), less credit and government assistance received than male-owned microenterprises. Among the social groups, female entrepreneurs found more among Others and SCs; and male entrepreneurs more visible among OBCs. Proportion of literate female in entrepreneurship were found less than the male entrepreneurs. However, both male and female owned microenterprises found more stagnant and informal in operation during 2005-06 and 2015-16.

The structure of male-owned microenterprises and female-owned microenterprises depicts that women-owned microenterprises were smaller in size, provide employment to less labour force, employ less average worker, owned less fixed assets per enterprise and generated low GVA per enterprise. Female-owned microenterprises have lower capital productivity than male-owned microenterprises. Workers employed in female-

owned microenterprises found less productive than male-owned microenterprises during 2005-06 and 2015-16.

The performance analysis of male-owned and female-owned microenterprises depicted that female-owned microenterprises perform better than male-owned microenterprises with respect to fixed assets, labour emoluments, raw material and credit during the study period. Labour input was an important determinants behind the performance male-owned and female-owned microenterprises in 2005-06. In contrast, raw material became crucial factor behind performance of male-owned and female-owned microenterprises in 2015-16. Male-owned and female-owned microenterprises have decreasing returns to scale in production during the study period.

Chapter 4 analyses the technical efficiency of women owned microenterprises in Delhi. This is carried out based on field survey data for the year 2019-20 for revealing the ground realities of female-owned microenterprises. The entrepreneurs engaged in custom tailoring activity was selected, by analysing NSS unit level data for the year 2015-16, to understand the ground realities of male-owned and female-owned microenterprises. Before analysing the technical efficiency, this chapter illustrated about the socio-economic background of the entrepreneurs engaged in custom tailoring activity in West Delhi. It revealed that compared to male entrepreneurs, female entrepreneurs had less prior work experience, less educated and fall under the others category of social groups. In contrast, the proportion of male entrepreneurs found higher among OBCs and SCs than their female counterparts. However, large number of female entrepreneurs hold graduate degrees compared to their male counterparts.

The characteristics of male-owned and female-owned microenterprises engaged in custom tailoring activity revealed that compared to male-owned microenterprises, female-owned microenterprises found highly expanded in last 3 years prior to 2019-20, preferred to operate OAEs, less interested to establish outside the home, more informal in operation, less likely to work for contractors, and less dependent on loan and government assistance. It also highlighted that female entrepreneurs faced lesser challenges during operating their enterprises than male entrepreneurs.

The structure of male-owned and female-owned microenterprises demonstrated that compared to male-owned microenterprises engaged in custom tailoring activity in West Delhi, female-owned microenterprises generates less output, provided employment to less number of workers, hire more female workers, required less fixed assets, and estimated higher worker's productivity but lower capital productivity.

The results of stochastic production frontier analysis have shown that female owned enterprises performed better than male owned enterprises in terms of fixed assets, labour emoluments and credit accessed. They positively and significantly influence the performance of male owned and female owned microenterprises engaged in custom tailoring activity in West Delhi. It also demonstrated that fixed-owned asset was appeared to be the most important determinant among all determinants of the performance of enterprises which significantly and positively affect the performance of the enterprises owned by both male and female entrepreneurs. The sum of the elasticity of output with respect to four inputs found less than one in male-owned and female-owned microenterprises which suggests decreasing returns to scale in production.

The analysis of technical efficiency revealed that technical efficiency differs significantly between male-owned and female-owned microenterprises. Compared to male-owned microenterprises, female-owned microenterprises engaged in custom tailoring found to have slightly lower technical efficiency. Overall, these results imply that male-owned and female-owned microenterprises do not have much room to expand production through greater technical efficiency.

Lastly, chapter 5 provides the analysis of role of social networking in marketing of product produced in male-owned and female-owned microenterprises in Delhi. The estimation of social networking is based on five factors covering, active participation of family members, relatives and friends; availability of mentors and accessibility of advisors; role of social media; entrepreneurs' involvement with women's groups; and networking and support system among entrepreneurs. The Relative Importance Index (RII) calculated to rank all the factors of networking furthermore, two-stage least square (2SLS) regression was applied to determine the impact of social networking on the performance of male and female-owned enterprises.

The results of RII show that one of the networking factors, that is, networking and support system among entrepreneurs has appeared as the crucial factor of social networking to build the effective social networking for female entrepreneurs. In contrast, entrepreneurs' involvement with women's groups helps to enrich the male entrepreneurs network to market the product produced by male-owned microenterprises engaged in custom tailoring activity in west Delhi.

For two-stage least squares regression analysis, we have taken profit as the dependent variable and social networking, interest paid by the entrepreneurs, raw material, labour emolument as the independent variables. The coefficient of social networking indicated that social networking had positive and significant relationship with profit of the male-owned microenterprises. In contrast, social networking had positive but insignificant relationship with profit of the female-owned microenterprises. However, the regression analysis showed that social networking helps to boost the performance of the both male and female owned microenterprises respectively. This regression analysis reveals that among all the determinants of profit or performance of the microenterprises, social networking is the crucial factor behind both male-owned and female-owned microenterprises engaged in custom tailoring activity.

6.3 Conclusion

1. The proportion of microenterprises involved in production activities was relatively high among all micro and small enterprises operating in Delhi during 2005-06 and 2015-16.
2. The proportion of total MSEs engaged in manufacturing activities was higher in urban area than rural area. With respect to the social groups, ownership of microenterprises found more noticeable among OBCs, SCs, and STs. Large proportion of owners of small enterprises belongs to others category of social group in Delhi in 2015-16.
3. The small enterprises had depicted increasing returns to scale in 2005-06, while micro and small enterprises in 2015-16 and microenterprises in 2005-06 had shown decreasing returns to scale.

4. Female owned microenterprises had depicted less labour productivity than male owned microenterprises during 2005-06 and 2015-16.
5. Both male and female owned microenterprises have shown decreasing returns to scale (DRS) in production during 2005-06 and 2015-16.
6. West Delhi district has a higher proportion of female-owned microenterprises in Delhi in 2015-16 than the other districts. Large proportion of women-owned microenterprises engaged in custom tailoring activity found in West Delhi District of Delhi in 2015-16.
7. Women entrepreneurs performed better than men entrepreneurs, engaged in custom tailoring activity in West Delhi, in terms of fixed assets owned, labour emoluments and credit accessed in 2019-20.
8. Decreasing returns to scale found in both male and female owned microenterprises engaged in custom tailoring in West Delhi. Female-owned microenterprises engaged in custom tailoring in West Delhi found slightly less technical efficient than male-owned microenterprises in 2019-20.
9. Social networking factor which is entrepreneurs' involvement with women's groups found to be the most important factor to enrich the social networking of men entrepreneurs to market their products. Networking and support system among business affiliates is found to be the most crucial factor of female entrepreneurs networking that helped to enhance the marketing and sales of the product produced by female-owned microenterprises in West Delhi in 2019-20.
10. Social networking had positive and statistically significant relationship with profit of the male-owned microenterprises. Social networking had favourable but trivial relationship with profit of the female-owned microenterprises engaged in custom tailoring activity in West Delhi.

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INTERVIEW SCHEDULE

**Women Entrepreneurship:
An economic analysis of Microenterprises in Delhi
Reference Period: April 2019- March 2020**

I. Background information

1. Name of The Owner:
2. Name of Informant:
3. Type of enterprise During The reference period :
4. Name and Address of The Enterprise:
(Own Account Enterprises=1/ NDME=2/ MDE=3)
5. Year of establishment of the enterprises :
6. District:
7. Tehsil/Town:
8. General Educational Level of the Working Owner:
9. Social Group of The Owner/ Major Partner (ST/ SC/ OBC/ Others):
10. Family background:

FAMILY MEMBERS	INDICATE
No.of male member under (15-59) age group	
No.of female member under (15-59) age group	
No.of male member under (60 and above) age group	
No.of female member under (60 and above) age group	
Total family income during the reference period (in Rs.)	

II. INDUSTRY BACKGROUND

11. Type of Ownership of the entrepreneur

DESCRIPTION	INDICATE (YES=1/NO=2)
Proprietary (Male)	
Proprietary (Female)	

12. Location of the Enterprise

DESCRIPTION	INDICATE
1. Within Household Premises	
Outside Household Premises	
2. With Fixed Premises And With Permanent Structure	
3. With Fixed Premises And With Temporary Structure/Kiosk/Stall	
4. With Fixed Premises But Without Any Structure	
5. Mobile Market	
6. Without Fixed Premises (Street Vendors, Etc.)	

13. Do you have any experience before setting up the microenterprises?
(Yes=1/No=2), If Yes, at what level

Codes	Description of the Position	Number of years of experience/ months
1.	Student (Formal learning)	
2.	Worker	
3.	Helper	
4.	Informal student (Informal learning at home or from neighbours/relatives)	
5.	Other specify	

14. Does enterprises work on contract basis? (Yes=1/No=2), Types of contract

Codes of contract list	Indicate
1. Working solely for enterprise/contractor	
2. Mainly on contract but also for other customers	
3. Mainly for customers but also on contract	

15. If contracted, Raw Materials Supplied By:

codes of List of suppliers	Indicate
1. Self-procured	
2. Supplied by the master unit/contractor	
3. Both	

16. Particulars of Operation and Background Information of the enterprises/
entrepreneur

Background Information	Indicate
Whether Pursuing in more than one activity? (Yes=1, No=2)	
Mention the product manufactured	
Mention other goods or service provide (eg: repair work, technical work, some other product or services)	
Enterprise Type During The reference period (Own Account Enterprises-1, Establishment-2)	
Nature of Operation (Perennial-1, Seasonal-2, Casual-3)	
Number of Months Operated During Reference Period	
Number of Hours The Enterprise Normally Worked In A Day During The Reference Period	
Whether Account Maintained? (Yes=1, No=2)	
Did The Enterprises Face Any Problem in its Operation During Reference Period? (Yes=1, No=2)	
Did The Enterprises Receive Any Assistance From The Government During The Last Three Years? (Yes=1, No=2)	
If Yes, Description of The Assistance Received	
Gross output of the product manufactured (Rs.) (yearly)	
Gross output from other activities (in Rs.)(yearly)	

17. Particulars of Operation And Background Information of the enterprise

BACKGROUND INFORMATION		Indicate (YES=1, NO=2)	
Status Of Enterprises Over The Last 3 Years (Expanding=1, Stagnant=2, Contracting=3, Operated For Less Than Three Years=9)			
Whether Registered Under Any Act? (Yes=1, No=2)			
Type of Registration of the Enterprises			
If Yes	Whether Registered Under	Shops And Establishment Act?	
		Municipal Corporation/ Panchayats/Local Body?	
		Vat/Sales Tax Act?	
		Provident Fund Act?	
		Employees State Insurance Corporation Act?	
		MSME Act?	
Any Other Industry Specific Act/ Authority			
TYPE OF AGREEMENT WITH OTHER UNITS		INDICATE	
Whether the enterprise has any prior marketing agreement with other units? (Yes=1/No=2)			
If yes, supply out of produce of enterprise covered in the agreement (whole produce=1, portion of produce=2)			
Coverage of the agreement with the other units		-	
Does the agreement cover post agreement input price escalation? (Yes=1/No=2)		-	
Per centage of payments generally received at the time of sale/ delivery under the agreement			
Whether supplying to a single parent unit? (Yes=1/No=2)			
If yes, whether the parent unit has remained more or less the same in the past 3 years (only in case of enterprise existing for 3 or more years) (Yes=1/No=2/ not applicable=9)			

18. Types of Assistance Received from The Government During the Reference Period

Codes	TYPES OF ASSISTANCE	Amount (Rs)
1.	Subsidy	
2.	Machinery/ Equipment	
3.	Training	
4.	Marketing	
5.	Procurement of Raw Material	
6.	Others	
7.	No Assistance Received	-----

19. Whether Bank Accounts Maintained: (Yes=1/No==2)

20. Employment Particulars of the Enterprise during the Reference Period

Workers	Workers type	codes	Average Number of Workers	Amount to be paid per month (Rs)
Female	Salaried	1		
	Casual/ daily wage labour	2		
	Contractual worker	3		
Male	Salaried	4		
	Casual/ daily wage labour	5		
	Contractual worker	6		
Total	1+2+3+4+5+6			

21. Compensation To Workers During The Reference Period No worker

Type of Emoluments	Description	Amount(Rs.)
Salary/ Wages, Allowances And Other Individual Benefits ^[1] (Cash & Kind Including Bonus, Retirement Benefits, Etc. Apportioned For The Reference Period)	Working Owners	
	Hired Owners	
Imputed Value of Group Benefits (Including Employer's Contribution Towards Canteen, Sports, Insurance, Etc.) (in Rs. For the reference year)	Working Owners	
	Hired And Other Workers	
Total Emoluments		

22. Value of working capital during the reference period

Sr no.	Items	Value (Rs.) as on last day of reference period
1	Raw materials	
2	Stores	
3	Fuel	
4	Semi-finished goods, finished products and by products	
5	Sub-total (1-4)	
6	Cash in hand and bank (except fixed deposit/ term deposit)	
7	Amount receivable	
8	Amount payable	
9	Net balance (7-8)	
10	Total (5+6+9): net working capital	

23. Fixed Assets Owned and Hired

Codes	Type of Assets	Market Value of Assets (Rs) as on The Last Date of The Reference Period		Net Additions To Owned Assets During Reference Year (Rs)	Rent Payable on Hired Assets During Reference Period (Rs) (Monthly Rental Payable on Hired Assets)
		Owned	Hired		
2301	Land and Building				
2302	Plant and Machinery				
2303	Transport Equipment				
2404	Software and Hardware				
2405	Table, stools racks, hangers (hangers, shelves)				
2406	Information, Computer and Telecommunications Equipment				
2407	Total (2301+2302+2303+2304+2305+2306)				

24. Does entrepreneurs taken any loan (yes=1/No=2)? If yes, Loan Outstanding as on Last Date of The Reference Period (only taken for the enterprises to be considered)

Sr no.	Sources of Loan	Amount Borrowed (Rs.)	Rate of Interest (Per month)	Loan taken for months During the reference period	Loan Outstanding as on the Date of Reference Period (March 2020)
1	Central And State Level Term Lending Institutions,				
2	Commercial Banks				
3	Co-Operative Banks And Societies				
4	Other Institutional Agencies				
5	Micro-Finance Institutions				
6	Other Institutional Agencies				
7	Money Lenders				
8	Business Partners				
9	Suppliers/ Contractors				
10	Friends And Relatives				
11	Others				
	Total				

25. Principal Operating Expenses During Reference Period

Codes	MANUFACTURING ACTIVITY	
251	Main raw material consumed	Amount (Rs)
	1)	
	2)	
	3)	
	4)	
	Other raw materials	
	Purchase value of the good sold in the same conditions as purchased	
	Total	
TRADING ACTIVITY		
252	Main commodity purchased	Amount (Rs)
	1)	
	2)	
	3)	
	4)	
	5)	
	Other commodities purchased	
	Total	
TRANSPORTATION ACTIVITIES		
253	Main items	Amount (Rs)
	Petrol, diesel, lubricants etc.	
	Tyres, tubes, batteries etc.	
	Repair and maintenance of transport equipment	
	Toll tax, octroi, local fees, insurance charges etc.	
	Charges paid towards storage of goods, parking of vehicles etc.	
	Any other (specify)	
	Total	
WAREHOUSING AND SUPPORT ACTIVITIES FOR TRANSPORTATION		
	Main items	Amount (Rs)

254	Consumable Stores Used in The Warehouse			
	Insurance charges			
	Expenses Incurred for Support Activities for Transportation			
	Any other (specify)			
	Total			
OTHER OPERATING EXPENSES				
254	Main items		Amount (Rs)	
	Depreciation on machinery			
	Electricity charges			
	Fuel and lubricants			
	Raw Materials Consumed for Own Construction of Building, Furniture And Fixtures (Including Labour Charges)			
	Minor Repair and Maintenance of	Building		
		Plant and Machinery		
		Transport Equipment		
		Tools and Other Fixed Assets		
		Information, Computer and Telecommunication Equipment (Ict)		
	Rental payable on fixed assets			
	Service Charges for Work Done By Other Concerns (Contract, Sub-Contract, Legal, Audit, Advertising And Other Accounting Services, Warehousing Expenses, Commission Expenses, Etc.)			
	Travelling, freight and cartage (transport) expenses			
	Communication expenses (telephone, telegram, fax, postal, courier, e-mail etc.)			
	Purchase of Consumable Stores, Packing Materials, Etc.			
	Paper, Printing and Stationary Expenses			
	Insurance charges			
	Other charges			
	Total			
	Taxes on Production (Recurrent Taxes On Land, Buildings Or Other Structures, Business Or Professional Licence Fees, Road Tax, Registration Fee Of Vehicle Etc.) (Excise Duties And Other Indirect Taxes Are Not To Be Included)			
Total				
255	Total (251+252+253+254)			

26. Problems faced by Entrepreneur during operating the Enterprises in reference period

Codes	DESCRIPTION	Indicate
1	Erratic power supply/power cut	
2	Shortage of raw material	
3	Shrinkage/fall of demand	
4	Non-availability/ high cost of credit	
5	Non-recovery of financial dues	
6	Non-availability of labour as and when needed	
7	Non-availability of skilled labour as and when needed	
8	Labour disputes and related problems	
9	Fuel Not Available or Available at Exorbitant Price	
10	Non-Recovery of Service Charges/ Fees/ Credit	
11	No Specific Problem	

27. Rate among the following factors of social network that play an important role to enrich the performance of the microenterprises on the scale of 1 to 5.

Key factors		ACTIVITY SCALE				
		Strongly agree [5]	agree [4]	Neutral [3]	disagree [2]	Strongly disagree [1]
1.	Active participation of family, friends and relatives					
2.	Availability and accessibility of mentors and advisors					
3.	Role of Social media					
4.	Social network of women entrepreneurs					
5.	Support system (relatives, friends, family) and networking among entrepreneurs					

Appendix

Table 3.1A: List of remaining economic activities as per their Gross Value Added contribution, 2005-06.

Sr. no.	NIC codes-2004	Description of NIC codes	GVA contribution (2005-06)
1	29199	Manufacture of other general purpose machinery	36.43
2	28111	Manufacture of doors and their frames, windows and their frames, fire escapes, shutters and rolling shutters, articles of iron, gates and similar articles of steel used on buildings	22.50
3	19121	Manufacture of travelling goods like bags, suitcases and holdalls etc.	19.29
4	15433	Manufacture of sweetmeats	3.93
5	22222	Book binding on account of others	1.31
6	17214	Manufacture of quilts, cushions, pillows, sleeping bags and bedding (manufacture of coir foam mattresses and pillows is classified in class 3610)	1.28
7	36102	Manufacture of furniture and fixtures primarily of metal	0.62
8	36911	Manufacture of jewellery : silver, gold and various other precious metal jewellery; gold and silver articles, precious and semi-precious stone jewellery; including presentation coins but not the coin used as a legal tender	0.44
9	21021	Manufacture of sacks & paper bags	0.38
10	22229	Other service activities relating to printing n.e.c	0.27
11	17297	Manufacture of gimped yarn or metallised yarn; Textile strip or yarn, cord covered with textile material or rubber thread; sheathed, covered or impregnated with plastics or rubber	0.23
12	36998	Manufacture of miscellaneous decorative articles .n.e.c.: ivory made articles, artificial flowers, bones and horns; garland from natural fresh flowers and other presentation articles n.e.c. and novelties	0.18
13	17291	making of laces, manufacture of fringes other than by hand and embroidery work	0.14
14	17115	Manufacture of cotton, mixed cotton fabrics and Weaving	0.13
15	22219	Printing and allied activities other then textile.; screen printing	0.07
16	25209	Manufacture of synthetic/ PVC water storage tanks / polymer and other plastic products n.e.c	0.05
		Total	87.24

Note: Gross Value Added contribution is calculated as total GVA generated by per economic activities in women-owned manufacturing microenterprises to total GVA generated by all economic activities in women-owned manufacturing microenterprises in Delhi.