Determinants of Innovative Performance by Ethiopian Informal-Sector Micro and Small Enterprises (MSEs)

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Contents

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Abstract

This Working Paper examines the main factors affecting the process of learning and innovation in informal-sector micro and small enterprises (MSEs) in Ethiopia. It makes use of the handloom-weaving and leather footwear sectors in Addis Ababa as lenses through which to explore the patterns of innovation in MSEs, and to identify factors that influence collaboration and the spread of knowledge among the enterprises. The study also explores the potential of formal intellectual property mechanisms for the protection of informal-sector innovations, and considers other less-formal appropriation mechanisms through which benefits can accrue to the enterprises.

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Keywords

micro and small enterprises (MSEs), handloom-weaving, textiles, shoemaking, leather, footwear, clusters, innovation, informal sector, Shiro Meda, Merkato, Addis Ababa, Ethiopia

I. Introduction

A. Background

Much has been written in recent decades about the importance of innovation for economic growth. Innovation is considered the foundation of competitiveness of firms and a crucial element in the process of improving the long run economic performance of nations (Dosi & Nelson, 2010; Fagerberg & Verspagen, 2002; Freeman, 1982). However, most of the work on understanding the process of innovation and its relationship to growth and development has been conducted in economically advanced countries, where technological change takes place primarily through research and development that pushes the global knowledge frontier further. In contrast, in developing countries, technological change occurs primarily through adopting and adapting existing technologies. In a developing-country context, technological progress involves gaining mastery over products and processes that have already been put to use in more technologically advanced countries (Chaminade et al., 2009; UNCTAD, 2007; Westphal et al., 1985). This difference demonstrates the importance of understanding the nature of innovation in developing countries by using a different lens than that used in studies conducted in more mature economies.

In low-income countries, micro and small enterprises (MSEs), most of which operate in the informal sector, play a crucial role. These enterprises are important providers of employment and livelihoods to a large number of the poor. They are engaged in various innovative activities which could contribute to their growth and competitiveness. However, the few innovation studies that are conducted in low-income countries tend to be focused on technological activities taking place in universities, research institutes, and large industrial organisations. The forces that impact on technological change in MSEs have not been a subject of sustained interest by researchers in the field of innovation policy. This lack of empirical research focused on the relationship between innovation and MSE development creates lacunae in science, technology, and innovation policies of low-income countries. Thus, there is a strong need to develop an understanding of how technological change takes place in the MSEs of low-income countries, and to identify the major challenges which constrain their innovative activities.

The study on which this Working Paper is based examined the factors that affect MSE innovation in a low-income country, Ethiopia, through focus on informal enterprises in two sectors: the handloom-weaving sector and the leather footwear sector. The findings of the study provide enhanced understanding of the patterns of innovation in Ethiopian MSEs operating in informal settings, and identify factors that influence collaboration and the spread of knowledge among such enterprises.

B. Objectives

The general objective of this study was to contribute to the current understanding of the processes of learning and innovation in informal-sector MSEs in Ethiopia. Specifically, the study sought to:

- examine the empirical evidence related to innovation in informal MSEs, and identify factors that influence their innovative performance;
- determine the types of interactions, and mechanisms of knowledge-sharing, among MSEs working in the informal sector;

- examine current initiatives aimed at developing entrepreneurial knowledge and skills, and improving the competitiveness, of MSEs in Ethiopia; and
- investigate the role of formal intellectual property rights (IPRs) in the appropriation and sharing of innovation-information among informal-sector MSEs, and also consider other less-formal appropriation mechanisms through which benefits can accrue to the enterprises.

C. Methodology

The study focused on the Shiro Meda handloom-weaving cluster and the Merkato leather footwear manufacturing cluster, both of which are located in the Ethiopian capital, Addis Ababa. The choice of these two clusters allowed for examination of MSE innovation in two different contexts, because the two clusters operate in different competitive environments (see section four of this paper).

Data were collected through interviews with individuals owning or employed by the MSEs in the two clusters, and with government officials, using structured interview questionnaires (see Appendices). The interviews with MSEs sought information on the backgrounds of the MSE owners, details about their enterprises, and in-depth information about the enterprise's activities and innovations (in terms of production methods and inputs, product characteristics, and marketing activities). The interview questions also sought to find out about the enterprise's networking and collaboration modalities within their respective clusters, and their methods of knowledge appropriation. The interviews held with government officials focused on government policies, programmes and initiatives which impact on activities of the MSE sector.

Twenty-one weavers in the Shiro Meda cluster, fourteen shoemakers in the Merkato cluster, two patent administrators in the Ethiopian Intellectual Property Office, a technology transfer director in the Ministry of Science and Technology (MOST), and an expert in the Federal Micro and Small Enterprises Development Agency (FEMSDA) were interviewed for this study.

All the weavers and shoemakers included in the interview sample were men. The women in the Shiro Meda weaving cluster with whom I could create contact were engaged in cleaning and spinning of cotton. Weaving is predominantly a male job. Documents reviewed for this study show that in Merkato footwear cluster, women take part in the process of shoemaking. However, my attempts to interview female shoemakers for this study were not successful.

In the selection of the MSE interviewees, assistance was received from individuals who had acquaintances in the two clusters studied. In selecting the samples from the MSE clusters, effort was made to include people from different age groups who could provide the required information and their insights on the pertinent issues. In order to identify the government interviewees, contact was made with officials in the relevant departments, who suggested the key persons who had knowledge of the issues being investigated.

Primary document data were collected from documents published by government offices and other official records. I also consulted secondary literature available on the internet—such as published books, journal articles, and reports.

Thus, it was an explorative study based on qualitative data. This method was chosen because it allowed for direct interaction with the cluster participants and collection of detailed data. It is, hence, possible, via this paper, to produce a detailed description of the opinions and experiences of the participants. The analytical discussion in this Working Paper is based on the data obtained from the interviews. The information obtained from the primary documents and secondary literature is used to establish the conceptual framework for the paper, which also serves as a basis for the analysis.

D. Structure of this Working Paper

The second section of this paper is devoted to a discussion of the important role played by MSEs in the Ethiopian economy, and the various interventions made by the government and other development actors to promote growth of the enterprises. The third section examines the various barriers which have impacts on the innovative activities by MSEs. Section four gives a brief introduction to the two clusters studied. Section five provides findings and analysis based on the data collected from the MSE owners and employees. The sixth section provides conclusions and recommendations.

II. The MSE Sector in Ethiopia

A. Nature and Role of MSEs in the National Economy

MSEs[1]play a crucial role in the Ethiopian economy because of their contributions to GDP and their role in poverty reduction and improvement of income distribution. In the manufacturing sector, which is mainly constituted by agro-processing activities, MSEs contribute a sizeable share. For instance, in 2013 MSEs contributed 30% of the share of manufacturing industries in the GDP (MoFED, 2013). Production of textile, food and beverage processing, production of leather products including foot wear and manufacturing of wood and wood products accounted for more than 70% of the MSE establishments in Ethiopia (CSA, 2003). MSEs are also strongly present in the service sector. According to a survey conducted by Ethiopia's Central Statistical Agency (CSA) in 2002/2003, a large concentration of MSEs was found in trade, hotel, and restaurant activities.

Urban unemployment and underemployment are serious social problems in Ethiopia. The labour force is growing much more rapidly than the population as a whole because of Ethiopia's demographic profile, which is characterised by many more young people entering the workforce each year than old people leaving it (FDRE, 2009a). Rural-urban migration is also increasing driven by the dwindling amount of farmland available to the rural population and due to the low level of agricultural productivity. MSEs give the urban poor, who could not find jobs in the formal sector, the opportunity to take part in some gainful activities, and expand their alternatives to support their families and contribute to national economic development. Furthermore, the MSE sector provides

[1] The regulation for the establishment of Ethiopia's Federal Micro and Small Enterprise Development Agency (FEMSEDA), issued in 2011, defined a micro enterprise as an enterprise having a total capital not exceeding ETB50,000 (approximately USD3,000 at the 2011 exchange rate) in the case of services, and not exceeding ETB100,000 in the case of industrial activities. The maximum number of employees should be five, including the owner and his family members who work in the enterprise. Meanwhile, for small enterprises the capital should be ETB50,001 to ETB100,000 in the service sector and ETB100,001 to ETB1,500,000 in industry, with a total number of employees between 6 and 30, including the owner and his family members who work in the enterprise (FDRE, 2011b).

the ideal breeding ground for innovative entrepreneurs in Ethiopia who could play roles in the development process of the country.

Many MSEs in the manufacturing sector, especially those which are grouped under cottage and handicraft industries, specialise in a variety of simple items made by hand. These products, which result from labour-intensive activities, are not easily produced by medium and large enterprises engaged in mechanised production methods. For instance, the expert interviewed in FEMSDA and some of the weavers interviewed in Shiro Meda mentioned that Chinese enterprises tried to produce imitations of Ethiopian traditional clothes at an industrial scale could not compete with clothes produced by the handloom weavers. The consumers saw the Chinese products as being low-quality, cheap substitutes for the handmade products. This gave the MSEs a competitive advantage in the market.

The MSE sector in Ethiopia is dominated by informal-sector enterprises. There is a wide range of estimates of the informal sector in Ethiopia. Data obtained from different sources give different figures on the share of the sector in GDP and employment. This may have resulted from the various approaches followed in measuring informality by government agencies, international organisations and individual researchers. According to a nationwide urban informal-sector survey carried out by the CSA in 2003 the number of persons engaged in informal-sector activities was put at 997,380 of which 799,353 (80.15%) were enterprise owners and 198,027 (19.85%) were persons working under employment agreements (CSA, 2003). This put informal-sector employment at 50.6 % of total urban employment during the survey period. The Survey showed that the majority of the work force was engaged in crafts and related trades (51.27%). [2] A survey on urban employment and unemployment by CSA in 2014 showed that the number of persons engaged in informal-sector activities in Ethiopia has increased by 406,322 over a period of 11 years and reached 1,403,702. However, the percentage share of urban informal-sector employment in total urban employment fell down to 24.9%. (CSA, 2014). Some government documents and reports by international organizations put the figure for informal-sector activity in urban Ethiopia at a much higher level. For instance, in the National Employment Policy and Strategy of Ethiopia it is indicated that the informal sector on average accounts for 71% of urban employment in Ethiopia (FDRE, 2009a). Similarly, the World Bank reported that the informal sector is the fastest growing part of the private sector in the country. According to the World Bank's report between 1999 and 2005, informal employment grew by 144% compared to 16% in the formal sector (World Bank, 2009).

There is a range of different degrees of formality in terms of different characteristics such as nature of registration, payment of taxes, management structure, contractual arrangements with employees, and market orientation. Therefore, the more appropriate conceptualisation of the informal sector is to look at it as a continuum, from formal to informal, where different activities and actors along the continuum occupy different locations (De Beer et al., 2013; Kraemer-Mbula, 2016; ILO, 2002; Steel & Snodgrass, 2008). In Ethiopia, there are a number of informal-sector MSEs which sometimes work for formal enterprises under sub-contracts. For instance, footwear manufacturers in the informal

[2] These include home-based workshops of traditional artisans in weaving, shoemaking, shoe-repairing, tailoring, hairdressing, carpet-making, pottery, basketry, and embroidery, in small maintenance and repair shops for electronics, and in manufacture and sale of local beverages.

sector produce well-known brands of shoes through sub-contract agreements with medium- and large-scale shoe factories. Similarly, many traditional weavers in the informal sector produce fabrics to fashion designers who operate in the formal sector. The fashion designers then market the final products under their own trademarks. Many of the MSEs also have relations with formal sector input suppliers, service providers and wholesalers and retailers of final products. Furthermore, some entities that are registered by lower levels of government have many of the features of informal-sector operators (Duki, 2006; Jeffrey, 2014).

B. Government Policies

The growth and competitiveness of MSEs is an important component of Ethiopia's development policies and strategies. Over the years, a number of policy measures have been taken to enhance the capacities of MSEs. These include tax relief; access to land, buildings and public utilities; improved access to credit facilities; counseling services; and income-generating projects (FDRE, 1996, 2009b; IEG, 1966). The first government strategy dedicated to advance MSE growth in Ethiopia was the federal MSE Development Strategy adopted in 1997 (FDRE, 1997), along with a set of sub-national strategies for the regions. The primary objective of the MSE Development Strategy was to create an enabling environment for MSE growth. The focus areas of the Strategy included: encouraging exploitation of local raw materials; correcting the preferential treatment accorded to bigger enterprises; export promotion; the creation of long-term jobs through skill upgrading programmes; and strengthening the use of appropriate modern technologies. The Strategy supported networking of small and fragmented enterprises within sectors, regions, or other localities. In 2011, the government revised the MSE Strategy, placing emphasis on enhancing the competitiveness of MSEs, ensuring continued rural development via sustainable growth of MSEs, and making the MSE sector a foundation for industrial development. The revised Strategy defines the role of technical and vocational education and training institutes in skills development and technology sourcing for MSEs (FDRE, 2011).

The First Growth and Transformation Plan of the country, which was implemented during the period 2010/11-2014/2015, brought some changes in the MSE sector through skills development and promotion of entrepreneurship (MoFED, 2010). The Second Growth and Transformation Plan (GTP II), which is currently under implementation (2015/16-2019/20), points to the critical role of MSEs in employment generation, promotion of entrepreneurship, and broadening the base for value addition in the domestic private sector (NPC, 2015). The Country's Industrial Development Strategy and Science, Technology and Innovation Policy also stress the need for strengthening MSEs to enhance their role in the industrial development process (FDRE, 2002; 2012).

The government has established several organisations with the purpose of supporting the development of MSEs, such as the Handicrafts and Small Scale Industries Development Agency, the Federal Micro and Small Enterprise Development Agency (FEMSEDA), and Regional Micro and Small Enterprise Development Agencies (REMSEDAs). In addition, a number of grassroots NGOs support activities that promote and develop MSEs. National development agencies and international organisations are also actively involved in the provision of basic business skills training to MSE operators (Debela, 2015; UNDP, 2013). To advance entrepreneurs' access to credit for start-up and

operation capital, some donors also assist in the establishment and operation of loan guarantee schemes.

III. Barriers to MSE Innovation in Ethiopia

The various policies and strategies adopted by the government have failed to bring the expected growth impacts on the MSE sector. The initiatives by the government and other development agencies have also turned out to be short-term interventions with no provisions or mechanisms for sustainability and scaling up. As a result, most of the MSEs in the country operate in a constrained environment which limits their contribution to national income, employment and export performance. They are unable to utilise their innovative potential, due to a number of internal and external factors which put restrictions on their activities. These factors, which mainly relate to the characteristics of the enterprises, individual entrepreneur characteristics, the business environment, and social or relational factors, are discussed below.

A. Human Capital Barriers

Various studies have shown the positive relationship between the quality of human capital and the innovative performance of firms (Cohen & Levinthal, 1990; McGuirk et al., 2015; Santos-Rodrigues et al., 2010; Van Uden et al., 2014). The knowledge, skills, talent and experience possessed by an enterprise's staff directly impact on the process of learning and innovation. As innovation is a knowledge-based activity, the human capital endowments of MSEs significantly contribute to their learning and innovative activities. One of the measures of human capital is the formal schooling received by employees. Higher level of schooling by enterprise staff could be conducive in absorbing knowledge and transforming this knowledge into innovation (Arnold& Bell, 2001; Cohen & Levinthal, 1990; Van Uden et al., 2014; Voeten, 2015). The ability to learn and exploit opportunities is considered to be higher for a workforce that has a certain level of schooling compared to a workforce without any schooling. Qualified human resources are essential to monitoring the evolution of external technological knowledge, evaluating its relevance, and integrating technologies into productive activities (Narula, 2003).

MSEs in Ethiopia which are mostly family-owned and specialised in agro-processing activities are characterized by low level of human capital which is undermining their capacity of technological absorption and innovation (Belete, 2015). According to a survey conducted by the Ethiopian Ministry of Urban Development and Construction in 2013, 33% of the owners of 3,000 MSEs included in the survey had attended only primary level education. The survey results also indicated that 38% of the owners/managers of MSEs had attended high school as a highest level of education, and only 6.1% of managers/owners had technical and vocational education and training (MUDC, 2013). A report by the Ministry of Education showed the shortage of trained manpower in Ethiopia. In 2009, the net enrollment rate for secondary education in the country was only 12.6%, while the total number of students enrolled in technical and vocational education and training institutes was only 717,603 (MOE, 2010). Given the fact that most of the educated citizens are absorbed by the formal sectors of the economy it is evident that only an insignificant number of them are employed by MSEs, most of which operate in the informal sector.

The role of human capital in the performance and competitiveness of MSEs in Ethiopia can be seen from the impact of schooling on productivity level. A World Bank report showed that in the manufacturing sector of Ethiopia, a one-year increase in the average education of a production worker is associated with an increase of 33% to 41% in various measures of labor productivity. Consequently, increasing enrollment at all levels above primary education, as well as improvements to the overall quality of education delivered through the Ethiopian education sector, would have a strong and positive impact on firm-level productivity (World Bank, 2015a).

Due to the recent expansion of higher education in Ethiopia a large number of the graduates could not be absorbed by the government and private sectors. As a result, a number of MSEs have recently been established in Ethiopia by graduates from the country's universities and technical and vocational education and training institutes. There are some benefits which the government provides to these MSEs including access to working premises at cheap prices, access to cheap credit through local micro-finance institutions, market linkages with government development programs, access to technology, and training opportunities and counseling services (Abebe, 2015). Since this trend started only recently, it is difficult to discuss about its impact on enterprise innovation. However, as the capacities related to technology use, operation and maintenance, and business management are strengthened through education and training, an increase in the number of MSEs owned by educated Ethiopians may enhance the technology absorptive capacity of these enterprises.

Although the availability of an educated work force is necessary to improve the innovative performance of enterprises, further enhancement of employee skills through formal training is important. Enterprises offer formal training to their employees because the skills which a specific job requires may not be acquired by them during general basic education. Such training is often associated with some set of skills useful for a particular enterprise, or useful with a particular set of technologies. Since formal training has a positive and significant effect on productivity and innovation, investments in training generate substantial gains for firms. However, it is not common among MSEs to invest in the formal training of their employees. Lack of information on what training is available is one of the reasons which stop small firms from investing in their work force. The cost of training, difficulty of releasing employees for training due to lost working time and the perception by many employers that formal training is more valuable to employees than the business itself are also among the barriers to training (ILO, 2008; Stone, 2010). MSE operators in Ethiopia who have many things in common with MSE owners/operators in other low-income developing countries rarely attend formal training to enhance their skill levels (MUDC, 2013).

In most of the informal-sector MSEs in Ethiopia, the workers get their skills through engagement in daily work processes and interaction with more experienced workers. A substantial amount of skills and knowledge can be acquired through such informal training. The training normally takes place through working alongside a skilled worker, observing his or her work and gradually taking over the job. The skilled worker provides advice and guidance to the learner. Working through learning packages and experimenting through trial and error until the new skills are mastered is also another method of informal training and learning in small enterprises. Much of this learning effort goes unnoticed because it takes place informally, at the workplace (ILO, 2008).

While the benefits of on-the-job learning are frequently mentioned, the importance of prior work experience may be even more helpful, especially if that experience came within the same sector or in micro and small sized enterprises. Work experience proves to be highly important for developing capabilities within enterprises, as entrepreneurs with more years of work experience typically have faster-growing enterprises. Work experience thus contributes to enterprise growth in two ways: directly, by expanding the capabilities of enterprise owners and employees through the acquisition of skills and knowledge; and indirectly, by expanding entrepreneurs' social networks (Nicher & Goldmark, 2005). The MUDC (2013) survey in Ethiopia found that only 32.1% of the MSE owners/managers had relatively adequate experience in their business areas before starting their enterprises—i.e., more than two years in the business area—while 12% of the owners/managers had only between one and two years of experience. The majority (54.1%) of owners/managers of the sampled MSEs had less than one year of experience in their business areas before starting their present enterprises. Regarding the age of MSEs, it was found that 48.9% of enterprises had only been in existence for one year or less, with another 28.5% of enterprises reporting an age of two to three years.

B. Lack of Access to Finance

Another factor which plays a fundamental role in the technological change and innovation efforts of MSEs in Ethiopia is finance. They have great difficulty in obtaining the necessary finance for their innovative activities. As UNCTAD (2013) found, financing for small and microenterprises is in general more challenging than for large firms in most countries, although the severity of the problem may rise in least developed countries. According to a World Bank report (World Bank, 2015b) financial constraint is perceived as the main business constraint by 41% of micro and 36% of small enterprises in Ethiopia, compared to a Sub-Saharan African average of 24%, and 20% respectively. Ethiopian MSEs have been found to typically have no external financing, as a result of either being rejected for a loan or not even applying due to terms and conditions that could not be met (World Bank, 2015b). The existing financial system of the country is not designed in a way that addresses the needs of MSEs (MOST, 2010).

There are a set of factors that prevent MSEs from obtaining adequate financing. These include the existence of marked informational asymmetries between small businesses and lenders, or outside investors; the intrinsic higher risk associated with small scale activities, because they operate in a more competitive environment, and because they have less capacity to withstand adverse developments; the existence of sizeable transaction costs in handling financing and lack of collateral (UNCTAD, 2001; Zavatta, 2008). The smaller the enterprise, the more likely it is that the data on the firm, especially financial data, will be sparse, unreliable or even missing. While banks believe there is high growth potential for small enterprises if they get the required finance the current level of involvement of banks is minimal due to perceived risks and high transaction costs. Banks prefer large enterprise loans because of the significantly higher profitability compared to that obtained from MSE lending. The main obstacles to MSE financing highlighted by the financial institutions in Ethiopia are poor quality of financial statements, inability to manage risk, lack of knowledge of business management, lack of awareness on how to be bankable, lack of adequate collateral and informality of the enterprises (World Bank, 2015b). The Ministry of Urban Development and Construction Survey

of 2013 showed that 80% of the MSEs in the regional towns of Ethiopia and 72% in the capital city, Addis Ababa, had not received any credit service from financial institutions (MUDC, 2013).

For many small businesses the personal funds of the founders as well as of their families and friends represent an important source of finance at the startup stage of enterprises. However, these funds are often insufficient to cover the needs of the enterprises as they expand and show increasing promise. The excessive reliance on internal finance, hence, severely constrains the growth of enterprises (Carpenter &Peterson, 2002). The owners tend to be risk averse because of the potential consequences of any business failure. If there is a loss the impact will go beyond the business and the owners and their family are likely to suffer from the direct effects. Losses incurred in their small business may mean loss of their personal assets if there is any loan involved (UNCTAD, 2002).

In order to address the limited access to finance by micro and small enterprises a number of countries have created microfinance lending instruments. Microfinance institutions (MFIs)[3] provide small loans or micro loans to enterprises which lack collateral, steady employment and a verifiable credit history and therefore cannot meet even the most minimum qualifications to gain access to traditional credit. In many developing countries microfinance institutions are started by non-governmental organisations or established with government support. Microcredit is often used by microenterprises for general business operations, including the introduction of innovations. What distinguishes MFIs is their orientation towards filling a gap left by larger, conventional, commercial or government-sponsored institutions in the provision of financial services to poorer households and smaller enterprises (Hardy et al., 2002). In Ethiopia, the beginning of MFI activity dates back to 1996 when the government issued a proclamation for licensing and supervision of microfinance activities. The National Bank of Ethiopia (NBE) is authorised to license, regulate and supervise MFIs' activities. Ethiopia has a strong microfinance sector with some of the largest financially self-sufficient MFIs in Africa. However, microfinance is mainly group-based, there is little product diversification for both credit and savings and average loan amounts are small (Wiedmaier et al., 2008).

C. Lack of Incentive Schemes

The promotion of technological learning and innovation by domestic firms requires the existence of incentive schemes. Financial incentives are often necessary to endogenise learning routines and dynamic technological capabilities within firms. Such incentives could take various forms, including credit subsidies, various types of fiscal allowances and matching grants for innovation projects (UNCTAD, 2007).

The investment policy of Ethiopia does not provide targeted incentives for the promotion of technology transfer and development. However, the exemption from customs duty for imports of machinery, equipment and their accessories used in workshops and laboratories obviously has an effect on the cost of technology acquisition for enterprises. Furthermore, it should be noted that a general tax relief or lowering of income taxes can increase the likelihood to invest in new technology.

[3] Microfinance institutions are institutions that provide small or micro loans to individuals who lack collateral, steady employment, and a verifiable credit history – and who therefore cannot meet even the most minimum qualifications for access to traditional credit.

In this regard Ethiopian investment policy provides exemption from income tax for limited periods of time for investors in certain identified areas of manufacturing industry (FDRE, 2014).

D. Limited Entrepreneurship Support Programmes

Strengthening MSEs in low-income developing countries, and enhancing their innovativeness, are also closely linked to the development of entrepreneurship. Entrepreneurial skills and knowledge motivate individuals to start their own business activities and improve the chance of business success and growth once a new business is started. Such skills and knowledge open up new employment opportunities for individuals. MSEs can benefit from innovative entrepreneurs through the opportunities they create and their dynamism. In developing countries, innovative entrepreneurs initially focus on introducing products and process which are new to the local context. They are mostly owners of the enterprises who run their own business.

Although there is no shortage of entrepreneurship in developing countries they are constrained by the policy and institutional environment in which they operate. Concerted efforts in policy formulation and capacity-building are hence necessary to enhance the role of entrepreneurship for development. In order to achieve the impact of entrepreneurship on building productive capacities and strengthen micro, small and medium enterprises it is necessary to ensure a comprehensive and holistic approach to entrepreneurship promotion (UNCTAD, 2016).

Ethiopia has a long history of entrepreneurship that dates as far back as the medieval and mercantile era. However, current business trends and the entrepreneurial landscape demands far more sophisticated skills for the competitiveness and survival of MSEs in globalised markets). There have been attempts to introduce entrepreneurship training in a more organised manner to private sector operators through short term programs. However, there was lack of comprehensive support to MSEs and the interventions were limited to training programs (UNDP, 2012). As a result, enterprise development was constrained by a number of limiting factors.

In recognition of this gap there are some recent initiatives aimed at developing entrepreneurship in the private sector. One of such initiatives is the project which is jointly run by UNDP and the Ethiopian government. The project aims to directly support the building of entrepreneurial skills and mindsets within MSEs, particularly women and youth, and support the government's efforts in establishing training/service institutions and financial support for sustainable provision of entrepreneurship development. The project also targets potential entrepreneurs, particularly women and youth, the unemployed and young graduates, who are interested in self-employment to provide them with more job and income-generating opportunities (UNDP, 2013).

The government has also initiated a Women Entrepreneurship Development Project to increase the earnings and employment of women in urban areas. The aim of the project is to develop growth-oriented women entrepreneurs' skills, facilitate their access to more productive technologies that can raise their incomes, and help unleash synergy from clustering and linkages. This was expected to be achieved by: tailoring financial instruments to the needs of the participants, developing the entrepreneurial skills of the target group, and supporting cluster, technology and product development (FEMSEDA, 2012).

E. Weak Linkage with Technology Development Organisations, Educational Institutes

The government of Ethiopia has set up Technology Institutes in selected sectors—such as textiles, leather, metals, engineering and agro-processing—that are responsible for technology acquisitions and transfer in their respective industries. Moreover, the country's technical and vocational education and training institutes (TVETs) are expected to transfer technologies to micro and small enterprises in order to increase their productivity improve the quality of products and services and facilitate creation of new business. The TVET Strategy developed by the government (MOE, 2008) is aimed at, among others, making TVET institutions centres of technological capability-building, accumulation, and transfer. TVET institutions are mainly expected to replicate new and selected technologies and transfer the same to the relevant industry in order to increase the competitiveness of the sector.

However, due to lack of the required capacity on the part of the TVETs and weak MSE-TVET linkage, TVETs have not been able fulfill MSE-support mandates. Similarly, current collaboration between the MSEs and the technology development institutes is weak, and very few of the enterprises benefit from knowledge services provided by the institutes (MOST, 2013). It is hence imperative to improve the linkage of the MSEs with the institutes to improve their access to external technologies.

IV. Shiro Meda and Merkato MSE Clusters

The Shiro Meda and Merkato clusters, both in the Ethiopian capital Addis Ababa, are natural clusters that spontaneously developed over a long period of time. The enterprises in Shiro Meda cluster specialise in handloom-weaving and produces different kinds of traditional Ethiopian clothes. The Merkato cluster is home to footwear manufacturers who mainly produce handmade leather shoes.

As alluded to above in the "Methodology" sub-section, the two clusters experience different competitive environments. The MSEs in the Merkato footwear cluster face competition from medium- and large-scale footwear manufacturing enterprises, which are run by educated entrepreneurs who frequently introduce new product designs and use modern production methods and marketing strategies. There are also imported shoes which are made available in the domestic market. In contrast, the MSEs in the Shiro Meda weaving cluster operate in the absence of a competitive environment. In Shiro Meda, there are a few modern fashion designers who started their business inspired by the traditional designs of the weavers. According to information obtained from Shiro Meda weavers during the research, these designers are their collaborators rather than their competitors. They are connected with the weavers and depend on their embroidery skills and use fabrics supplied by them.

In the Shiro Meda handloom-weavers cluster, there is a large concentration of weavers who originally came from southern Ethiopia. In the 19th century, when Ethiopia was ruled by Emperor Menelik, a large number of weavers, mainly from the Dorze ethnic group of Gamo highlands in the south, came to Addis Ababa and settled at the foot of Entoto Mountain, where the Shiro Meda cluster is situated. These people, who were skilled in the art of weaving, became the major producers of traditional clothes for the city's dwellers. Nowadays people use the term "Dorze" to refer to both the weaving

community and to all the people who originally came from the Gamo highlands (Prouty & Rosenfeld, 1981). Although there are weavers in different parts of Addis Ababa who come from other ethnic groups, the Dorze weavers from the Gamo highlands dominate the field. There are numerous shops for traditional textiles located in Shiro Meda. The streets are lined with small stores selling different varieties of traditional Ethiopian clothes. The neighborhood is identified with weaving and is considered by many people in Addis Ababa as a major shopping centre for traditional clothes.

The other cluster studied, the Merkato footwear cluster, is a prominent cluster which is estimated to be home to more than 5,000 MSEs engaged in manufacturing and repairing leather footwear (UNIDO, 2016). Since there are a number of home-based, unregistered shoe producers in the area, the exact number of the MSE operators in the Merkato cluster is not known. The most important actors in the cluster are the shoe producers, whose number is estimated to exceed 600. Most of the enterprise owners/employees in the Merkato footwear cluster come from the Gurage ethnic group. Suppliers of inputs and service providers for the footwear manufacturers are also located in the cluster. Therefore, the shoe producers in the cluster buy their raw materials, labour supplies, and other services—such as machinery and equipment maintenance, and design services—from within the cluster. The MSEs sell their products through the wholesalers that are also located around the cluster. The wholesalers then distribute the shoes to retail shops in Merkato and elsewhere. The Merkato shoe manufacturers interviewed for this study were located in a part of Merkato known as “Shera Tera”.

V. Findings and Analysis: Activities in the Two Clusters

The discussion in this section is based on data collected through the interviews with 21 weavers in the Shiro Meda cluster and 14 shoemakers in the Merkato cluster, as well as interviews with two patent administrators in the Ethiopian Intellectual Property Office (EIPO).

A. Size and Age of the MSEs

In the Shiro Meda cluster, the number of people working in the weaving enterprises studied ranged between two and four. The interviews with the weavers found that the oldest weaving enterprise included in the study had been established 33 years ago, while the owner of the youngest enterprise had completed his apprenticeship, and become an independent weaver, eight years prior to the study.

In the Merkato footwear cluster, of the 14 shoemakers interviewed, 10were owners of enterprises while the remaining four were employees. The smallest enterprise was operated only by the owner, while the three largest enterprises had six employees each. The ages of the shoemaking MSEs ranged between five and 19 years.

B. Financing

In the Shiro Meda weaving cluster, the owners of the enterprises had all obtained their necessary financing from informal sources. Sixteen of the interviewees started their businesses with money obtained/borrowed from their fathers and other relatives. The remaining five had used savings from the small amounts of money they earned while serving as apprentices to senior weavers. They used their savings to acquire the materials required to start their own weaving businesses. Meanwhile, the main source for capital for expansion of the weaving enterprises was a rotating fund, known as an "*iqub*", established by small group of people. In Ethiopia, *iqubs* are important sources of finance for people who do not have access to credit from modern financial institutions. They are designed to allow members to save for when they need to make large cash outlays. Each week or month members of the *iqub* contribute a specified amount of money and the total money collected is given to one member. This continues until each member is paid the amount which is equivalent to his total contribution. None of the interviewees had access to financial services from banks or micro-finance institutions.

For all of the interviewees in the Merkato shoemaking cluster, the main sources of finance for starting and expanding their businesses had been money obtained from family members and their own savings. Due to their informality, they could not fulfill the requirements to get loans from financial institutions. These requirements include: a permanent address, registration for tax payment, and a licence. Even if they fulfilled these requirements, they were less likely to be served by banks primarily because the institutions perceive that there are lower returns and higher risk involved in transactions involving MSEs (Nega & Edris, 2016).

C. Choice of Business Location

In the Shiro Meda weaving cluster, all21 weavers, when asked for their reasons for starting their business in Shiro Meda, gave more or less the same reasons. The major reason was that Shiro Meda is a place where people from the weavers' ethnic group, the Dorze people—including their fathers and other family members—had already located their businesses. Being close to their relatives and people from the same ethnic group has a special value to them. They interact with the community members in various ways which directly or indirectly benefit their work and family life. In addition, a large number of input suppliers and shops which sell traditional clothes are located in Shiro Meda. Therefore, the weavers buy most of the materials they need in the production process from around their working area.

The Merkato shoe manufacturers interviewed explained that they had located their businesses in Merkato because they wanted to be close to other shoe-manufacturing friends and family members who had started their businesses before them. As additional reasons, they mentioned the proximity to input suppliers and shoe shops (both wholesale and retail).

D. Products

The main products of the Shiro Meda handloom weavers are national costumes known as "*ye habesha libis*". Fabrics for women's dresses, for the *netela* white shawl worn by women, for men's waistcoats, and for *gabi*—a heavy white wrap used by both men and women to protect themselves from the cold—are among the main products of the weavers. The handwoven fabrics are also used

for household products like blankets, cushion covers, tablecloths, and window curtains. The dresses made by the weavers are usually decorated with colorful embroidery called "*tibeb*". The weavers target the needs of people from different income groups. They seek to satisfy the demands of the middle- and high-income urban dwellers (who can afford higher-quality fabrics), and also supply products which are affordable to lower-income groups in the city. To a certain extent, their products are also exported abroad to meet demands of Ethiopians in the diaspora.

It was found in the interviews that the local supply of these handwoven traditional costumes cannot, be replaced by imported imitations which are factory produced. The weavers who participated in the interviews for this study said that although the prices of the imported imitations of traditional clothes are cheaper, customers prefer the locally produced, handwoven products. According to them, the reasons are the superior quality of the handwoven fabrics and the special appearance of the embroidery produced by the weavers. Traditional Ethiopian clothes also have special meanings among Ethiopians and this has kept the rich tradition of woven goods alive. The ecclesiastical dresses worn by priests of the Ethiopian Orthodox Church are products of the handloom weavers. Many Ethiopians also appear in religious festivals, weddings, funerals and other occasions dressed in traditional costumes. The way the *netela* waistcoat is worn changes according to the occasion. For instance, when a woman is going to church, the *netela* is opened up and the pattern lies on both shoulders. For funerals, as a sign of mourning, the *netela* is worn with the patterned end to the face. In casual contexts, the pattern is worn over the left shoulder.

In the Merkato footwear cluster, the main product of the enterprises studied is men's leather footwear. Except in a few cases, the uppers and inside lining material of the men's shoes produced are all 100% pure leather. In the case of women's and children's shoes, it is common to use synthetic-leather components.

E. Production Processes

In the Shiro Meda cluster, the weavers use traditional foot-treadle looms. Weft threads are wound onto a bobbin (spindle) which is then put into a shuttle. The warpon the treadle loom is lifted by foot pedals which lift each of the shafts. Threads of the warp are alternately selected by hand to be lifted and lowered while the weft is passed between the threads with the shuttle. The weaving equipment was traditionally constructed from local materials such as eucalyptus and bamboo. Recently, however, some government institutions have introduced looms with metallic frames. Currently, many weavers use a metallic-frame handloom which is easy to dismantle, reassemble, and move from place to place. There are also some improvements, in the metal-framed looms, in how the shuttle works. However, the main technical features of the handloom have remained unchanged for generations.

The main raw material used for weaving is cotton, both locally produced and imported. The handloom weaving sector is a big consumer of raw cotton, which creates substantial market for cotton producers. Nowadays, the weavers also use imported rayon, and acrylic yarn. Machine-spun cotton is often used both for warp and weft, but it is still common for handspun cotton to be used for weft. (Women clean the cotton from the seeds and rub the cotton with their fingers to pick out the seeds. Then they spin the cleaned cotton to make a weft.) The weavers complained that, in many

cases, the quality of cotton in the market is sub-standard, which reduces the quality of fabrics they produce. In order to produce good-quality fabrics, a weaver thus needs to have knowledge of how to select good-quality cotton.

In the Merkato cluster, the main pieces of equipment used by the footwear producers are stitching machines, mechanical presses, grinders, skiving (cutting) machines, and shoe lasts. Most of these tend to be second-hand. It was found that, due to financial constraints, the enterprises studied could not purchase all of the required machinery when they started their businesses, even if there were local suppliers of second-hand equipment in their vicinities. Only gradually, over time, did they manage to equip their workshops with the basic equipment required. According to two of the interviewees, it took them more than a decade to acquire the machinery they are using now. They started their enterprises with minimal machinery, and depended on leased machines or outsourcing of work. The additional machines they acquired over the years have helped them to improve product quality, and to reduce production costs, thereby enhancing their market competitiveness.

The Merkato cluster shoemakers use the services of modifiers of shoe "lasts" (foot-shaped pieces of wood or metal). Modifiers give old lasts new shapes in order to produce new shoe designs. The lasts are adjusted by grinding their surfaces to modify them into the shape of the intended shoe design. This helps the footwear producers to frequently forego the cost of acquiring new lasts. The shoemakers use both locally made and imported raw materials. The rubber soles and leather used for upper parts and lining are supplied by local producers, while such materials as PVC soles, adhesives, and eyelets are imported from abroad. Retail shops located in the Merkato cluster make these materials available to the footwear manufacturers.

The use of high-quality raw materials was reported by the interviewees to be one of the major factors for improvement of the quality (i.e., in the eyes of most consumers, durability) of shoes produced. The main inputs in leather shoe-manufacturing are hides and skins, which are acquired from local sources of supply. The quality of a fairly large volume of these raw materials deteriorates due to poor animal husbandry practices and lack of disease management, lack of adequate slaughter facilities, poor post slaughter preservation and handling and tanning and processing techniques (MOA, 2013).The interviewees indicated that nowadays there are some improvements in the quality of leather available in the market. According to them, if one has knowledge of how to carefully inspect the raw material, it is possible to get high-quality inputs and thus produce good-quality outputs. In recent years, the quality of shoes produced in Ethiopia has shown improvement sufficient to improve export and trade with some European countries and the US. For example. between 2011 and 2012, Ethiopian shoe exports through the African Growth and Opportunity Act (AGOA) increased more than tenfold—from USD630,000 to nearly USD7 million (USAID, 2014).

Thus, the quality of raw materials was found to be important to the success of both sectors, and knowledge about quality (and access to high-quality material) was found to be crucial to competitive advantage.

F. Education and Learning

Most of the weavers in the Shiro Meda cluster learned the skill of weaving as young boys from their fathers or other immediate family members. A few others acquired their skill by becoming apprentices to weavers who were friends and acquaintances of their families. All but two of the weavers interviewed acquired the knowledge of weaving from their own fathers. A young weaver usually starts his apprenticeship by winding threads onto the bobbin. The practice-oriented teaching in Shiro Meda is tailored for the needs of the particularly student, who is taught the skill in a personalized way. As learning the knowledge of weaving, which is tacit in nature, is much more effective by practical experience, the boys learn the skill by sitting next to their teachers and practicing step by step. They learn how to weave first by watching, and helping with preparing the weft thread. In the words of interviewee 4 (2016):

> I started learning the technique of weaving when I was 10 years old. I used to sit next to my father and was watching every step in the weaving process. I also helped out with winding the bobbins. Then I learned counting the threads for different types of cloths. I was [beaten] by my father when I made mistakes. The fear of being beaten pushed me to concentrate on what my father was doing. (interviewee 4, 2016)

In the words of interviewee 8 (2016):

> I came to Addis Ababa from my village when I was nine years old. I started living with my uncle and learning the technique of weaving from him. My uncle was known for producing high-quality fabrics. He was also a very good teacher. He used excellent teaching methods to train me and his other apprentices. That is why I learned the skill in a relatively short period. He was always telling me that he wanted me to be the best weaver in Shiro Meda. (interviewee 8, 2016)

According to interviewee 12 (2016):

> When I came to Addis Ababa I was only 11 years old. Coming from a small village to a big city, away from my parents, was a frightening experience. My life started getting calm after I was befriended by some of the boys who spoke my local language. The person who was teaching me the technique of weaving was a childhood friend of my father. He was harsh on me and the other young boys. He was telling us that he was doing that for a good reason. (interviewee 12, 2016)

The reason mentioned by the interviewees for why weaving is taught to the boys when they are young is their ability to quickly grasp the different weaving techniques which are shown to them. According to them, the best way to impart the knowledge of weaving to others is through coaching young boys who are quick to adopt new skills.

Nowadays, it would appear that weavers do not have interest in teaching their own sons the skill of weaving. The weavers interviewed said they wanted their sons to pursue their formal education and start work in other professions. They were of the view that weaving is not a profitable business and it will be difficult for their children to live a better life if they become weavers. They complained that a too high a proportion of the price paid by the final consumers is retained by shop-owners,

dressmakers, and others who are in the fashion business. However, there was one interviewee, a young weaver, who was optimistic about business possibilities based on traditional weaving. According to that interviewee:

> My friend is studying fashion design in a private institute run by a known female designer. His ambition is to expand his business and get more young customers by giving a modern touch to his work. He insists that I should also join the institute so that we will be partners in the business. (interviewee 18, 2017)

While the knowledge of weaving tends to be transmitted from generation to generation through coaching, it was also found that the personal creativity and talent of each weaver has an impact on the weaving process and the quality of the outputs. The weavers who have gathered knowledge of raw materials and techniques from previous generations develop their knowledge and skills through experience, and this helps them to meet new challenges. The tacit (non-codified, informal) knowledge which the weavers gain through experience was seen as the most valuable asset of the enterprises. Experienced weavers have good understanding of how every step in the weaving process determines the characteristics of the final product. From weaving coarse cloth to producing a range of medium-quality and fine fabrics, the variety of cloths being produced on handlooms is high. The best-quality weaving produces dense and smooth fabric. According to interviewee 8 (2016):

> My weaving skill has shown a significant improvement over the years. If you compare my work with those of junior weavers, you can see a big difference. When I was a young weaver, the *netelas* I made were very coarse and it was difficult for me to sell some of them. But now I can easily sell my *netelas* and *gabis* and the customers admire the quality of the fabrics I make and the attractiveness of the patterns. (interviewee 8, 2016)

As stated above, the quality of the fabrics produced also depends on the material used for the weaving. Through time, the experienced weavers have developed the capacity to grade the quality of inputs.

Six of the 21 weavers included in the study said they had never attended formal education. However, they had each learned how to read and write through their own efforts. Eleven of the interviewees had between two and six years of schooling. One of the interviewees was an extension student in a TVET institute, while the remaining three were pursuing their high school education via night school and distance-learning programmes.

No significant relationship was found between level of schooling and enterprise performance in terms of larger volume of output or larger numbers of people working in the weaving enterprises. However, the relatively better-educated weavers were found to have more innovative and entrepreneurial tendencies. They were found to be taking various measures to differentiate themselves, through introducing product or market innovations. For instance, the interviewee attending a TVET institute and the three were in high school were found to be more active than the other 17 (less-educated) weavers in experimenting with non- cotton yarns such as rayon and acrylic. These four better-educated interviewees were also found to be introducing new designs (e.g., to target young consumers) more frequently than the other 17 weavers.

In the Merkato footwear cluster, it was found that the way knowledge was being imparted had similar features to those of the Shiro Meda weaving cluster. All of the shoemakers interviewed said they had acquired their knowledge of shoemaking from their parents and/or through apprenticeship. Only one of the interviewees had received formal training: a short-term course in shoemaking, after he started his business, from the Leather and Leather Products Technology Institute. The activities of the institute include, among others, prepare and conduct practical trainings on technology, technical matters, marketing and management and other tailor-made trainings, that assist the growth and competitiveness of the leather and leather products industries sector (FDRE, 2010).

The lowest duration of schooling among the shoemaker interviewees was eight years, and the highest degree was a diploma from a TVET institute. A common view among the interviewees was that there was a relationship between enhanced performance of MSEs and the level of schooling/training received by the owners. For instance, interviewee 27 (2017) stated as follows:

> I have a cousin who started the business much later than I did. However, his volume of production is much higher than mine and his products are of better quality. We admire him for his excellent marketing skills. All this is because of his higher level of education than many of us who operate in this area. (interviewee 27, 2017)

G. Business Interactions and Knowledge-Sharing

It was found that the interactions of the Shiro Meda weavers amongst themselves, with middlemen, with shop-owners, and with input suppliers, facilitated the sharing of information on markets for traditional clothes; sources of good-quality inputs; and addresses of suppliers who charge reasonable prices.

The weavers said that Sundays and Mondays are the days when they have the most opportunity to interact amongst themselves, either in the marketplaces or in other areas where they socialise. During this time, they share ideas on different social and business-related issues. The subjects of discussion may range from the family lives of the weavers to issues of common interest to the weaving community in the area. They also exchange information on the markets both for raw materials and final products. In the words of interviewee 9 (2016):

> When I meet my friends in places where we gather for local drinks, we exchange information about our work. This includes weaving techniques, suppliers of good quality cotton, thread and other inputs. I always share information with my relatives and close friends on these issues. (interviewee 9, 2016)

The weavers interviewed appeared to clearly understand that whatever competitive advantage they have over weavers in other clusters rests to a great extent in their non-codified, experience-based tacit knowledge—and that they have the power to decide with whom to share this valuable knowledge. They clearly favour the sharing of their knowledge and skills with apprentices, close relatives and others with whom they have close social ties. This can mainly be attributed to the fact that the weavers in the cluster predominantly belonged to a single ethnic group, the Dorze—an element facilitating forging of social ties.

None of the weavers interviewed had exclusivity agreements with dressmakers or other dealers of traditional clothes (though it was said that other weavers, not among the interviewees, had such agreements). The weavers included in this study said they sold their fabrics to middlemen, to shop-owners, and directly fabrics to final consumers every Sunday at the open market in Shiro Meda. Only interviewee 18 (2017) spoke of receiving orders, and only very occasionally, from dressmakers.

There are some Ethiopian retailers of traditional handwoven clothes who sell via websites, but none of the interviewees had received an order from an online retailer.

In the Merkato footwear cluster, it was found that there is stiff competition among the shoemakers—a much more competitive environment than that of the Shiro Meda weaving cluster. It was found that a large number of shoemakers were competing in the same market, forcing them to use various tools to try to win customers. It was found that this high level of competition was limiting the sharing of knowledge and exchange of information between the MSEs in the cluster.

Unlike in the case of the Shiro Meda weavers, the ethnic solidarity was found to play only a minimal role in facilitating collaboration knowledge-sharing. Instead, it was found that the shoemakers relied to a great extent on collaboration with the suppliers of inputs and their clients. It was found that the shoemaking MSEs tended to establish long-term relationships with wholesale companies, mainly based on trust.

Another form of interaction found to be important was that between the MSEs and the providers of technical services in the cluster. The relationship of the MSEs with last modifiers, skivers (who slice/scrape away edges), and repair and maintenance workers, contributes to productivity enhancement and improved efficiency. The Cluster members have very limited interaction with training institutes and technology development centers. As noted above only one of the interviewees of this study benefited from a training program offered by a government institute, i.e. Leather and Leather Products Training Institute, now Leather Industry Development Institute.

The business deal between the shoemakers and the traders who are wholesalers or retailers is in most cases based on trust. The interviewees mentioned that they do not receive outright payment from the store owners when they deliver the shoes. Mostly they receive partial payments and collect the remaining balance after the shoes are sold out. In some cases, the medium and large-scale footwear manufacturers subcontract production to small and micro units in Merkato. There is a mutual benefit in such kind of arrangements. The subcontractors reduce their production costs while the MSEs benefit from the utilisation of their production capacity particularly in low market seasons. Subcontracting can reduce the capacity building period for SMEs to come up with the desired levels of product quality and design, the ability to meet stated delivery times, and for ongoing innovation and differentiation (Ogot, 2012). Various well-known brands of shoes in Ethiopia are produced by the MSEs in the Merkato cluster through subcontracting. However, it is only a very limited number of enterprises which managed to get in the network and benefit from such subcontracting activities. None of the enterprises included in this study benefitted from such sub-contracting arrangements.

H. Design Innovations

In the Shiro Meda weaving cluster, innovation in design is widespread, and it was found to constitute a decisive comparative advantage over competitors. Silk, rayon, acrylic and wool yarns are used for making designs commonly known *as "tibeb"* in the Amharic language. The dresses may be embroidered around the collar, on the sleeves, hems and the front part. The aforementioned *netela* scarf has bands of multi-colored designs on the edges. The waistcoats for men are also decorated with embroidery, and some decorations are also used on the ends of the aforementioned *gabi*. The designs are also used on bed covers, pillow covers, table cloths and window curtains.

Figure 1: Different Designs of Netela

Source: Author fieldwork in 2017 Photo: Wondwossen Belete

The weaver interviewees said they believed that one must know many designs to be competitive and stay in the business. The creation of new patterns and color combinations requires special skills. Although there are some common designs which are known by special names there is no limit to the kinds of designs which could be created by the weavers which add style to the traditional fabrics. The intricate designs which result from the creative talents of the weavers cannot be replicated by modern textile factories in their original forms. The aesthetic value and quality of imitations of Ethiopian traditional costumes by the power loom sector are not comparable to that of the hand loom sector.

In the Merkato shoemaking cluster, footwear design is an important source of competitiveness. MSEs in Merkato use new designs to increase the aesthetic value of their products and promote their market sales. There are freelance designers in the cluster who provide new shoe designs to the manufacturers. The designers depend on information from the market to learn about market expectations. In most cases the designs are copies of imported shoe designs which are new to the local context. In some cases, the designers also use their talents to create new designs for different types of footwear.

The interviewees who had received a short-term formal training in shoemaking from a government institute was found to be using both his own designs and the designs of freelance designers in order to increase the range of shoe designs he produced. He said that even if he produces shoes which are comfortable and durable, the young customers will not be interested in them unless they are designed in the latest styles.

Interviewees stated that the cost associated with the introduction of new designs is not only the payments to the freelance designers but also the investment in shoe lasts. Although many styles of shoe can be made on the same shoe last, it is still necessary to increase the number of shoe lasts to produce shoes with different toe shapes. This means additional investment by the shoemakers, either for acquisition of new shoe lasts or modifications of existing ones.

I. Knowledge Appropriation

There is a large body of literature on intellectual property rights and other forms of knowledge appropriation. However, the impact of intellectual property rights on innovation in MSEs is an area which has not been given sufficient attention. It is only recently that some scholars started addressing the subject from the perspective of MSEs in developing countries. In their conceptual study which reviewed existing research regarding the informal economy, innovation and intellectual property (IP), De Beer, Fu and Wunsch-Vincent (2013) outlined a range of mechanisms for appropriation of benefits from informal-sector innovation. Studies by Essegbey et al. (2014), Bull et al. (2014), and Kraemer-Mbula and Tau (2014) have explored IP in innovation in the informal-economy contexts of, respectively, herbal medicines in Ghana, metal manufacturing in Kenya, and homecare and beauty products in South Africa.

In Ethiopia, there is limited understanding of the role of IP rights and other appropriation mechanisms in protection of innovations which take place in the informal sector. In fact, the role of IP in formal sector innovations is also poorly understood. The short history of the country's intellectual property system started with the enactment of the 1995 Proclamation Concerning Inventions, Minor Inventions and Industrial Designs. One of the objectives of the law is creating favourable conditions for the transfer of foreign technologies. The law is designed to serve as facilitator of the technology transfer process and as an instrument for attracting direct foreign investment. Another objective of the law is encouraging local innovative activities (TGE, 1995).

Most of the inventions which are made locally do not qualify for patent protection. The innovations which are introduced in the adaptation of foreign technologies do not fulfill the criteria of patentability. Therefore, most of the local innovators could not use patents to protect their works.

In order to address the needs of micro, small and medium enterprises a utility model protection is included in the law. For a minor invention to be protected by utility model certificate it is sufficient for it to be new in Ethiopia and have industrial applicability. Both product and process improvements qualify for utility model protection in Ethiopia. A discussion with one of the patent administrators in the EIPO, and the EIPO patent *Gazettes* show that almost all the applications for utility model protection which are filed at the Office are by Ethiopians (as opposed to foreign entities) and some of the applicants are MSEs.

The 1995 Proclamation also includes provisions for the protection of the ornamental or aesthetic aspect of products through industrial designs. There are numerous small-scale operators in Ethiopia, including those in the Shiro Meda and Merkato clusters, who produce goods with unique designs. Protecting such designs is seen by the government as a strategy to enhance the competitiveness of Ethiopia's products. The protection of industrial designs aims to help economic development by encouraging creativity in the industrial and manufacturing sectors as well as in traditional arts and crafts. Industrial designs can contribute to the expansion of commercial activities and the export of national products. Most of the applications for industrial design protection in Ethiopia are made by Ethiopians. However, many MSEs, which could benefit from the protection accorded to minor inventions and designs, fail to use the existing system for protection of their works. This is, among other things, due to lack of awareness about the IP system. According to the second interviewee at the EIPO:

> Among the applications we received for industrial design registration, 19 of them are for the protection of new patterns of traditional Ethiopian clothes. However, none of the applications are filed by traditional weavers. Fashion designers who have business relationships with the weavers filed most of the applications to get protection through registration. (interviewee 37, 2017)

The fashion designers linked to the Shiro Meda weavers draw on the country's rich cultural heritage and the knowledge of the traditional weavers while adding a modern touch to find success in the fashion industry. The traditional weavers on the other hand rely on lead time as a means of getting some reward for their creative designs. The weavers enjoy their competitive advantage only until others copy the design. The more designs they put on the market, the higher the chance of increasing the volume of their sale. The subsistence nature of their lifestyle requires the weavers to get some money each week to meet the needs of their family members. When they present the buyers with a range of designs, especially unique designs to choose from, their chance of selling at least some of their products increases.

When asked whether they want to protect their designs through the formal means of design protection, the weavers interviewed answered that they would be glad to use the opportunity. They stated that they would spend much time and effort on design creation if there is a system which protects their designs from being easily copied by others. However, after they were briefed about the process which they should follow for protection of their designs, they were hesitant as to whether they could use the system given the cost it entails, the time it takes for the examination process, and other associated bureaucratic issues.

It is not common among the handloom weavers to use trademarks which distinguish their products from others. However, the modern fashion designers use trademarks as their main tool in the market. (The fashion designers use fabrics produced by the traditional weavers for their design works and they also employ the skills of the weavers for the embroidery work.) This shows that most of the input in the trademarked fashion designer clothes comes from the handloom weavers.

The case of the footwear industry is somewhat different from that of the handloom sector. The footwear sector is one of the major users of the industrial designs protection system in Ethiopia. A number of individual footwear designers and shoe manufacturing enterprises who employ the services of designers register the designs which they use at the EIPO. Some of these designs come from the freelance designers in the Merkato MSE cluster who provide the footwear manufacturers with new designs. According to the information from our interviewees, until recently, copying of designs was a common practice among designers. However, nowadays, more and more designs are registered at EIPO with the effect of excluding others from producing shoes with similar designs. The law in Ethiopia requires that in order to get protection through registration a design must be different from other designs known either in Ethiopia or abroad. However, in practice, the office publishes in its gazette designs for which applications are filed and invites oppositions against registration. Since the circulation of the gazette is mainly in Ethiopia it is only in rare cases that the Office receives oppositions from abroad. Hence, in effect novelty is judged against designs known in Ethiopia. This made it easy for copies of foreign shoe designs to get protection in Ethiopia.

Most footwear manufacturers use marks to distinguish the shoes they produce from the products of others. A multitude of marks can be found in the market embossed on the leather upper using mechanical press or fixed on the insole as prints on synthetic fabric or plastic material. The report by the footwear manufacturers interviewed showed that they use their own marks to distinguish their products. However, their marks are not registered by EIPO because having a license is a requirement to file an application. Due to their informal nature, the MSE owners interviewed for this study do not have a license from a government organ. The responses by the interviewees indicated that as long as they produce shoes with reasonable quality and trendy designs the wholesalers and retailers are happy to market their products which carry the specific marks even if they do not have trademark registration certificates. When the shoemakers produce under subcontract they put the marks of the larger enterprises on the shoes.

VI. Conclusions and Recommendations

I now offer some initial conclusions on three of the key themes covered above in the "Findings and Analysis"—MSE innovation practices, MSE knowledge-sharing, MSE knowledge appropriation—followed by some recommendations, including recommendations for future research.

A. MSE Innovation Practices

The findings show that the studied MSEs engage in several modes of innovation which help them to improve their competitiveness and exploit opportunities in the market.

i. Product and Market Innovation

The improvements they make in the quality of their products, and the appealing designs they create or imitate from foreign products, are manifestations of their innovativeness. Product and market innovations give the MSEs a competitive edge in the market and help them to sustain their businesses.

ii. Process Innovation

The process innovations by the MSEs, which take the form of acquisition of machinery, modification of existing means of production, and uses of new raw materials which bring qualitative changes in the products, are also among the major factors for improvement of the quality of the traditional clothes and footwear produced in the two clusters covered by this study.

B. MSE Knowledge-Sharing

The importance of informal training for innovativeness can be seen in the case of the Shiro Meda handloom weavers. Although most of the weavers in the handloom cluster do not have long years of formal schooling, they benefit from the informal knowledge acquisition processes which are integrated with their day-to-day activities. The importance of such knowledge produced in work can be seen from the difference it makes in the quality of products produced by the weavers, and it constitutes an important element of the innovation process in the cluster.

Knowledge transfer in the two MSE clusters studied, particularly in the Shiro Meda handloom sector, is mainly through social interactions, informal communication networks, and other family-embedded systems. Such social networks—i.e., close ties among family members, friends, and people from the same ethnic group—in some cases have important roles in determining MSE innovation and growth in the two clusters studied.

In the Shiro Meda weaving cluster, it was found that having an extensive social network can be a valuable asset, as it can help a weaver obtain access to information and resources. This study revealed that the weavers in the Shiro Meda handloom weaver cluster, most of whom belong to the Dorze ethnic group, share their tacit knowledge of weaving, with other weavers in the cluster who share various social and cultural values with them. On the other hand, in the Merkato shoemaking cluster there is weak knowledge-sharing among the Merkato footwear manufacturers, who are dominated by the Gurage ethnic group. Thus, the findings of this study suggest that ethnic solidarity cannot always be assumed to be strong facilitator of knowledge-sharing and dissemination among cluster members.

C. MSE Knowledge Appropriation

The study also looked into the role of intellectual property rights and other appropriation mechanisms in MSE innovation. The use of industrial design protection and trademarks by the relatively better-informed footwear manufacturers in the Merkato cluster shows that formal IP mechanisms for protection of informal-sector innovations already play a role. Similarly, the fact that designs of traditional Ethiopian clothes are protected by fashion designers in the formal sector could suggest that informal-sector weavers could also use the system as a means of appropriation for their creative works.

Informal knowledge appropriation mechanisms also play a crucial role in protecting the knowledge of the MSEs. The MSEs benefit from early commercialisation of their new designs, and they also use their experience-based tacit knowledge as a source of competitive advantage.

D. Recommendations

Knowledge and skill acquired through experience are of paramount importance in enhancing the sustainability and competitiveness of the MSEs included in this study. However, such tacit knowledge and skills should ideally be supplemented by explicit knowledge gained through formal training and technology advisory services that enhance the capacities of the MSEs to innovate. In this study, none weavers, and only one of the footwear manufacturers, had benefitted from skills upgrading programmes or other technology support services offered by formal institutes. Therefore, linkages of the MSEs with industry development organisations and technical institutions of learning should be strengthened to improve their innovation activities. The practical trainings on technical matters and the marketing and management skills offered by the institutes could help the MSEs to improve their innovation performance.

Also, because of the sophistication of traditional Ethiopian weaving methods and the cultural significance of the textiles, future research could assess the feasibility of a geographical indication scheme as a form of IP protection—a knowledge appropriation mechanism that my Open AIR network colleagues have already researched in Ethiopia, in the context of the coffee sector (Oguamanam & Dagne, 2014).

Finally, introducing innovative ways of financing could also promote technical change in MSEs which struggle to meet their financial needs from informal sources and traditional institutions. The weavers and footwear manufacturers who depend on business links with formal-sector operators are getting a disproportionately low share of the incomes which their products fetch. For most of them, the amount they get is barely enough to cover the subsistence needs of their family. Therefore, they find it difficult to expand their business, increase their sales and improve their life. Improved access to finance can help the enterprises expand their businesses through investments in product development and process improvement and enhance their human capital.

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Appendices

A. Interview Guide - MSEs

I. General background
Name of interviewee:
Place and date of birth:
Gender:
Address:
Education level:

II. Information about the enterprise

1. What are the products of your enterprise?
2. What is the main type of work you do in your enterprise?
3. When did you start this enterprise?
4. Why did you choose this activity from others?
5. Why is the enterprise located at its present site?
6. How much was the initial capital of the activity/enterprise?
7. What was the major source of this capital?
8. Is your enterprise registered with a government agency?
9. Does the enterprise maintain a formal book of accounts in accordance with government guidelines?
10. Do you have employees in your enterprise?
11. If yes, how many of them are permanent employees?
12. How many of the people working in your enterprise are unpaid?
13. What are the most difficult problems affecting the current operation of your activity/enterprise?

III. Production methods and inputs

14. What types of equipment does your enterprise use in the production process?
15. Does the enterprise own or rent the main equipment/machinery in use?
16. What is the main source of supply of machinery and equipment?
17. Have you recently acquired any new equipment?
18. Have you recently introduced changes in your production methods?
19. If the answer to the above question is yes, who developed these new production methods which you adopted?
20. What motivated you to introduce the new production methods?
21. Where do you procure/obtain most of your raw materials or intermediate inputs?

IV. Product characteristic and marketing

22. Have you recently introduced new products or product designs?
23. Have you recently made any improvements of existing products?
24. If you have introduced new products or made improvements to existing ones, what motivated you to do so?
25. To whom do you sell your product?
26. Are the products of your enterprise exported (directly or indirectly)?
27. Does the enterprise produce on advance order?
28. How much was the gross value of your sales/income last year?

V. Networking and collaboration

29. Do you have access to external sources of knowledge and information?
30. If yes, how important are these external information sources to your enterprise's activities?
31. Does your enterprise have any interaction with universities, government research organisations and industry development institutes?
32. Did your enterprise collaborate with other micro and small enterprises, which operate in your field of activity, to address common challenges?

33. Do you have interactions with owners or employees of other enterprises to share ideas, information and best practices?
34. How did you acquire the skills you are applying in your job?
35. Have you had any vocational/technical training?
36. Have you ever participated in tailored trainings seeking to resolve problems regarding access to credit, procurement of raw materials, marketing, technological innovation, etc.?

VI. Intellectual property rights

37. Do you think new knowledge and ideas should be privately owned or freely and openly shared with others?
38. Do you think appropriation of innovations has an impact on profitability of business?
39. Have any of your new products been imitated by other enterprises without your consent?
40. Have you ever shared any of your production methods with other producers?
41. Do you have knowledge of the intellectual property system?
42. If the answer to the above question is yes, have you taken any steps to legally protect your enterprise IPRs?

B. Interview Guide - Government

Name of government institute:
Name of interviewee:
Department/Directorate/Section of interviewee:
Position:
Address:

I. General information about the institute

1. Is the institute organised as a federal government agency or a regional government agency?
2. What are the major activities of the institute?
3. Who are the stakeholders of the institute's activities?

II. Innovation support scheme

4. Does your institute provide support to promote MSE innovation?
5. If your institute provides financial support to MSEs, what criteria are used to select the recipients of support?
6. If your institute provides training to MSEs owners/employees, please explain the areas of training?
7. Does your institute provide information on markets, buyers and technology to MSEs?
8. What advisory services are provided by your institute to MSEs?

III. Government policies

9. What micro and small enterprise sector specific policies are in place in the country?
10. What are the priorities in terms of developing the innovation capacities of MSEs?
11. Do you think the country's development policies address the needs of MSEs?
12. How do you see the impact of government policies and regulations on the performance of MSEs in the informal sector?

IV. Scope and impact of MSE innovation in the country

13. What are the types of innovative activities performed by MSEs in the country?
14. What are the major constraints to innovation activities of MSEs in Ethiopia?
15. What are the main barriers to collaboration between MSEs and universities/research organisations in the country?
16. What are the major constraints or barriers that particularly affect the dissemination of MSE innovation?

V. Intellectual property rights

17. Do you think the existing intellectual property system is, on its own, adequate to protect innovation by MSEs?
18. If your answer is yes, in your view which IP protection mechanisms are better suited to the needs of MSEs?
19. What are the main shortcomings in IP laws and regulations that affect the ability of MSEs to use the IP system effectively?
20. If you think the formal IP protection mechanism is not appropriate for the kinds of innovation by MSEs, what alternative appropriation mechanisms do you see as suitable to protect MSE innovations?

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