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*Supply Chain Integration for Enhancing the Growth Level of Small and
Medium Weaving Enterprises (SMWE)*
A Case of Hand Loom Weaving Enterprises found in Addis Ababa

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July, 2019
Addis Ababa, Ethiopia

***Supply Chain Integration for Enhancing the Growth Level of Small and
Medium Weaving Enterprises (SMWE)***

A Case of Hand Loom Weaving Enterprises found in Addis Ababa

BY: Masresha Tasew

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School of Mechanical and Industrial Engineering

This is to certify that the thesis prepared by: Masresha Tasew, entitled: “*Supply Chain Integration for Enhancing the Growth Level of Small and Medium Weaving Enterprises (SMWE); A Case of Hand Loom Weaving Enterprises found in Addis Ababa*” and submitted in partial fulfillments of the requirements for the degree of Master of Science (Mechanical and Industrial Engineering) complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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Abstract

Micro, Small and Medium Enterprises (MSME) development in Ethiopia has prioritized by the government; for economic growth, employment generation and building an industrial economy and also they are taken as a vital tool in achieving the country's mission to become a middle-income country by 2025. The handloom weaving enterprises had one of the enterprises provides hope for the government to achieve this target as one of the growth oriented enterprise. In the contrary the enterprises has registered very stagnant growth level as compared with construction and urban- agriculture. Therefore, the purpose of this study is to suggest ways of enhancement for the level growth of Small and Medium Waving Enterprises (SMWE) through Supply Chain Integration (SCI); additionally the study shows the government supports role on the enterprises growth level in terms of SCI. In order to conduct this research, questionnaire was developed and distributed for 20 respondents in ten enterprises(two questionnaire for each enterprises top managers) and all the questioners were collected by using schedule data collection method; beside the questioner interview also conducted with experts to supports the findings from the questionnaire.

Then the collected data was analyzed using IBM SPSS 20; in both descriptive and inferential statics. Regarding the descriptive statistic the major finding shows; the current integration level of the enterprise (both internally and externally with their supplier and customers) is very weak and the major factors are lack of trust and collaboration between supply chain actors, so many small transaction in the whole supply chain, lack of top management commitment, poor communication and information sharing, and not have awareness about supply chain integration.

Regarding the correlation, it is possible to conclude that there is a strong and positive relationship among the three supply chain integration dimensions and also the dimensions (SCI as whole) with governments support has a strong and positive relation with enterprise growth. But the regression statics excludes the supplier integration because of its statistical insignificance ($P > 0.05$), however the final model include the supplier integration, after conducting the model validation process; as the result of the expertise suggestion, correlation analysis and criticality of the supplier integration for the SMWE growth.

Finally the study develop a model and recommended the enterprises to have proper internal integration, supplier integration and customer integration strategies with the proper utilization of governments support in order to enhance their growth.

Keywords: *Customer integration, Internal integration, Supplier integration, supply chain Integration (SCI), SME growth, weaving, Governments support, Key Growth Indicator (KGI)*

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Acronyms

ACCA-Association of Chartered Certified Accountants

AACATIB - Addis Ababa City Administration Trade and Industry Bureau

AACCSA - Addis Ababa Chamber of Commerce Sectoral Association

AGOA- African Growth Opportunity Act

BDS- Business Development Service

CSCMP- Council of Supply Chain Management Professionals

GDP - Growth Domestic Product

GSCMSEDO - Gulele Sub-City Micro and Small Enterprise Development Office

ECSA- Ethiopian central statistical Agency

EDB – Ethiopian Development Bank

EEA- Ethiopian Economist Association

ETIDI – Ethiopian Textile Industries Development Institute

FeMSEDA- Federal Micro and Small Enterprises Development Agency

FeEDJCA- Federal Enterprises Development and Job Creating Agency

FeSMMEDA – Federal Small and Medium Manufacturing Enterprises Development Agency

GoE -Government of the Federal Democratic Republic of Ethiopia

GTP- Growth and Transformation Plan

IDS - Industrial Development Strategy

KGI- Key Growth Indicator

LEs - Large Enterprises

MoI –Ministry of Industry

MoUDHC- Ministry of Urban Development and Housing Construction

MSE – Micro and Small Enterprises

MSME – Micro, Small and Medium Enterprises

MSMED – Micro, Small and Medium Enterprises Development

QFDF- Quota Free Duty Free

RSSMMI -Raw material Supplier for Small and Medium Manufacturing Industries

SCI - Supply Chain Integration

SCIF - Supply Chain Integration Framework

SCM - Supply Chain Management

SMEs -Small and Medium Enterprises

UNESCO- United Nations Educational Scientific and Cultural Organization

WTO- World Trade Organization

Chapter One

Background and Justification

1.1. Introduction

Supply Chain Management (SCM) becomes a very sensitive issue in the global market, especially when companies focus on sustainability and competitiveness in the market. To have a successful SCM achieving Supply Chain Integration (SCI) is a fundamental step performed by the companies (Forker et al., 1997; Palomero & Chalmeta, 2014), which consists in aligning and coordinating the resources, decisions, methods, business processes and employees of the different stakeholders in the supply chain to improve their ability to work together in a continuous improvement process (Romano, 2003).

Large companies invested a lot to integrate their supply chain inside and outside their organization but the supply chain integration of Small and Medium Enterprises (SMEs) are very slow moving due to the constraint of finance, technology and lack of methodology (Chen et al., 2004; Palomero & Chalmeta, 2014). The implementation of SCI has different kinds of benefits for both SMEs and Large Enterprises (LEs) as (Chen et al., 2004) reveals; it reduced costs, increased revenue, enhance customer satisfaction, improved on-time delivery, reduced supply chain costs, reduced time in the provisioning and quality control processes, reduced work in process and final products stocking, automated processes, standardized production, improved payment process, improved distribution process and improved global competitiveness, improved services, improved quality and improved demand visibility by each of the partners.

In previous times SMEs are taken as a source of small incomes, but now they become a part of a global business network and participating in many interlinked supply chains (Li & Zuo, 2011), and they are also a major source of dynamism, innovation and flexibility for emerging and developing countries, as well as for the economies of the most industrialized nations (Thoo Ai Chin et al., 2012).

As an industrializing nation, SMEs found in Ethiopia are also expected to have growth, sustainability and competitiveness in local market as well as export market (Gebreeyesus, 2009). Ethiopia works a lot on Micro Small and Medium Enterprise Development (MSMED) programs. In the Industrial Development Strategy (IDS) of Ethiopia drafted in 2010, the governments set a strategic goal to ultimately deliver agriculture-led industrialization, export promotion and

development and expansion of labor-intensive industries, a large part of which is the MSME development. SMEs play a big role in the country economic by facilitating economic growth, creating long-term job opportunities for youths and women, strengthening cooperation between SMEs and building the basis for large-scale enterprises and promote export.

The Ethiopian government categorized the enterprises into growth-oriented and non growth-oriented and provides supports based on their contribution to the country's economy and the level of growth. The growth-oriented enterprises are who have large market share, high employment absorption, a short period of return on investment, local raw material utilization, the high role of poverty reduction and opportunity to transform to medium and large industry. These enterprises get maximum support from the governments like working premises with least leasing price, product display center with least leasing price, technical and business management training, BDS (Business Development Service) & counseling, loan provision (finance and machinery leas), market linkage particularly with government development programs (e.g housing development), technology access, exhibition and trade fair organization (Konjit, 2011; MoUDHC, 2016).

With this regard, the textile sector is listed by the government as a prominent growth-oriented sector. This sector as a whole contributes a lot to the country's economy; in 2017 the export size of the sector mounted to around 113 million USD and employed 37,000 workers and the government aimed to create around 60,000 jobs and generate an annual export value of US\$1bn (22% the country's total export value) by 2020 (Khurana, 2018a; Netherlands Embassy, 2016) from this sector. The textile sector expands across to not only large industrial sector but also to small and medium scale enterprises (SMEs); according to ETIDI 2016 report, there are about 15,432 workers engaged in the SME textile; which is 50% of the plan sated by the government to create employment by the sector(Berihu A. et al., 2014). The textile enterprises including small scale garments, hand loom weaving, knitting, Embroidery, textile dyeing and printing, textile related crafts.

Hand loom weaving products has a special place in Ethiopian textile history (UNESCO, 2000). Formerly the products were dressed seasonally and traditional weavers were engaged in its fabrication. Currently there is an insight, which shows the growth of fashion industry in Ethiopia, with regards most of the designer's uses traditional weaving fabrics for their designs, because the

fabrics are organic, traditional, elegant, comfortable, versatile and modest (Temesgen, 2018). As per the Ethiopian Central Statistical Authority (ECSA) survey on Cottage /Handicraft Manufacturing Industries (ECSA Report, Addis Ababa, Sept., 2003, pp.6) by the year 2002 there were 296, 737 weavers in the country and its assumed the number increases by 1.37% , based on the assumption the weavers number become 367,749 throughout the country by 2018. Most of the weavers work in their home informally (have no formal training, do not pay taxes and have almost no access to modern finance in whatever form). Conversely, there are some weavers those establish cooperative or enterprises and located in the hand loom weaving clusters built by the Government (AACCSA, 2015).

These weaving enterprises has unique characters like: indigenous knowledge , consume 80% local raw material, their products has higher acceptance in both domestic and foreign market, generate foreign currency from their export, higher possibility to transform to Medium and large industry and above all their product promote culture and tradition of Ethiopia throughout the world (AACCSA, 2015; FeSMMEDA, 2018; Mathiszig, 2015; UNESCO, 2000). Like any growth oriented sector the government provides different supports, especially when they were in a micro level including: provide working premises and product display shops in different textile clusters, provide loan (financial and machinery), training, BDS, technology transfer. Then after a year government evaluates their performance to promote them to the next level (to small and medium) with the criteria of financial performance, job creation, technology transfer and utilization of governments support. But their growth become stagnant once they promoted to small and medium level and the reasons are: lack of internal integration, lack of supply, lack of consistent customer, lack of finance, very lengthy supply chain (large number supply chain actors), in consistent government support (minimum level of support), lack of institutional linkage (institute supports SMES), lack technology, weak weavers association and lack of expertise (AACCSA, 2015; Debebe, 2006; Embassy of Japan, 2008; ETIDI, 2014; Hk, 2010). Most of the problems indicates, the Small and Medium Weaving Enterprises (SMWE)s have a problem of supply chain integration. Therefore, this research develop the proper SCI model, which suits for the characteristics of Small and Medium Weaving enterprises to enhance the growth level in terms of finance, job creation, technology transfer, government support utilization , innovation, competitiveness, and product quality.

1.2. Problem statement

Ethiopia has prioritized Micro and Small Enterprise (MSE) development for economic growth, employment generation and building an industrial economy, and weaving enterprises are one of these enterprises provide hope for the government in previous times. In the contrary, they discourage governments effort due to their stagnant growth (FeSMMEDA, 2018). For instance, there are about 114 weaving enterprises (more than 3,000 weavers) located in Gulele Sub-city, which is about 87% of weaving enterprises established in Addis Ababa. All active enterprises registered in this sub city are operated within the G+4 clusters, built by the Addis Ababa city administration around Shiromeda, Addisu gebeya and kechene. Like any other growth-oriented enterprises the Gulele sub-city MSED office support, evaluate and promote these enterprises. However in the sub-city, only 8 enterprises can be able to promote to small-scale level since 2010 to 2018, and there is no medium scale enterprise found in the sub-city. However, if the enterprises transform to the next level as per the government plan which is 1% of enterprises in each year; they can create additional job opportunities for others at the same time when they leave the cluster (when they become large), the government can transfer it for new entrants.



Source: Gulele Sub-City MSED, compiled by the researcher

Figure 1.1: Number of weaving enterprise in each level in Gulele Sub-city

Accordingly, Table 1 shows the expected number of weaving enterprises to be transferred to small and medium scale and respective numbers of job opportunities.

Table 1.1: Expected Number of Weaving Enterprises in Gulele Sub-city

Expected number job created	New enterprises (to be established)	Small enterprises	Medium enterprises	Large enterprises	total
	5	11	6	3	
	250	1,430	3,939	4,500	10,119

Source: Gulele sub-city MSEO, compiled by the researcher

As indicated in Table 1.1; 10,119 weavers were expected to engaged (employed) in this sector since 2010 to 2018 in this specific sub-city (Gulele) but the actual weavers engaged in this sector are about 3,000, which is 29%. The main reasons which pull the weaving enterprises from growth are; Lack of internal integration, collaboration, trust between each member of the enterprises (most of the enterprises take working premises by the name of the enterprise but they work separately) , lack of supply (raw material and accessory), inconsistent customer(week relation with customers), lack of finance, lack of modern technology, lack business expertise (most of the weavers have not educational background they get weaving knowledge from their elders and leads their business traditionally), very lengthy supply chain (large number supply chain actors) and in consistent government support (AACCSA, 2015; Debebe, 2006; Embassy of Japan, 2008; ETIDI, 2014; Hk, 2010). Therefore this study addressed the above problem by developing a supply chain integration model for Small and Medium Weaving Enterprises.

1.3. Objective of the research

1.3.1. General objective

The main objective of this research is to suggest ways of enhancement for the level growth of Small and Medium Waving Enterprises through Supply Chain Integration.

1.3.2. Specific objective

- ✚ To indicate the level of the existing supply chain integration and its effect on the growth level of the enterprises.
- ✚ To identify factors affect the supply chain integration in Small and Medium Weaving Enterprises
- ✚ To identify and analyze the relationship between supply chain integration and the level growth of Small and Medium Weaving Enterprises
- ✚ To propose a supply chain integration model that can fit with Small and Medium Weaving Enterprise.

1.4. Scope and Significance of the research

1.4.1. Scope of the research

The weaving enterprises have so many problems which hinder their growth. And the problems are varying from enterprise to enterprise and level to level. This research primarily focuses on Small and Medium Weaving Enterprises found in Addis Ababa city Administration mainly engaged in Hand Loom Weaving. Because, even if the micro level enterprises has so many growth constraints , most of these constraints are addressed by the government support and they registered relatively better growth rate than Small and medium enterprises (Brian J. et al., 2014; Nuriye & S.S.A, 2014; Worku & Yifredew, 2017).

The research scope is defined as per the identified problems and research objective; therefore it will be limited on solving the problem of SMWE through supply chain integration by proposing a model for enhancing the growth level of SMWE. Accordingly the research uses SPSS and Excel as a tool to do descriptive statistics and inferential (correlation and regression) analysis.

1.4.2. Significance of the research

Solving the problem of weavers had a great impact on Ethiopians' socio cultural economy because the weaving sector is very different from other business; they promote Ethiopian history, culture and social beliefs beside its economic benefits (job creation, income generation and profit making). Also the products acceptance rate becomes increasing locally (by fashion designers, end users) and at the same time in export markets due to its indigenouness, organic features, comfort and colorfulness. Therefore, solving the problem of the sector by integrating the whole supply chain will add value for its growth and sustainability; as a result the sector can maximize its contribution in the country's economy. The outcome of the research will also serve as a basis for future researchers on similar topics by suggesting areas that need further studies to be conducted.

1.5. Thesis document organization

The research comprises seven chapters. The first chapter is the background and justification part and it introduce the whole contents of the study, statement of the problem, objective of the study, scope and significance of the study.

The second chapter addresses definitions, theoretical and empirical review of related literatures of the study. The third chapter provides methodology of the study. Data presentation, analysis and interpretation are discussed in the fourth chapter. In chapter five the proposed integration model is presented and chapter six covers the conclusion and recommendations of the study.

Chapter Two

Related literature review

2.1. Introduction

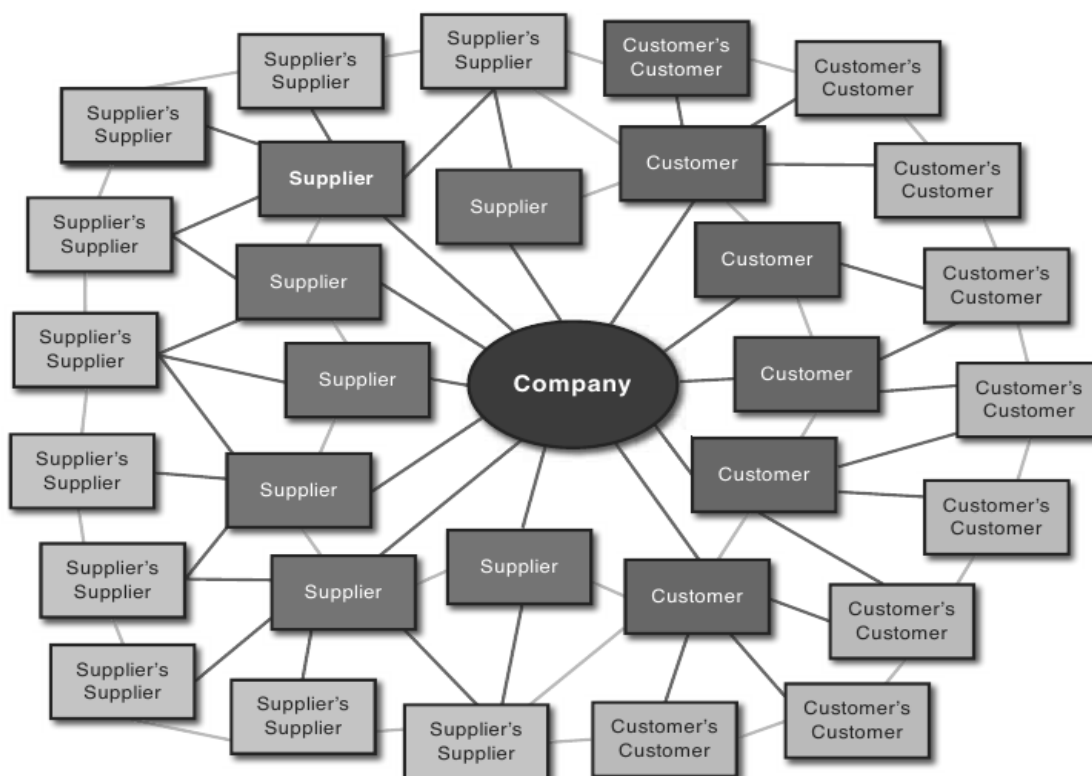
In this chapter, detailed relevant literatures were explored in order to provide theoretical background information about the research. The chapter includes; first the overall concept of Supply Chain (SC), Supply Chain Management (SCM), Supply Chain Integration (SCI), second the relationship between supply chain integration (SCI) and Small and Medium Enterprises (SME) growth, third overall view of SMEs, Fourth over view of textile and weaving sector in Ethiopia, Fifth identified current litterateurs gap and six proposed Research hypothesis.

2.2. Supply chain

In the history of the supply chain, the supply chain initiative begins in textile industry with the quick response program and later to efficient consumer response in the grocery industry (Lummus & Vokurka, 1997). After the introduction of supply chain concept different scholars, academician and expertise define supply chain, According to (Christopher Martin L, 1992) it is the network of organizations that are involved, through upstream and downstream linkages, in the different processes and activities that produce value in the form of products and services delivered to the ultimate consumer. Council of Supply Chain Management Professionals (CSCMP, 2010) define SC as the material and informational interchanges in the logistical process, stretching from acquisition of raw materials to delivery of finished products to the end user. All vendors, service providers, and customers are links in the supply chain. (Coyle & Langley et al., 2013) also defines as a series of integrated enterprises that must share information and coordinate physical execution to ensure a smooth, integrated flow of goods, services, information, and cash through the pipeline.

Significant feature of the above definitions is all authors give emphasis for the concept of an integrated network or System. Supply chains require a multiplicity of relationships and numerous paths through which products and information travel. (Campbell & Sankaran, 2014; Lee et al., 1997) presents the lack of integration between members of a supply chain results in operational inefficiencies that compromise the performance of the supply chain. Therefore, to gain maximum benefit from the supply chain, an enterprise must dynamically draw upon its available internal

capabilities and the external resources of its supply chain network to fulfill customer requirements. The supply chain network includes the focal company, multiple suppliers and, indeed, suppliers of suppliers, as well as multiple customers and customers of customers as shown in Figure 2.1. In real world even two supply chains are not exactly like. An organization's supply chain structure and relationships will be influenced by its industry, geographic scope of activity, supply base, product variety, fulfillment methods, and demand patterns (Brian J. et al., 2014).



Source (Council of Supply Chain Management Professionals book, 2014, 4)

Figure 2.1: Network representation of a supply chain

In the current competitive market “co-opetation” (cooperation and competition) (Kassahun, 2017) become a major requirement for both small and large enterprises around the globe; in order to have such “Co-opetation” ability in the market, supply chain is mandatory. There are internationally known companies those have successful supply chain that balance efficiency with effectiveness to optimize overall performance (eg. Apple, McDonald's, Amazon.com, Unilever, Samsung)(Brian J. et al., 2014). Even if the supply chain benefit is known and proved

worldwide, the implementation of the concept for SMEs is in an infant stage (Purnomo et al., 2018; Thoo et al., 2014).

2.3. Supply chain management

Supply chain (SC) is a concept that used to achieve a customer requirement whereas supply chain management (SCM) include all managerial activates accomplish by the organizations within the supply chain to get a better outcome (Mentzer et al., 2001).

The term supply chain management introduced in the late 1980s, and then it began to take hold in the mid-1990s (Brian J. et al., 2014). Now it is part of the everyday business glossary. Previously businesses used terms like “logistics” and “operations management” instead SCM. (Dawei Lu, 2011) argue that defining the supply chain management can be both extremely simple and extremely difficult, it is extremely simple because it is so widely known and widely practiced in almost all businesses but also extremely difficult because the definition must capture all what supply chain management in practice has reached far and wide. There are thousands of definitions found in Google search result; among these CSCMP identifies some relevant definitions.

“The delivery of enhanced customer and economic value through synchronized management of the flow of physical goods and associated information from sourcing to consumption (La-Londe, & Bernard, 1997) p 6-7”.

“The management of a network of relationships within a firm and between interdependent organizations and business units consisting of material suppliers, purchasing, production facilities, logistics, marketing, and related systems that facilitate the forward and reverse flow of materials, services, finances, and information from the original producer to the final customer with the benefits of adding value, maximizing profitability through efficiencies, and achieving customer satisfaction (Stock, J., & Boyer, 2009)P 690–711”.

“The planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities. More important, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third-party service providers, and customers. In essence, supply chain management integrates supply and demand management within and across companies (CSCMP, 2010) p 34-36”.

According to the above definitions companies be required to plan and coordinate supply chain activities among their network of suppliers and customers, to be certain that their product is accessible to fulfill the market demand in a timely, safe, and cost-efficient manner. When this is accomplished, the benefits of enhanced customer satisfaction and retention will be achieved, which brings the clear advantage on the competitiveness and performance of the individual companies in the long term perspective.

(Thoo Ai Chin et al., 2012) mentioned quantified benefits of SCM include lower supply chain costs, overall productivity, inventory reduction, forecast accuracy, delivery performance, fulfillment cycle time and fill rates. The study conducted in united Kingdome reveled the benefits of SCM to SMEs include, increased customer service and responsiveness, improved supply chain communication, risk reduction, reduced product development cycle time processes, reduction in duplication of inter-organizational processes, inventory reduction and improvement in competitive advantages (Meehan, J., & Muir, 2008). Despite the benefits of SCM to SMEs the implementation of SCM in the context SMEs should be cost effective to survive and growth. Different authors present the benefit of SCM for SME but there is deficiency of empirical research confirming these significant benefits of SCM to SMEs (AC Thoo et al., 2017).

2.4. Supply chain integration

Integration can be considered as a central concept in supply chain management (Fabbe-Costes & Jahre, 2008; Mendes Primo, 2010). Even though the place of integration is very huge in the SCM there is no clear and common definition for it. According to (Daniel & Shambachew, 2017; Pagell, 2004); Integration in SCM is process of interaction and collaboration of companies in the specific supply chain network working together to achieve mutually acceptable outcomes. Other scholars' characterize integration as cooperation, collaboration, information sharing, trust, partnerships, shared technology, and a fundamental shift away from managing individual functional processes, to managing integrated chains of processes Power (Dametew et al., 2016a). Additionally (Campbell & Sankaran, 2014; Lambert & Cooper, 2000) expresses Integration as an end-goal of SCM and it's the process of developing linkages with trading partners.

Due to the luck of clear definition of supply chain integration (SCI) (Fabbe-Costes & Jahre, 2008; Pagell, 2004) different authors describes the concept of integration as per the situation they conduct and depends on the way SCM is defined. SCI is the collaborative effort that

connects functions and supply chain networks in terms of process, information and physical flow (Daniel & Shambachew, 2017; Frohlich & Westbrook, 2001; Mentzer et al., 2001, 2008). Other scholars implies SCI as a collaborative inter- and intra-organizational management on the strategic, tactical and operational levels of activities (and their corresponding materials, funds and information flows) that, starting with raw materials suppliers, add value to the product to satisfy the needs of the final customer at the lowest cost and the greatest speed (Alfalla-Luque et al., 2013; Chen et al., 2004; Flynn et al., 2010; Frohlich & Westbrook, 2001; Monczka & Morgan, 1997; Romano, 2003).

Even if the definition given by different authors show a discrepancy, there are also common terms mentioned in their definition like coordination (joint operation), collaboration (working jointly), cooperation and coordination complementary in the context of SC as a part of SCI (Maleki & Cruz-Machado, 2013a). Companies decide their level and type of integration to be benefited from SCI. Highly integrated supply chain results in high product quality, high visibility, short lead time, small amount of inventory and high capacity utilization, as a result managing SCI becomes the best approach for the challenges of rapid market change, change in technology and globalization (Dawei Lu, 2011). The degree of supply chain integration is not restricted but it has wide range from supplier integration to customer integration covering central concept of internal integration also (Elaine Q & Supangco, 2018; Flynn et al., 2010; Sabir & Muhammad, 2014).

According to different supply chain literatures, Supply chain members integrate in to three dimensions internally within and across functions, as well as externally across suppliers and customers (Daniel & Shambachew, 2017; Flynn et al., 2010; Frohlich & Westbrook, 2001; J. Lardner et al, 2015). Beside the dimensions (Barber, 2008; Elaine Q & Supangco, 2018; Fabbe-Costes & Jahre., 2007) identify the key business processes areas that add value to all supply chain members when they are integrated, like physical or material flow, information flow, financial flows, technologies, processes, innovations, strategies, procedures, knowledge, and actors.

2.4.1. Internal integration

(Cespedes, 1996) explained, Internal integration is a collaborative system of functions inside the organization to attain customer satisfaction. Cross functional integration provide holistic

performance of activities across departments by breaking all the boundaries. It is an integration includes joint decision making (Elaine Q & Supangco, 2018), collaboration, interaction, coordination, communication, cooperation (Flynn et al., 2010), and information sharing (Lee, C.W. & Severance, 2007) among different internal functions of the firm.

A well integrated internal supply chain and an effort to collaborate in production process help companies to achieve excellent customer service and company performance (Chuda Basnet, 2013; Mentzer et al., 2001; Purnomo et al., 2018; Tsion, 2017; Wong et al., 2011).

(Chuda Basnet, 2013) reveals that internal integration requires full system visibility from purchasing to distribution as shown in the Figure 2.2 and required integration across functions under the control of the firm to achieve customer satisfaction and improved performance.

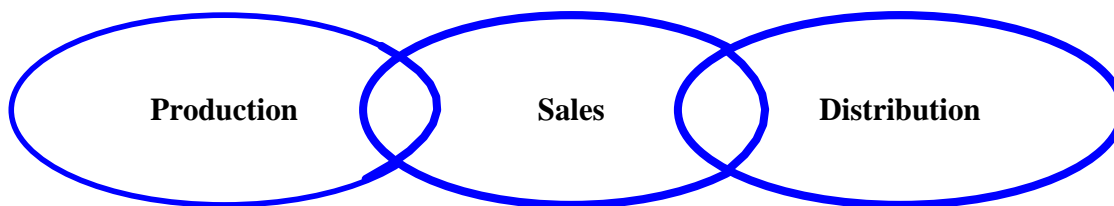


Figure 2.2: Internal Supply Chain Integration (Chuda Basnet, 2013)

Among others, internal integration can remove functional barriers and facilitate cooperation, and teamwork among the internal departments and individuals respectively, with the goal of meeting customer requirements (Flynn et al., 2010). When companies work on internal integration, knowledge sharing across functional team and company will be the easiest task, as a result the company improves its capability to integrate processes and ensure that internal resources are used efficiently. Therefore, internal integration has a great impact on company performance and competitiveness (Elaine Q & Supangco, 2018).

2.4.2. Supplier integration

After the successful completion of internal integration, the next SCI phase is external integration. It is difficult to achieve external integration without internal integration across a firm's boundaries (Morash & Clinton, 1998). It is also proven by some scholars that internal integration has a positive impact on external integration (both supplier and customer integration) (Das et al., 2006; Huo et al., 2012; Koufteros et al., 2007). Supplier integration is explained by (Lai et al., 2010; Purnomo et al., 2018; Ragatz G. et al., 2002) as a by-passing external

integration, collaboration between manufacturer and supplier within all the production activity. A company production should be consistent, it will not be obstructed by the lack of materials or by the incompatibility of the materials. Therefore supplier integration helps companies to have reliable and efficient production performance. (Frohlich & Westbrook, 2001) expresses supplier integration as a process of interaction and collaboration between an organization and its suppliers to ensure an effective flow of supplies. It is also called 'backward' integration. Additionally (Yeung et al., 2009) refers supplier integration as a degree to which a firms can associate with its key suppliers, to construct their inter- organizational strategies, practices, procedures and, behaviors into collaborative, synchronized and manageable processes in order to meet customer requirements. (Yeung et al., 2009) also mentioned that a supplier or upstream integration increases the productivity of the SC and leads to reduction of wastes.

Supplier integration can be divided into 5 stages with the goal of supplier development and excellent performance as mentioned in Figure 2.3. It starts by setting up clearly and consistent objectives, which must be introduced with suppliers carefully. At the second stage, set a perfect evaluation performance criterion and evaluate every supplier based on the sated criteria. The third stage is providing feedback to the suppliers based on their actual performance. Fourth stage, the suppliers analyze the process to find the performance gap, and then formulate plans to improve their performance. Finally, the focal firm admits supplier performance and gives them the relative treatments according to their performance to support joint development and this process will be repeated and continues (Huo et al., 2012; Yeung et al., 2009).

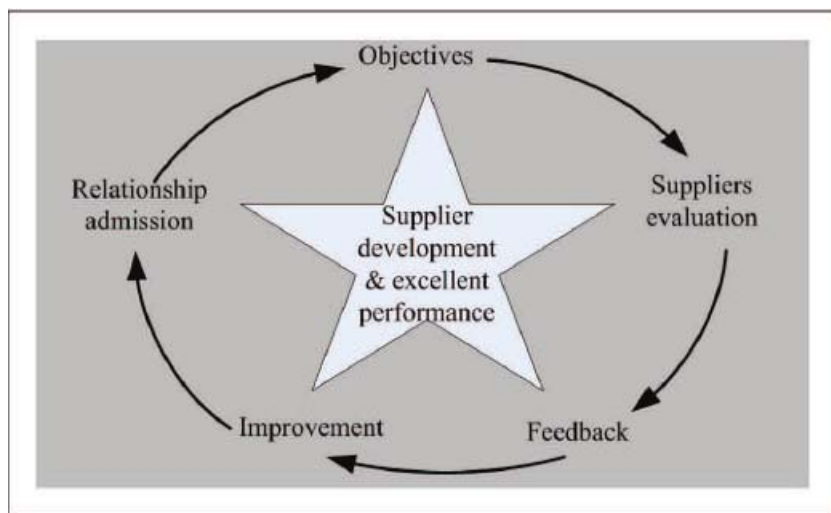


Figure 2.3: Supplier Integration Cycle (Huo et al., 2012)

2.4.3. Customer integration

Like supplier integration (Bowersox et al., 2000; Stank et al., 2001) express customer integration as a passing external integration, inter-organization coordination in supply chain activities for developing main competence. Additionally (Fisher et al., 1994) reveals that integration, collaboration and information sharing with customers will help companies to have better supply chain visibility. This means the presence of customer integration may allow company to understand customer's demand and ways of fulfilling this demand. Based on this companies can prepare a strategy for the next target market to react quickly and accurately attain customer demand.

Customer integration is also known as downstream integration (Maleki & Cruz-Machado, 2013b). Though, Company position determines whether downstream or upstream integration has more effectiveness. Downstream integration (customer integration) assist firms to secure the distribution channels of their products, especially in markets with increased uncertainties. Second, it can offer a way to control efficiency gains and cost reductions in the SC (Frohlich & Westbrook, 2001). Third, downstream markets can offer important benefits in addition to large new sources of revenue (Guan & Rehme, 2012).

2.4.4. Other dimensions of supply chain integrations

Dimension of supply chain integrations are essential to ensure improved significance in supply chains. Beside the three major integrations different scholars' analysis SCI in terms of other multi- dimensional frameworks like:

Information integration: it is most presented integration type by many scholars next to the three major integrations (Dametew et al., 2016a; Gizaw, 2016; Huo et al., 2012; Hussain & Mohammad, 2010; Sabir & Muhammad, 2014). Information integration refers to the free sharing of high quality – appropriate, relevant and precise information across the members of supply chain; which is a key success factor for organizations. In supply chain management it is presented as the flow of information and products along the members of supply chain in an organization and also include; suppliers, customers, producers, and service providers that integrates together the acquisition, purchase, manufacture, assemble and distribute products from suppliers to the ultimate users(consumers). In the current era of globalization information

integration requires information technology; which has the potential to develop supply chain partners in order to perform together for better delivery of products to consumers.

Process integration: (Chen & Landry, 2018; Hussain & Mohammad, 2010) argues processes must be coordinated between all the firms in the value chain to achieve improved performance and service. The external process integration (value chain coordination) is the focus of modern supply chain management. (Dametew et al., 2016) cites Huo et al (2014) and mentioned that process integration contributed more to the financial performance of differentiators (Chen & Landry, 2018).

Resource integration: (Chengbiao, 2010) believes resource integration is a basis and it also decide the nature and functions of supply chain. Resources integration refers the recognition and choice of company advantageous resources; make company resources value chain oriented to value. Resources like raw material, equipment, technology, human, capital as well as transport means and warehouse and so on.

Market integration: according to (Chengbiao, 2010) it represents every link market of supply chain; such as the raw material market, product market, techniques market, capital market, transport the market and so on.

scholars present their perspective to indicate the preferable SCI integration type for SMEs based on their findings (Elaine Q & Supangco, 2018) argue, internal integration has high influence on the performance and competitiveness of SMEs found in Philippines. They suggest for SMES to focus on integral integration than external (both customer and supplier), because the strong internal integration like financial flow, information flow, physical flow, processes, technologies, innovations, strategies, knowledge integration will enable them to meet their customer requirements by attaining their quality requirements and global quality standards, achieve cost reductions through minimization of wastes and rejections, and enhance productivity, leading to better business performance and competitiveness. On the contrary (Róbert, 2014) presents, for SMEs found in Hungarian food industry supplier and customer (external integration) is more important than focusing on internal integration, giving priority for optimizing internal company structures and processes is not sufficient without having efficient partnerships with suppliers and customers in order to achieve the highest customer satisfaction. Additionally (Özdemir & Aslan, 2011) argue that for SMEs found in Turkey beside the three dimensions of supply chain integrations (internal, supplier and customer integration) information integrations plays a major

role to enhance their capability for competition and boost their performance. From the above literature, the researcher understands that a supply chain integration dimension determines the final outputs and also the dimensions are selected based on SMEs situation.

2.4.5. Forces drive to increase supply chain integration

(J. Lardner et al, 2015) mentioned that all supply chains are integrated to some extent whether it is recognized by the company or not. Since there is a communication and interaction between partners in the supply chain, any business has supply chain integration. In the current competitive global market successful organizations recognize their success; it is because of their integration in manufacturing, distribution and strong relationship with their suppliers and customers. But the level of integration is different from one another. SCM literature agrees that the position of company in SC, strategically influence its level of integration with other members (Cook et al., 2011; Maleki & Cruz-Machado, 2013b; Olhager, 2003) and SCI is continues process, it needs improvement and optimization all the time.

The following worldwide trends and forces are driving supply chains toward increased integration:

- **Increased cost competitiveness.** There is high cost competitiveness in global market, in order to sustain in this competition companies improve their internal efficiency but further cost reduction is required by the market. To have this further cost reductions companies are improving efficiency and synergy within their supply chains.
- **Shorter product life cycles.** Customers demand new features of product every time, due to this the product life cycle is very short. To satisfy customers need and sustain in the market reliable supply chain integration is become a must.
- **Faster product development cycles.** Companies must reduce the development cycle times of their products to remain competitive. Early introduction of a new product is often rewarded with a large market share and sufficient unit volumes to drive costs down rapidly.
- **Globalization and customization of product offerings.** Customers the world over can increasingly afford and are demanding a greater variety of products that address their specific needs.

- **Higher overall quality.** Increasing customer affluence and tougher competition to supply their needs have led to demands for higher overall quality.

2.4.6. Challenges and obstacles for supply chain integration

In order to have successful SCI, companies should aware and understand the challenges and obstacles of integration. Integrating the SC internally or externally is not an easy task because it needs the commitment of every participant's in the supply chain (it is beyond the scope and capabilities of a single organization). (Daniel, 2018; Hussain & Mohammad, 2010) explained that integrate the supply chain strategies among organizations and integrate the supply chain strategy of an organization with its corporate strategy is challenging. Integration requires remarkable efforts, expertise, time, and money to establishing strategies, building relationships, aligning processes, developing people, implementing technology and investing in capacity.

The following are major challenges of supply chain integration presented by different authors;

- ✚ **Change and Culture:** (Alsagheer, 2011; Awad & Nassar, 2010; Hussain & Mohammad, 2010) argues that every organization had an organizational sole culture that defined its values, mission, structure, and strategy. For this organization it's extremely challenging to change their attitude and culture; for the reason that culture defines the relationships within an organization such as relationships among suppliers, customers, employees and other stakeholders. Therefore, an organization might need a cultural change to integrate its supply chain strategy with another organization.
- ✚ **Globalization:** (Awad & Nassar, 2010) argued that world markets were moving towards globalization and commoditization. Therefore, different challenges were raised by these factors as it became difficult for organizations to cut costs and integrate their business processes internationally. Rely exclusively on supply chain integration to cut costs and integrate different supply chains systems globally or internationally was not easy for organizations.
- ✚ **Business process integration:** (Awad & Nassar, 2010) argued that there was a need to coordinate business processes in such a way that they should improve performance and service. The modern e-commerce practices had allowed the organizations to link their internal processes with those of external stakeholders. But, there were certain compatibility challenges among organizations such as technical, operational, strategic and political/legal

challenges that could become an obstacle in business process integration among different organizations.

- ✚ **Transaction costs:** (Awad & Nassar, 2010) described that integration of supply chain sometimes required outsourcing of certain activities that would involve uncertainty and risk (such as revelation of trade secrets and performance breakdowns). These transaction cost involved in outsourcing certain activities become a challenge for SCI.
- ✚ **Strategy and Planning:** (McDermott & Chan, 1996) argued that strategy and planning itself became a challenge for SCI among different organizations. It was because different organizations had different organizational or corporate objectives for which they strategize and plan. Supply chain strategy of an organization is integrated with its corporate strategy to reach its corporate goals and objectives as cited in (Awad & Nassar, 2010).
- ✚ **Customer order management:** (Boxall, 1992) explained that customers were becoming more demanding and their needs and wants had become dynamic as well as diverse in the modern world. The basic purpose of supply chain strategy was to identify and satisfy the needs and wants of customers effectively and efficiently. But, when needs and wants are changing, it was not possible to integrate supply chains for a longer period of time as market dynamics used to change rapidly. Therefore, it seems that supply chain integration was a short term orientation as Cited in (Awad & Nassar, 2010).
- ✚ **Operations Management:** (Awad & Nassar, 2010) different operations' strategies were employed by different organizations to satisfy the needs and wants of target customers. Supply chain was a part of operations strategy. Another challenge for supply chain integration arises in operations as it is important for different organizations to integrate their supply chain management only if their operations are flexible enough to allow this integration.
- ✚ **Business standards:** business or trade standards for operating in different industries are different. Sometime, the value chain for a specific product or service is scattered across different industries. Therefore, in such case, it becomes difficult to integrate supply chains because of the difference in industry or business standards (Awad & Nassar, 2010)

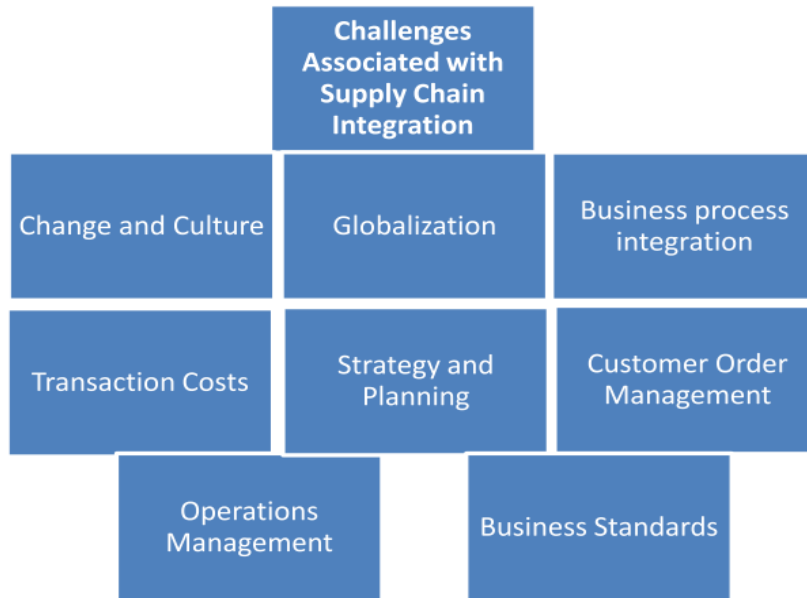


Figure 2.4: Challenges Associated with Supply Chain Integration (Alsagheer, 2011)

Additionally SMEs face extra challenges when they integrate their supply chain, this is because of their unique character (J. Lardner et al, 2015) these challenges and obstacles are:

- ❖ Lack of clearly defined, mutually acceptable goals and Poor communications (information sharing) (J. Lardner et al, 2015; Sorak & Dragic, 2013)
- ❖ Cultural incompatibilities (organizational culture and structure) (J. Lardner et al, 2015; Sorak & Dragic, 2013)
- ❖ Lack of clearly identified mutual benefits (J. Lardner et al, 2015)
- ❖ Lack of in-depth commitment to and nurturing of relationships (Lack of cooperation in business practice) (J. Lardner et al, 2015; Sorak & Dragic, 2013)
- ❖ Lack of metrics or inappropriate metrics for evaluating performance (J. Lardner et al, 2015; Sorak & Dragic, 2013)
- ❖ Incompatibility of capabilities in communications and/or electronic design technologies (J. Lardner et al, 2015)
- ❖ Lack of, or breakdown in, mutual trust and respect (J. Lardner et al, 2015)
- ❖ Legal barriers, including intellectual property, liability, and anti- trust issues (J. Lardner et al, 2015)
- ❖ Government procurement policies and regulations (J. Lardner et al, 2015)
- ❖ Limited resources, Resistance to changes and Lack of managerial decisions (Sorak & Dragic, 2013)

Forces beyond the control of supply chain partners can sometimes undermine the best efforts at integration. But the mentioned challenges and obstacles don't hinder the benefits' of SCI because organizations need strong supply chain capabilities to beneficially compete in the market. Their key goals for supply chain integration should be to attain market demand efficiently, drive excellent customer value, improve organizational responsiveness, build network resiliency, and smooth the progress of financial achievement (Brian J. et al., 2014).

2.4.7. Facilitators for Supply Chain Integration

Identifying and understanding factors that facilitate supply chain integration is a stepping stone for developing supply chain with others, when independent firms collaborate and share knowledge with others, they can achieve the advantages beyond what could be achieved individually. Lack of resource is the main constraint for many firms globally in order to pass these constraints emphasis should be given for communication, collaboration, coordination partnership etc inside (each other) and outside (with others) the firm. Table 2.1 shows the major facilitators of supply chain integration

Table 2.1: Facilitators of supply chain integration (Huo et al., 2012; Purnomo et al., 2018; Tewoldual, 2018; Uwamahoro, 2018; Verma & Seth, 2011)

S.No	Facilitator	Description
1	Communication	In the whole supply chain Communication is a very vital tool to enhance the level of understanding and relationship between the supply chain actors. Over the years, companies have managed their communication by telephone calls, letters, telex, faxes, and electronic data interchange (EDI).
2	Coordination	It is a co-operation (coordination in the work place) refers to situations in which firms work together to achieve mutual goals.
3	Collaboration	Collaboration inside and outside the companies or all over supply chain actors, which include the following efforts like information sharing about plan & inventory, communication, interdependency, and common developmental goals and objectives.
4	Partnership	Partnership create smooth relationship for the overall supply chain actors. It makes easy quick ordering, receiving feedbacks positively, working with competitors and trust building.
5	Transparent Information sharing	Refers to the exchange of critical, often proprietary, information between supply chain members through media such as face to face meetings, reports, telephone, fax, mail, and the Internet.

6	Long-term relationship (Dependent or Interdependent)	Dependence refers to a firm's need to maintain and exchange relationship to achieve desired goals. Interdependence is an implication for interaction, joint effort, such as planning, goal setting, performance measurement, and problem solving, is essential for successful collaborative relationships.
7	Commitment	In supply chain every supply chain actor must be committed, especially top or senior managements, because it's willingness of trading partners to exert effort on behalf of the relationship and suggests a future orientation in which firms attempt to build a relationship that can be sustained in the face of unanticipated problems
8	Clear mission , vision, goal and organizational culture	The commitment, usually from the chain director, that intensive co-operation with suppliers will be based on trust, responsibility and value. SCI requires cultural change and dynamism.
9	Joint decision making	The joint decision making process typically involves the maintenance of an information flow, the assignment of resources, problem solving, the preparation of detailed activity reports, inter-organizational strategic decision-making, and the preparation of future plans.

2.5. Supply chain integration for SME

Supply chain integration is becoming one of the fundamental aspects of supply chain management that can achieve the insight of supply chain. According to (Chen et al., 2004; Palomero & Chalmeta, 2014); Large companies invested a lot to integrate their supply chain inside and outside their organization but the utilization of SCI concept in SME is very slow moving as compared with large companies.(Irfan et al, 2012; Purnomo et al., 2018) also supports their thought; SCM application in SME is rarely understood or even never used as an important aspect in running a business. The main reasons identified and explained by (Palomero & Chalmeta, 2014) was ; (1) the lack of internal integration in SMEs (Singh, 1998); (2) lack of understanding on merits and demerits of alliances (Power, 2006); (3) poor use of IT (Ritchie and Brindley, 2000); (4) immature buyer-supplier relationship (Arend and Winser, 2005); (5) absence of performance measurement (Quayle, 2003) and (6) poor strategic vision (Oakes and Lee, 1999; Harland et al., 2007). However, despite SMEs internal problem they have a constraint of finance, technology, methodology and theory to implement SCI.

Even though the implementation of SCI in SMEs is an infant stage, researchers were identify numerous benefits (Chen et al., 2004) (J. Lardner et al, 2015) of SCI for SMEs : including reduced friction, fewer barriers, reduced costs, less waste of resources on procedures that do not

add value, increased revenue, increased functional and procedural synergy between participants, enhance customer satisfaction, improved on time delivery, reduced supply chain costs, reduced time in the provisioning and quality control processes, faster response to changing market demands, shorter product realization cycles and lower product development costs, reduced work in process and final products stocking, automated processes, standardized production, improved payment process, improved distribution process, improved services, improved quality, improved demand visibility by each of the partners and improved global competitiveness and profitability.

2.6. Supply Chain Integration and SME growth

Growth is one of the key preconditions to survive in the market, but the survival and growth of SMEs become difficult in the existing competitive business environment and global marketplace (AC Thoo et al., 2017); Currently customers demand a better, various and cheaper products with higher service level and fast delivery (Chow et al., 2008; Tachizawa & Thomsen, 2007). Meanwhile it is real challenging delivering the right product and service at the most appropriate time and at minimum price to the right customer (Chen et al., 2004). In addition to fulfilling the customer demand the current market dynamics forces the enterprises to compete internationally and at the same time to define their domestic market share from international competitors.

The result of that is increased complexity of supply chains, pressure to decrease cost and improve service level (Kumar, 2014). To cope with the complexity and increased customer requirements, active management of the supply chain is a prerequisite for both SMEs and LEs. The growth of SME is the most effective and sustainable solution for creating more inclusive growth for the country economy. Governments spent a lot of effort to promote SME to the next level because the more they promote the major they offer jobs to peoples as well as captured the major portion of labor (Irfan et al, 2012). Yet across Africa, more than 70% of SMEs cease within 5 years and in some countries, the failure rate is as high as 90 (Tara Sabre, 2014); there are internal and external factors that limit growth potential of SMEs and one of these factor is a lack of supply chain integration (Sabir & Muhammad, 2014; Tara Sabre, 2014). Even if the luck of SCI for SMEs presented by different studies as a problem, the number of researches conducted on SCI for SME with the perspective of performance, competencies and growth is very few (Irfan et al, 2012; Palomero & Chalmeta, 2014; Purnomo et al., 2018; Tambi & Praveen, 2013).

2.7. Key Growth Indicator (KGI) of SME

SMEs are the driver of world economies and the foundation to industrialization for both developing and developed economies. SMEs businesses ranges from micro to medium and also varies by their growth: very low growth or no growth and fast growth (Muriithi, 2017). The growth indicator varies country to country, where enterprises in the developed country expected to innovative, higher market shear worldwide, flexible etc in addition to number of employees, total number of assets, annual turnover and capital investments. But for most developing countries beside the financial performance, entrepreneurial skill, sustainability ets are the major issues (Adisa, Abdulraheem, & Mordi, 2014; Muriithi, 2017). Accordingly the Table 2.2 shows the available KGI.

Table 2.2: KGI(Key Growth Indicator) of SMEs

KGI determinant	Detailed requirements for each determinants	Authors
Financial	<ul style="list-style-type: none"> ➤ Cash flows ➤ Product profitability (Profit growth) ➤ Return on sales (Sales growth) ➤ return on capital (Capital growth) ➤ Return on equity 	(Foreman-peck et al., 2006; MoUDHC, 2016; Sarwoko & Frisdiantara, 2016)
Human resource	<ul style="list-style-type: none"> ➤ New Job opportunity ➤ Skill(management and technical), knowledge, ability of members 	(Foreman-peck et al., 2006; Grisna & Qaanita, 2014; MoUDHC, 2016)
Entrepreneurial skill	<ul style="list-style-type: none"> ➤ Motivation ➤ Optimism ➤ Self-efficiency and Self- management 	(Grisna & Qaanita, 2014; Nastasiea & Mironeasa, 2016)
Innovation	<ul style="list-style-type: none"> ➤ Product creativity (design) ➤ Technology utilization ➤ Number of ideas by staff ➤ The number of new competencies for innovation ➤ Number of improved products, processes launched 	(Grisna & Qaanita, 2014; Nastasiea & Mironeasa, 2016)
Customer relation	<ul style="list-style-type: none"> ➤ The status of existing customers ➤ New customers they acquired ➤ Customer fidelity ➤ Segmenting customers by profitability demographics ➤ Waiting time for customer orders 	(Nastasiea & Mironeasa, 2016)
Quality product	<ul style="list-style-type: none"> ➤ Cycle time from request to delivery 	(Nastasiea & Mironeasa,

	<ul style="list-style-type: none"> ➤ Number of customer complaints ➤ Number of defect 	2016)
Supplier relation	<ul style="list-style-type: none"> ➤ Reliability of raw material ➤ Quality of raw material ➤ Availability in whichever volume 	(Nastasiea & Mironeasa, 2016)
Market and Distribution	<ul style="list-style-type: none"> ➤ Share of market ➤ Response time , Warranties, claims, returns ➤ Market/channel/customer profitability ➤ Customer satisfaction or Dissatisfaction indices 	(Nastasiea & Mironeasa, 2016)
Competitor	<ul style="list-style-type: none"> ➤ Delivery, price and quality performance ➤ proportion of new products ➤ New-product development cycle time 	(Watabaji, Molnar, Dora, & Gellynck, 2016)
Utilization of Government support	<ul style="list-style-type: none"> ➤ Training ➤ BDS (Business Development service) ➤ Loan (Access to finance) ➤ Regulation and policy 	(Berihu A. et al., 2014; MoUDHC, 2016)
Flexibility	<ul style="list-style-type: none"> ➤ Cultural change ➤ capacity to fulfill market demand with required Variety and volume 	(Grisna & Qaanita, 2014)
Sustainability	<ul style="list-style-type: none"> ➤ Growth and Profitability 	(Grisna & Qaanita, 2014)
Globalization	<ul style="list-style-type: none"> ➤ Create market without boundary ➤ Working for country economic growth 	(ACCA, 2010; EG, 2015; Sikharulidze, 2014)

2.8. Over view of SMEs

There is no common or standard definition for SMEs internationally (WTO, 2016a). Every country defines SMEs based on their existing circumstances. In many countries use criteria's like number of full time employees, annual sales turnover, and amount of total assets in the Firm; and also some countries use different criteria for different sectors. For example for EU(European Union) defined SMEs as enterprises those have less than 250 employees and do not have sales that exceed €50 million or an annual balance sheet that exceeds €43 million (Eurostat, 2011) for every sector. In US for manufacturing and wholesale trade firms those have less than 500 and 100 employees are taken as SMEs respectively. Also in South Africa the definition is given for more than five different sectors; for example for manufacturing and agriculture enterprises those have less than 200 and 100 employees with R51 Million and R5 million annual turnovers are taken as SMEs respectively (EG, 2015). But the majority of the countries defines SMEs as

enterprises employing between 10 and 250 people (WTO, 2016a). Even though the definition varies in every country the enterprises established with the aim of increasing countries Growth Domestic Product (GDP) and sustain employment; they are also a major contributor for innovation and industrialization (EG, 2015; WTO, 2016a). In both developed and developing countries the governments gives priority for MSMEs (Micro, Small and Medium Enterprises) development because they are critical vehicles of social inclusion, for instance, by providing opportunities for women to participate in economic activities and also poverty-reducers specially in developing countries. According to world trade report (WTO, 2016b), MSMEs account for around two-thirds of total employment in developing and developed countries alike; their contribution to GDP is lower, at around 35 per cent in developing countries and around 50 per cent in developed countries; SMEs are 70 percent less productive than large firms. In order to improve their productivity and performance (ACCA, 2010) recommended to embed SMEs in the supply chains of larger businesses especially in international market, that can be spurred on to improve their own human and technological capital.

2.8.1. SME in Ethiopia

In the Industrial Development Strategy (IDS) of Ethiopia drafted in 2010, the government set a strategic goal to ultimately deliver agriculture-led industrialization, export promotion and development and expansion of labor intensive industries, a large part of which is the MSME development. Not only Ethiopia, in all Sub-Saharan Africa region SMEs account for more than 95 percent of all firms (Muriithi, 2017). SME plays a significant role by facilitating economic growth (boost GDP), create long-term job opportunities for youths and women's, strengthen cooperation between SMEs, provide the basis for large-scale enterprises and promote export. With recognition of their vital role in the country's economic and social development, much attention has been paid by Government of the Federal Democratic Republic of Ethiopia (GoE) to the development of MSMEs. Cognizant of this, the Ethiopian government issued the National Micro and Small Enterprises (MSE) strategy in 2005 and established the former Federal Micro and Small Enterprises Development Agency (FMSEDA) the current Federal Enterprises Development and Job Creating Agency (FEDJCA) to exploit the benefit of such strategy. Then, Like every other countries the GoE set a definition for MSME (MoUDHC, 2016).

The first definition used in 2005 only consider paid up capital of the enterprise, then GoE revised it after identifying the previous definition limitations in 2010, Table 2.3 shows the revised definition of MSME.

Table 2.3: Definition of MSME in Ethiopia (ADA, 2017; FDRECoMR, 2016; MoUDHC, 2016)

Sector	Micro		Small		Medium		Remark
	No of employee	Paid up capital(Birr)	No of employee	Paid up capital (Birr)	No of employee	Paid up capital (Birr)	
Industry (Manufacturing, Construction, Mining)	≤ 5	100,000	6-30	100,001-1.5 mill	31-100	1.5 mill - 20 mill	The no of employee include enterprise owners and family members
Service (retail trade, transport, hotel, tourism, and information technology and maintenance services)	≤ 5	50,000	6-30	50,001- 500,000	31-100	500,001 - 7.5 mill	

Accordingly, in the first five years Growth and Transformation Plan (GTP I) the government planned to establish a total of three million MSE's at the end of the Plan period. As compiled by (Ayele, 2018) a total of 969 thousand new MSEs were established from 2011/12 to 2016/17 and employing 7 million people across the country. In addition to establishing the enterprise the GoE create a conducive business environment and provide different supports (Berihu A. et al., 2014). The government support MSEs based on their importance for the country's economy; accordingly the growth oriented enterprises get a maximum support from the government. As indicated in Table 2.4 the manufacturing enterprises can be a driver for achieving the strategic goal. The sector is not only to reduce poverty in urban areas through employment generation but also serve as a foundation for the creation of entrepreneurs and basis for industrial development, therefore the government provide strong support for these sector (Berihu A. et al., 2014).

Table 2.4: Growth oriented MSE sectors, their selection criteria and government support in (Konjit, 2011)

Sectors	Sub sectors	Support	Selection criteria of the sectors
Manufacturing	<ul style="list-style-type: none"> - Metal & engineering - Textile & garment - Leather products - Wood work products - Agro processing - Handicraft products 	<ul style="list-style-type: none"> • Working premises with least leasing price • Product display center with least leasing price • Technical and business management training 	<ul style="list-style-type: none"> ✓ Large market size for their product, ✓ Employment absorption capacity, ✓ Short period of return over investment,
Construction	<ul style="list-style-type: none"> - Contractor - Building material production - Traditional way of mining extraction 	<ul style="list-style-type: none"> • BDS (Business Development Service) & counseling • Loan provision 	<ul style="list-style-type: none"> ✓ Local raw material utilization, ✓ High role for poverty reduction,
Urban agriculture	<ul style="list-style-type: none"> - cattle fattening, poultry farm and animal food preparation - honey production, - forestry, 	<ul style="list-style-type: none"> • Market linkage particularly with government Development programs e.g. Housing development 	<ul style="list-style-type: none"> ✓ Opportunity to transform to medium and large scale industry.
Trade	Domestic product whole sale and retail trade	<ul style="list-style-type: none"> • Exhibition and trade fair organization 	<ul style="list-style-type: none"> ✓ Opportunity to export their product
Service	<ul style="list-style-type: none"> - solid waste collection and recycling, - maintenance 	<ul style="list-style-type: none"> • Access to technology 	

2.8.1.1. Main constraints faced by SMEs in Ethiopian

Studies conducted in Ethiopian SMEs agreed that, the SME development contributes a lot for the country economy, in the contrary they have agreed that the performance of SMEs has fallen short of expectations due to various challenges (Berihu A. et al., 2014; EEA, 2015; MoUDHC, 2014). These include, access to finance, collateral challenges, access to market and low competitiveness, access to supplies, business information, working and sales premises, capital goods and machinery challenges, poor acquisition of technical skills and managerial expertise, appropriate technology, access to quality infrastructure, attitudinal challenges and institutional coordination problem.

2.8.1.2. SME Growth and Promotion in Ethiopia

SMEs development in Ethiopia is taken as one of the key area in helping the country to achieve its mission to become a middle income country by 2025. The GoE strongly believes that MSEs are the right solution to reduce urban unemployment and consequently reduce poverty as indicated in Figure 2.5. In order to make the solution very visible, GoE provide a massive support for MSEs, like access to finance, market, technology, training and working space (Berihu A. et al., 2014).

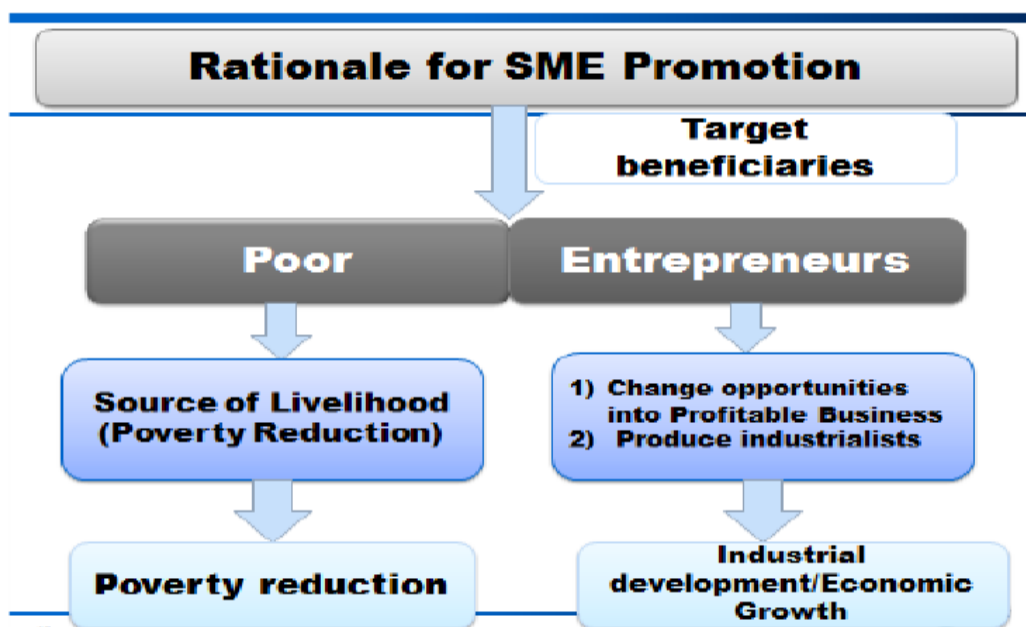


Figure 2.5: Rationale for SME promotion (source (Berihu A. et al., 2014))

Besides the support, GoE pursue a strategic direction about MSEs promotion during the GTP implementation period (2010/11-2014/15) focusing on promoting the development and competitiveness of MSEs (EEA, 2015). Therefore, MSE promotion and support is the fundamental strategy to fulfill this national plan of employment creation in the short-run and achieving industrialization in the long-run.

With the consideration of this, SME promotion program started graduating Micro enterprises to small and small enterprises to medium since 2010. According to (Girma, 2018) writer on Addis Fortune since 2010 to 2018 there are 34,000 enterprises registered and get establishment certificates in Addis Ababa but only 1,500 (about 4%) micro enterprises graduate to SMEs, from

this 45.5% MSEs were engaged in the manufacturing sector particularly metal, wood and textile sub sectors and the remains are construction, urban agriculture, trade and service sectors.

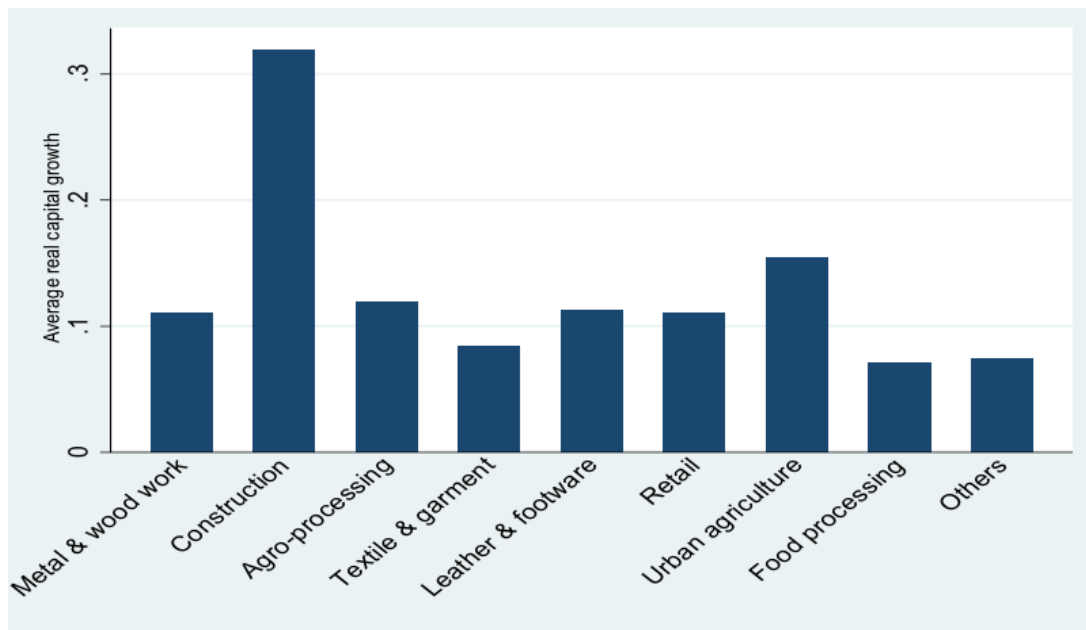


Figure 2.6: Growth of enterprises in real capital by activity (source (MoUDHC, 2014))

MoUDHC report shows, the enterprises growth progress based on their real income capital and the manufacturing sector growth is very stagnant relative to construction. Additionally (EEA, 2015) study shows MSEs engaged in manufacturing activities have been growing by slower rate as compared with medium and large scale manufacturing industries over the last decade, were their contribution to the country GDP has declined from about 1.6 percent in 2004/05 to 1.3 percent in 2012/13. Therefore the sector needs special attention from government and researchers due to the significance of their number in the country economy.

At the beginning of graduation the only criteria used to select SMEs was the total asset they have (Financial performance). Mean while other graduation criterion's included: job creation, technology transfer, a certain degree of technical efficiency, track record of loan repayment and saving with the Micro Financial Institutions (MFIs) etc,(Berihu A. et al., 2014; MoUDHC, 2014).

✓ **Financial Performance**

Financial performance can be seen as in two dimensions: financial and non financial (Ayele, 2018) . According to revised Ethiopian Enterprises promotion policy No 004/2018, Financial dimensions are over all capital growth as per the definition, annual gross sales from 200,001 to 300,000 and profitability, which means 10% from the annual gross sales. Non financial dimensions are, perceived growth in productivity (70% efficiency), growth in human capital (50% of members or employees get qualified certification), perceived growth in market share, perceived change in cash flow and sales growth. A financial dimension gets more focus during the evaluation, because the non financial dimensions are more subjective than financial (Haber & Reichel, 2015).

✓ **Job creation**

In Ethiopia the MSE sector is an essential catalyst for job creation and unemployment reduction. Therefore it takes as a growth indicator for good performing MSEs. Accordingly micro enterprises expected to create a job for 3-5 people permanently and for 3 people temporarily to grown up to small level. As the same time the small enterprises also expected to create a job for 6-10 and 4-6 people permanently and temporarily respectively to grow up to medium level.

✓ **Technology transfer**

As clearly stated in SME development policy of Ethiopia, SMEs are crucial tools to create a foundation for industrialization, especially the manufacturing enterprises. In order to achieve these enterprises are expected to exercise different technologies during their growth progress. Therefore the GoE taken technology transfer as an evaluation criteria, here enterprises are evaluate by their machineries used (advancement, productivity, energy efficiency, only 50% energy utilization) and by their advanced management system (annual plan preparation, proper cash flow registration, implementation of new management systems like Kizen, integration/partnership with other enterprises and information sharing with other enterprises and government bodies).

At the beginning of graduation many enterprises shows their interest to grown up to the next stage with a consideration of getting more support from the government, meanwhile their interest become decline. Once MSEs graduate to medium and large industries, the ministry of industry will take over the responsibility of supporting the graduates. Accordingly, the institutes like

Leather Industry Development Institute, Metal Industry Development Institute and Textile Industry Development Institute and their regional affiliates are mandated to assist the graduates but the working relationship between the graduated MSEs and the institutes are insignificant (Berihu A. et al., 2014). The graduates face the problem of the ‘missing middle’; too big to meet their needs through the support packages availed for MSEs and neglected by other institutions. With the consideration of this, GoE establish Federal Small and Medium Manufacturing Industry Development Agency (FeSMMIDA) in 2017. The agency expected to provide different supports based on their level and also create a link with the above mentioned institutes.

2.9. Over view of Textile and weaving sector in Ethiopia

Textile sector has a long history in Ethiopia. People make their own clothes from cotton, supplied by small scale cotton farmers. Then, this traditional cottage industry was continually grown up to large textile manufacturing industry. In 1939 the first integrated textile mill was established in Dire Dawa Town by the name Dire Dawa Textile Factory, which was beginning era of textile industrialization(ETIDI, 2014). Currently the number of factories becomes more than 130 in different region of the country with the specialization of ginning, spinning, weaving and/or knitting, integrated textile, blanket manufacturing , dyeing and printing , garment and medium level handloom product manufacturers (ETIDI, 2014). With regards to this, the sector contributes a lot to the country’s economy; in 2017 the export size of the sector mounted to around 113 million USD and employed 37,000 workers. Additionally the sector aimed to create around 60,000 jobs on double shifts and generate an annual export value of US\$1bn (22% the country’s total export value) by 2020 (Khurana, 2018a; Netherlands Embassy, 2016). The textile sector expands across to not only large industrial sector but also to small and medium scale enterprises (SMEs); according to ETIDI 2016 report there are about 15,432 workers engaged in the SME textiles.

Ethiopian textile and apparel product has a duty-free access to 16 nation’s worldwide like: Australia, Belarus, Canada, China, India, Japan, Norway, New Zealand, Russia, Switzerland, Turkey, etc. Additionally the GoE make duty-free quota-free (DFQF) trade agreements to support the sector: African Growth and Opportunity Act (AGOA) since the early 2000s, Common Market for Eastern and Southern Africa (COMESA), European Union (EU) and global markets through Everything but Arms (EBA). The government believes that textile would help

the nation to join middle-income status in 2025; because of this the government provides different incentives for the sector including: working premises in industrial parks, 100% Duty free importation of new or used machineries, equipments, spare parts for the 1st five years, lone, for new exporters one year non-collateral working capital loan with 1% interest rate, free training for operators etc. Even if the government set a great anticipation on the sector and provides different incentives for investors (especially foreign investors), the growth of the sector is not that mach appreciable. The sector has so many challenges those hinders its growth like: poor cotton supply chain, availability of raw material (yarn, fabrics) and accessories, working capital and exchange rate (especial for SMEs), logistic and infrastructure, exposure of foreign market, sustainability in the whole supply chain (both inside process and outside)(ETIDI, 2014; Khurana, 2018a).

2.9.1. Hand loom Weaving in Ethiopia

Crafts are a mirror of the cultural diversity in Ethiopia; they result from a combination of creativity, culture and heritage and environment of the craftspeople (UNESCO, 2000). In Ethiopia, there are different ethnic groups; for each and every ethnic group there is a unique craft which express their everyday life. But there is one very unique Ethiopians crafts product which is “shema” (traditional hand loom weaving product); it is worn throughout country for different occasions by different religions, ethnicity and culture (Temesgen, 2018). (Mathiszig, 2015) *p 5-6 expresses Ethiopian craft” I was impressed by the beautiful artisan work and the truly original craftsmanship I found, untouched by mass markets and fashion trends. These ranged from the unique leather clad baskets of the north and beautiful silver jewelry of Tigray to the highly skilled basketwork of the women of Harar and the extraordinary skills of the South Omo Valley tribes people However, it is the weaving tradition, which particularly interested me. Whether in the capital, Addis Ababa, or walking in the remote Simien mountains, simple textiles made with the most basic equipment are worn and used everywhere”.*

Formerly, the hand loom weaving product was worn by the Christian populations of the northern and central highlands of Ethiopia and the central and southern highlands of Eritrea (Temesgen, 2018); in the process of production, women prepare spanned yarn (*fetl*) from cotton in their home, and then they give it for weavers (mostly men); finally the weavers produce different products like Gabi, Buluko, Qemis ,Netela etc. as per their customer requirement. For the past

several years the product only meet the need of household and closing, but now it is gradually grew and to be an additional source of income and create a job for so many people; from cotton farmers to traditional cloth traders. As per the Ethiopian Central Statistical Authority (ECSA) survey on Cottage /Handicraft Manufacturing Industries (ECSA Report, Addis Ababa, Sept., 2003, pp.6) by the year 2002 there were 296, 737 weavers in the country and its assumed the number increases by 1.37% , based on the assumption the weavers number become 367,749 throughout the country by 2018. The weavers categorized in to two, cooperatives (MSME weavers) and informal sector weavers (AACCSA, 2015). The informal sector weavers are self-employed and operate in their homes. In the contrarily, there are cooperatives (Micro, Small and Medium Weaving Enterprises/ MSMWE) most of them are located in the hand loom weaving clusters built by the Government.

2.9.1.1. Major hand loom weaving products and their respective inputs

Ethiopia weaving products are the combination of warp/*dir*/, weft /*Mag*/ and colored threads /*Tilet*/. Based on the output product, the weavers use different warp, weft and colored yarns some of the products and their respective inputs are presented in Table 2.5

Table 2.5: weaving product with their respective inputs

No	Output Product	Inputs for specific product		
		Warp	Weft	Colored threads
1	Netela, Qemis(dress), Coat (suit), suri (trouser) and sederiya (weist coat)	Menen	Mag (asmra, menen , fetl)	Saba, Caloos (silk), metallic/ workezebo with silver or gold / and Chinas thread
2	Gabi	Dir	Mag (fetl,asmera comtare)	Saba, Chinas thread , acrylic (suf thread) ,
3	Scarf	Dir	Mag (fetl, menen)	Saba, Chinas thread , caloos (silk), dyed fetl , acrylic (suf thread) ,
4	Jano	Dir	Mag (fetl, asmera, comtare)	Saba, Caloos (silk), acrylic (suf thread) , metallic/ workezebo with silver or gold / and Chinas thread,
5	Tibeb /ተለጣፊ/	Dir	-	Saba, metallic/ workezebo with silver or gold /
6	Curtain, bed cover and table runner	Dir (pisi , woldeyes or salayish)	Mag	Saba, Caloos (silk), metallic/ workezebo with silver or gold / and Chinas thread

Source: author compiled from different source

2.9.1.2. Suppliers of handloom weavers

Federal Small and Medium Manufacturing Enterprises Development Agency (FeSMMEDA) conduct a study on weaving sector by 2018, according to their finding 99% of colored trades are imported from China and Indian. The study also revealed that, most weavers found in Addis Ababa bought this colored threads from retailers shops around their working premises (shromeda, kechene and Addisu gebeya) and Merkato. The remaining two inputs (Dir and Mag) are available locally and supplied by large textile factory found in Ethiopia, and also imported from China. The available local Dir and Mag supply textile factories are presented in Appendix B. These suppliers typically use local raw cotton, imported long cotton fiber (from Sudan and India), acrylic and polyester (imported from China). According to (AACCSA, 2015; FeSMMEDA, 2018) even if the weaving raw materials are produced locally, there is no integration (supply linkage) between the suppliers and SMEs. The whole sellers receive the yarn/trade from the factory and import (yarn/trade and different accessories) from abroad and distributed it to retailers around Merkato, then other retailers (found in Siromeda, Kechene and Addisu Gebeya) receive and sale the raw material to weavers.

2.9.1.3. Customer of handloom weaving products

In the old age, in Ethiopia hand loom weaving products ‘shema’ like; Gabi, Netela, Qemis, Kuta, Buluko worn by old people as casual dress; but modernization replace the clothe then it becomes a seasonal dress; And prominently used or worn domestically on different occasions like religious holidays, public holidays, and wedding ceremonies, different festivities etc. However, currently there is a huge change of attitude towards these clothes and which is clearly seen in day to day life of Ethiopian people. In most areas of the country the clothes are taken as culture and peoples wearing the traditional cloths on different ceremonies without keeping holydays. researcher believes that, these is due to the growth of fashion industry in Ethiopia, with regards most of the designer’s uses traditional weaving fabrics for their designs, because the fabrics are organic, traditional, elegant, comfortable, versatile and modest (Temesgen, 2018).

Beside the domestic market the traditional cloths get huge acceptance by Diasporas and Foreigners; and the traditional weaving clothes were exported by medium level privet owned handloom weaving product manufacturing enterprises/companies. These companies have their own manufacturing workshops and they manufacture for domestic as well as export market. The

companies export this products to different countries like Europe, USA, Canada, Germany, France, UK, Finland, Australia, Japan, South Africa, Ghana etc (AACCSA, 2015). Unfortunately the (FeSMMEDA, 2018) report indicates ,there is no single SMWE export their product directly for foreign market, rather they sale their product for privet owned weaving enterprises and traders (brokers). Sometimes the private owned companies outsource their order for weavers (SMEs and self employee) to fulfill the customer demands.

2.9.2. Supply chain of handloom weaving product

Cotton fiber is produced in Ethiopia by public and private enterprises and small scale individuals. This cotton supplied for ginning and spinning textile factors, the factories produce different count yarns and sale it for whole sellers and other textile companies (weaving, knitting and garment product manufacturers), then the wholesaler distributed to retailers and retailers soled for weaver. Sometimes the number of retailers might increase. The longest supply chain of raw material become a biggest challenge for the sector, the retailers (middle men and/or delalas) acquire unfair profit before the raw material reach to the weaver , which increases the cost of final product and affect the competitiveness of weavers in the market. This effect is easily seen in the market in the past one or two years, the local customers start to shift to chiffon products because of the expensiveness of traditional weaving clothes. Not only the supply side; the final product also not delivers for end users with a fair price. Once the fabric is produced by the weaver the remaining value addition process will be accomplished by others like sewing, embroidery, packaging, selling etc as indicated in Figure 2.7. In each step, everyone involved in the process demands profit, which increase the price of final product. Thus, price of some of the traditional products are scaring away possible local customers (AACCSA, 2015; Selam, 2019).

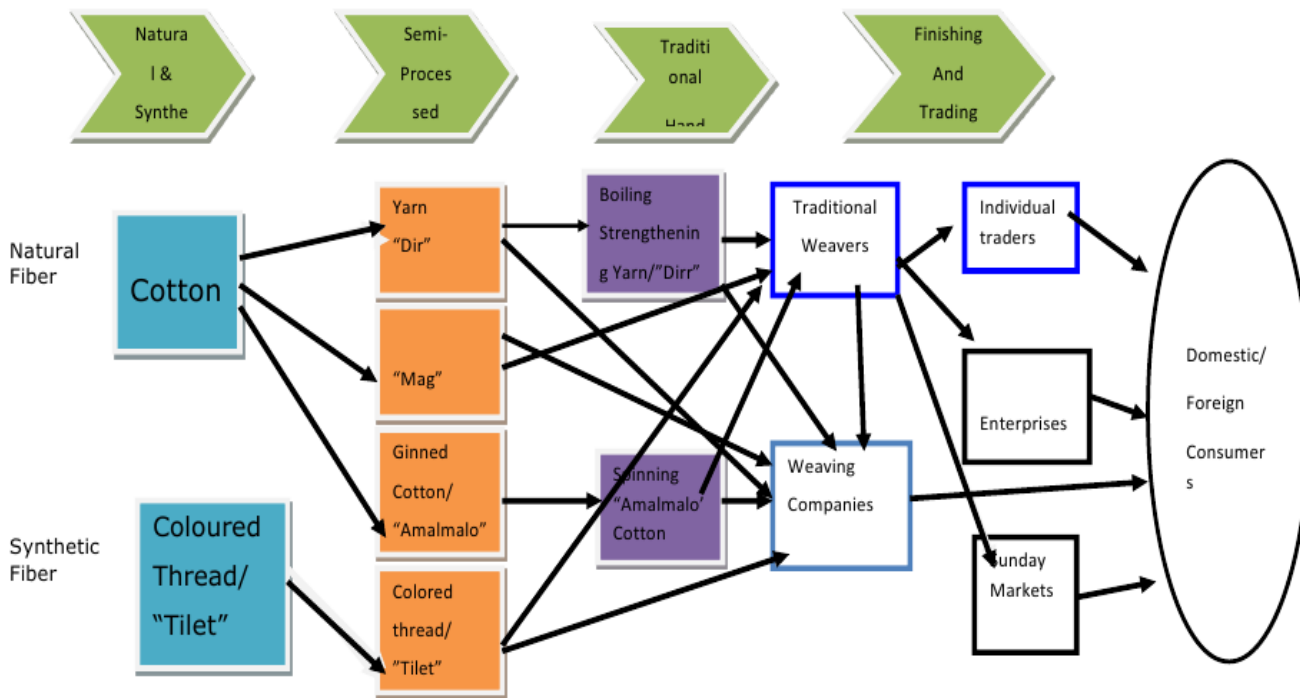
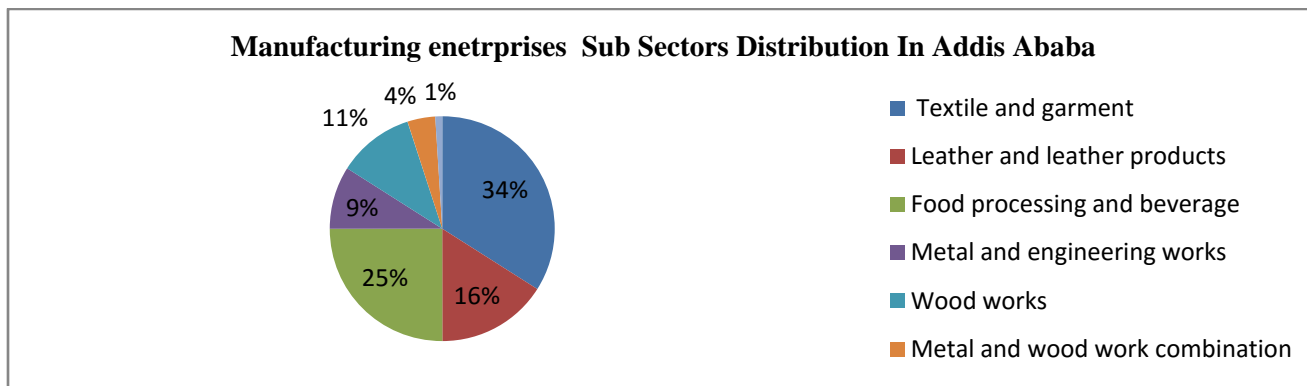


Figure 2.7: Traditional weaving product value chain map (AACCSA, 2015)

2.10. Over view about Small and Medium Weaving Enterprises (SMWE)

SME development is the prior focus area of GoE, since they play a leading role in creating employment, increasing income, added value and provide foundation for industrialization. With regards the manufacturing sector takes the lion share by fulfilling this achievement. As mentioned in table 2.4 textile is one of the manufacturing subsector get a huge attention by the government (AACCSA, 2015; ADA, 2017; MoUDHC, 2014, 2016).



Source: (AAMSEDA, 2017), compiled by the researcher

Figure 2.8: Manufacturing enterprises sub-sector distribution in Addis Ababa

For instance, in Addis Ababa there are 802 manufacturing enterprises registered and employs more than 5,986 people (64% male and 36% female), the distribution of subsector presents in Figure 2.8 shows, here the establishment of textile enterprises has a larger shear in the city. The sub sector includes: garments, hand loom weavings, textile dyeing and printing, knitting, embroidery, spinning and other textile related hand craft manufacturing enterprises (AAMSEDA, 2017). Hand loom weaving is one of the textile sub sector, According to Addis Ababa Micro and Small Enterprises Development Agency (AAMSEDA) 2018 report there are 134 micro, small and Medium Weaving Enterprises (MSMWE) enterprises registered in the city with different sub-cities.

Table 2.6: Number of MSMWE in the sub-cities

Sub-city	No of MSMWE	percentage
Gulele	114	87%
Kirkos	4	3%
Bole	1	1%
Addis Ketema	5	4%
Arada	5	4%
Kolfe	1	1%
Yeka	1	1%
Sum	131	100%

Source: Compiled by author from (AAMSEDA) 2018 report

As indicated in table 2.4 there are about 114 (87%) of weaving enterprises are living in Gulele sub city around Shiromeda, Kechene and Addisu Gebeya. All of MSMWE has a working premises, on different textile clusters build by the city Administration. The well known handloom cluster is “Gundish Meda cluster” which is located in the northern part of the capital city around Shiromeda. Clusters are geographic concentration of interconnected companies and institutions in a particular field (Porter, 1998). This hand loom cluster involves core firms (weavers), various governmental and non-governmental institutions, financial institutions, suppliers of raw materials, individual customers and larger handicraft enterprises who buy handloom products, and NGO’s operate within the cluster (Hk, 2010). The government of Ethiopia started this Cluster development programs with the aim of fostering innovation and growth of a competitiveness for MSE , as the result they spurring their income and employment growth. Additionally (Netsanet et al., 2013) presents the relation between SCM and Industrial

Cluster (IC), Supply Chain Management (SCM) support Industrial Cluster (IC) by integrating processes and building strong long-term relationships among cluster firms involved in the flow of products and services from the source to end-users. With this all consideration, the government provides working premises for weaving enterprises in this cluster but their integration with others is very weak, also the growth of their income and employment generation rate is very poor. (EDRI, 2009; FeSMMEDA, 2018; Hk, 2010)

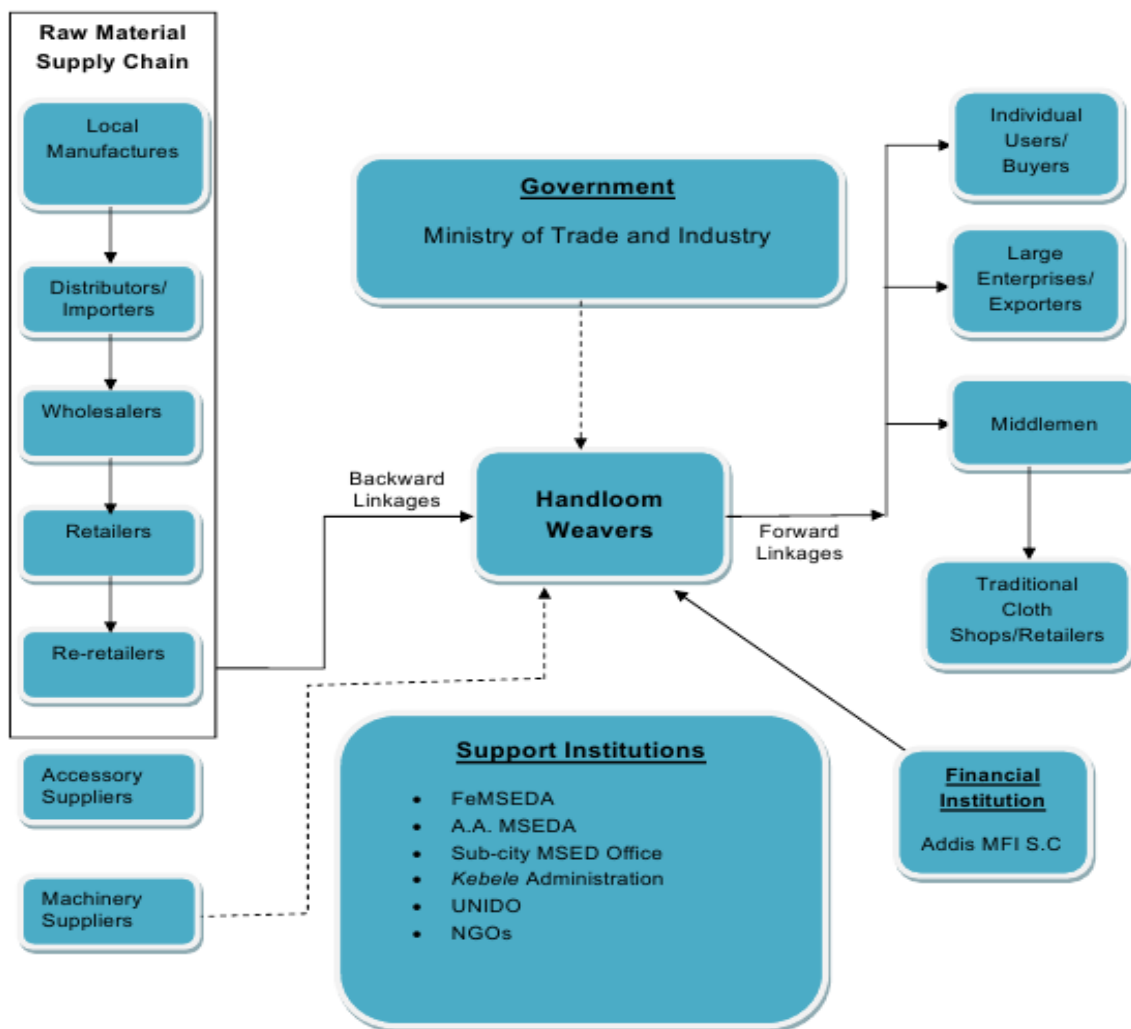


Figure 2.9: Supply chain of weaving enterprises in Gulele Hand loom cluster map (Hk, 2010)

Figure 2.9 clearly shows, there is a very lengthy raw material supply path, accordingly it increase the overall production cost of weaving products which affects the enterprise competitiveness (Hk, 2010). A study conducted by (Ali, 2012) indicated that “Gundish Meda natural cluster” holds

the whole value chain of the handloom sector starting from raw material supplier to the final consumers at the end of the marketing channel. The study also mentioned the main advantage of locating enterprises in this cluster, when enterprises operating close to each other they gain an advantage of availability of large markets, availability of raw material supply nearby and the flow of tacit knowledge, as a result they boost their competitiveness and finally they graduate into the next level. In the contrary the cluster filled with subsistence and survival enterprises rather than growth oriented enterprises. Some of the reasons are lack of modern management knowledge, lack of ability to organize and continuously improve production, lack of innovation (focus on imitation), very less degree of specialization, weak intra and inter firm integration, low level of trust between entrepreneurs (members of enterprise) and low willingness to cooperate.

2.11. Other related literatures

Table 2.7: Literature gaps summary

No	Researchers	Type of integration	Methodology	Evaluated performance	Finding and result	Type of research
1	(Özdemir & Aslan, 2011)	Supply chain integration	To collect the data they use the web page of SMEs , additionally they collect their view by sending questioner through Email. Regression and Hierarchical Regression analysis by SPSS 15.	Competitive capability & business performance	Supply chain integration affects competition capability positively and supply chain integration has very little effect on business performance; affects only market performance positively	Literature
2	(Elaine Q & Supangco, 2018)	Internal integration Supplier integration Customer integration	Primary data was collected by questioner and analysis was done by SPSS to show the relationship of variables.	Competitiveness and business performance	Internal integration strongly influences both business performance and competitiveness; and customer integration influences business performance, and its effect on competitiveness works through internal integration. This implies that internal integration should be in place before customer integration becomes effective.	Case study
3	(Li & Zuo, 2011)	Internal integration , External integration with Customer orientation	Implementing the framework and collect the result from financial record and customer.	Market performance Financial performance	Customer –oriented supply chain integration improve the performance of dairy products greatly.	Case study
4	(Didonet et al., 2014)	Internal and external integration with market orientation.	Select a model from literature based on the identified variables and analyzed it by confirmatory factorial analysis (CFA) to verify the relationship.	Organizational performance (Net profit, market shear and market performance)	market orientation Indirectly and positively influences performance via supply chain integration. Supply chain integration directly and positively affect market orientation.	Literature
5	Annan et al. (2016)	Supply chain integration	Survey method and analyzed it by confirmatory factorial analysis (CFA)	operational cost and value towards the customers	Proper implementation of SCI can minimized operational cost and maximizing the formed value towards the customers	Literature
6	(Dametew et al., 2016b)	Supply chain integration with associated Resource integration , knowledge integration , technology integration, production & design integration	Collect data from web source and AHP (Analytic Hierarchy Process) method for analysis.	Quality performance	knowledge, technology, production & design and resource integration directly related and impact on quality performance for manufacturing companies. Supply chain integration has also positively linkage on Production, knowledge, Technology and Resource integration so as to improve quality performance in a supply chain.	Literature

7	(Tsion, 2017)	supply integration, customer integration, internal integration	Data was collected with questioner and structural interview. Histogram was used for descriptive analysis and SPSS used to show the relationship of variables.	Performance (product quality and competitiveness)	internal, supplier, and customer integration are positively and strongly correlated performance (product quality and competitiveness).	Msc thesis
8	(Gizaw, 2016)	Internal integration Supplier integration Customer integration Information integration	Data was collected with questioner and structural interview. Descriptive analysis was used to present demographic data and SPSS 20 were used to show the correlation of variables.	Operational performance (cost , quality and flexibility)	The overall supply chain integration is poor; internal, supplier and customer integration has a positive effect on operational performance and finally information integration had failed to signify the effect.	Thesis
9	(Daniel & Shambachew, 2017)	Internal integration Supplier integration Customer integration	By using quantitative survey approach primary data was collected by questioner, used SPSS to test hypothesis and show correlation of variables.	Operational performance	Supply chain integration has appositve effect on operational performance. But the effect of internal integration on internal integration is not significant.	Literature
10	(Uwamahoro, 2018)	Internal integration Supplier integration Customer integration	primary data was collected by questioner and analyses the correlation of variables	Operational and business performance	Supply chain integration has appositve effect on both operational and business performances; internal and customer integration are more strongly related to improving performance than supplier integration.	Thesis
11	(Singh & Nagendra, 2014)	Internal integration External integration Process integration Network integration	Through literature review	Firm performance (market and financial performance, and customer satisfaction)	Develop a model shows the three dimensions of supply chain integration and additional integration factors those positively affects the firms performance	Conference proceeding paper

2.12. Research gaps

From the literature review the researcher discovers that, there are few researches available related to “supply chain integration for SMEs”. (Purnomo et al., 2018) also revealed that, there are 7 articles published related with supply chain integration and SMEs from 2001-2016, and it's indicates, there is a huge space to conduct a research on the application of supply chain integration on SMEs. The main reason this is a lack of expertise and resources in SMEs (Chen et al., 2017; Irfan et al, 2012; Purnomo et al., 2018), but there is no indication how to solve this problems.

In addition to this, most of the available literatures use a supply chain integration (SCI) to enhance enterprise/companies single performance measures like competitiveness, market performance, operational performance, business performance and financial performance etc.

However, in this study the researcher uses supply chain integration to enhance the overall growth (business performance) of SMEs, by including additional performance measures, those are affecting the growth of SMEs like job creation and technology transfer beside the financial performance; and also in order to solve the limitation of SMEs towards implementing SCI; the study indicates the role of government's support in supply chain integration of SMEs.

2.13. Research hypothesis and conceptual framework

2.13.1. Research hypothesis

2.13.1.1. The impact of Internal Integration on External Integration

Firms can reconfigure their scarce resource and capability internally and externally with the help of SCI when they merge their whole supply chain effort to enhance long-term performance. In SCI studies reveals that external integration is an extension of internal integration and it can taken as a prerequisites for external integration. Therefore internal integration and collaboration between all members and functional departments of the firm is a basis for firm's external integration (both supplier and customer). With a consideration of this the researcher proposes this hypothesis.

H1a. Internal Integration is positively related to customer Integration

H1b. Internal Integration is positively related to Supplier integration.

2.13.1.2. The Impact of SCI on SMEs Growth

AS mentioned in the above literature SCI has a significant effect on SMEs different performance, it improve their competitiveness, market share and financial performance etc. and the sum of this performances measures will help the enterprises to grown up to the next level. These means they can create a lot of jobs, increase financial performance and they enhance their technological advancement. Therefore the researcher present the research hypothesis to show relationship between independent variables (Supplier, internal, external, Supply chain integration) with dependent variables government support and SMWE growth .

H2. Supplier Integration positively related to SMWEs growth

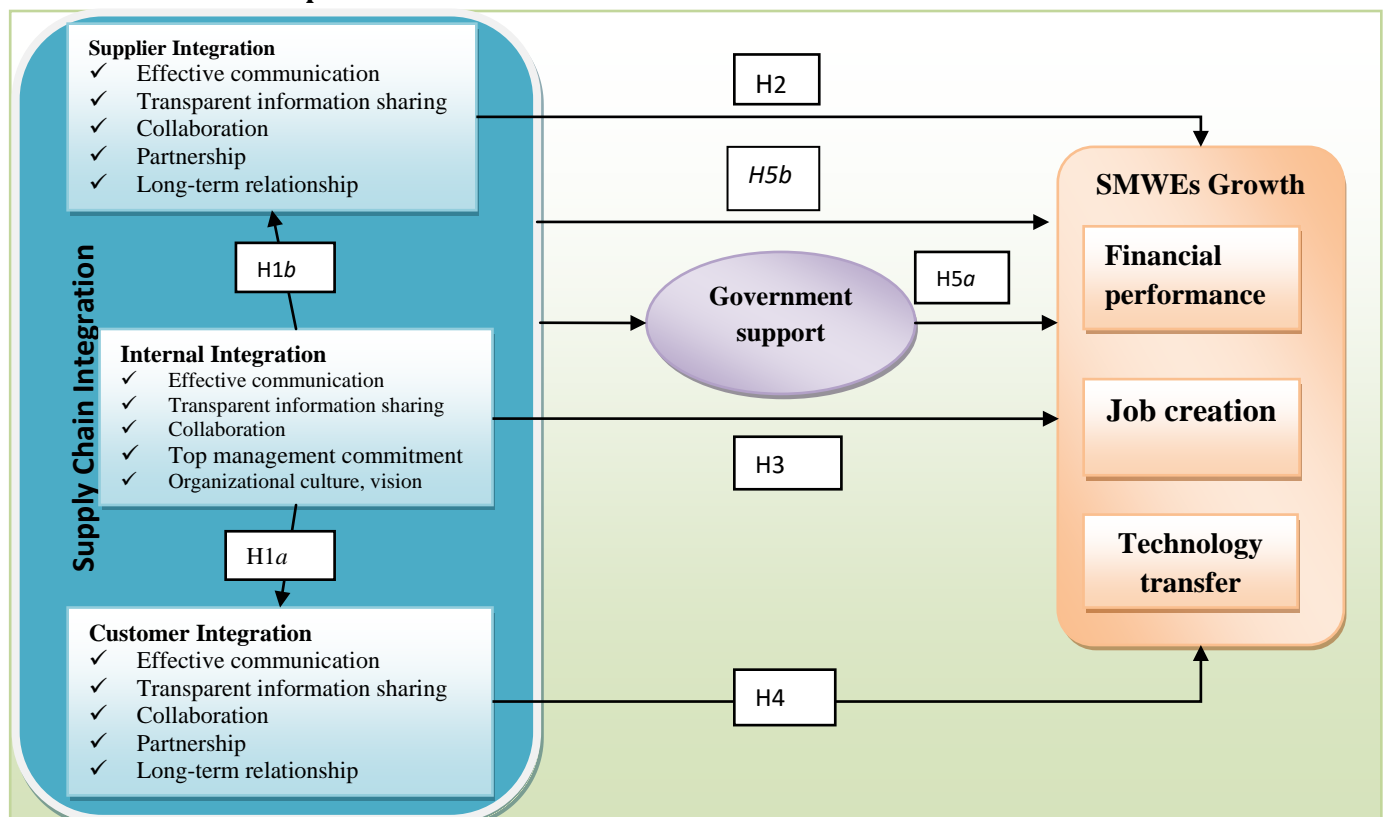
H3. Internal Integration positively related to SMWEs growth

H4. Customer integration positively related to SMWEs growth

H5a. The SCI with government support has positively related and enhances SMWEs growth

H5b. The level of SCI positively impact the SMWEs growth with

2.13.2. Conceptual frame work



Source: own

Figure 2.10: conceptual Framework

Chapter Three

Research Methodology

3.1. Introduction

This chapter presents the research methodology used for conducting the research study by describing the research process, research design, population and sampling, data collection approaches and instrument, and finally data analysis. Selection of research methods depends on the research objectives, nature of the subject and implementing facilities. The purpose of selection of research methodology is to identify an approach to find out the answer to the research questions more exactly and easily. Therefore to accomplish the objective of the thesis, the researcher has applied the following methodologies.

3.2. Research design

To attain the research objectives of this paper, the researcher followed the following research strategies such as literature review, survey of the questionnaire, interview, and observation. The research were carried out by applying a combination of both qualitative and quantitative research approaches and also use benchmarking successful privet owned companies to introduce their best growth practice.

The qualitative method is used to analyze non-numerical data in the form of literature, text and images drawn from observations, interviews, questionnaires and document that are gathered from SMWEs , expertise's those are provides support for SMWEs and privet owned handloom weaving manufacturing companies. And the quantitative method is used to collect and analyze both primary and secondary numerical data by using statistical techniques that gathered from SMWEs, expertise's those are provides support for SMWEs and privet owned handloom weaving manufacturing companies. Using both techniques aids the researcher to strengthen its research findings by avoiding their respective disadvantages.

Therefore, to this research semi-structured interview is used for qualitative data collection and analysis, questionnaire survey is distributed for the quantitative methods. Moreover, literature review and practical observations are used to strengthen the research strategy technique.

3.3. Data Source

The study uses both primary and secondary data source. As a primary source interviews, questionnaires, and observation were used and as a secondary sources relevant books, journals, articles, official publications, government policies, strategies, newspaper clippings, reports and seminar papers were utilized to collect the data.

- **Literature review:** is conducted to understand the topic and to identify the previous literatures gap, in order to do that, the data was collected from various academic online databases including AAiT online library, Google scholars (www.google.com), Acadamia (www.academia.edu), Emerald (www.emeraldinsight.com), ELSEVIER (www.elsevier.com), sciencedirect (www.sciencedirect.com), Researchget (www.researchget.com), and www.scoopes.com.
- **Primary data source:** Direct data was collected with questionnaire from the original source of SMWEs, with semi-structured interviews from expertise working in different government offices and those are supports SMWEs and privet owned handloom weaving manufacturing companies, besides direct observation.
- **Secondary data source:** The possible secondary data that are relevant to the research was addressed; like supply chain and SME related books, government policies, journals, conference papers, proceedings, other countries SME practices.

3.4. Population and census

All items in any field of examination constitute a ‘Universe’ or ‘Population.’ A complete enumeration of all items in the ‘population’ is known as a census examination. It can be presumed that in such examination, when all items are covered, no element of chance is left and highest accuracy is obtained. But when there are a large number of examinations, it might not be possible to address every examination because of a great deal of time, money and energy. However census will be taken when the universe (N) is a small one ($N \leq 30$)(Kothari, 2004). The total population/universe/ of small and medium weaving enterprises found in Addis Ababa city are ten (nine small and one medium)(AAMSEDA, 2017), therefore census technique is used to conduct this study.

3.5. Data Collection Methods

3.5.1. Primary data collection

↳ Direct observation

Observation was chosen as one of the data collection approaches for this study. This was assist the researcher to deeply understand the overall situation, respondents' body language and implied attitudes (Kothari, 2004), so the observation is done on different sheds/clusters, Sunday shema markets, medium and private owned hand loom manufacturers workshops; thus provides a clue about what they really thought about the topic.

↳ Questionnaire

It is a very popular data collection mechanism, when the research requires unbiased thought of the respondents and when the research requires scalable data (Debois, 2019; Kothari, 2004) with regards the researcher distribute two questionnaire for each SMWEs (total of 20 questionnaire) and all the questionnaires are field with the assistance of researcher (schedule data collection mechanism), which will help the respondent easily understand each question and dedicate to answer all questions, as the result the researcher can get more reliable data (Kothari, 2004). Schedule data collection mechanism also help the researcher to observe and understand the overall situation (Kothari, 2004) during data collection. In order to communicate easily with the respondents the questionnaire was prepared in both languages English and Amharic. Accordingly the questionnaires contain 40 questions, requiring types of answers including; Brief answer for subjective questions, Interview and Scales including; strongly agree, agree, neutral, disagree and strongly disagree.

↳ Interview

For this study semi-structured interview was conducted with SMWEs managers or owners, with SMWEs supporting government expertise and privet owned handloom weaving manufacturing company representatives. Qualitative data collection will allow the researcher to the “how” and “why” of the respondents' perceptions which cannot be bringing out easily from large-scale questionnaires (Intan, 2015) and it will also increase the quality of data. In this research seven expertise were interviewed from different government offices; MoI (Ministry of Industry), ETIDI(Ethiopian Textile Industries Development Institute), FeSMMEDA(Federal Small and

Medium manufacturing Enterprise Development Agency), GSCMSEDO (Gulele Sub-City Micro and Small Enterprise Development Office), EDB (Ethiopian Development Bank), RSSMMI (Raw material Supplier for Small and Medium Manufacturing Industries) and AACATIB(Addis Ababa City Administration Thread and Industry Bureau). And also 3 representatives were interviewed from private owned handloom weaving manufacturing companies. The interview was conducted in their respective work places and it takes about 30-45 minutes.

3.5.2. Secondary data collection

The secondary sources of data that the researcher was used are Journals, Articles, reports and assessments and Data from previously worked researches by different scholars, thesis works conducted in different time by different individuals can be taken as a document to gather some data about the supply chain integration and SMEs growth and performances.

3.6. Study variables

⌘ Dependent variable

Small and Medium Weaving Enterprises Growth (handloom weaving)

⌘ Independent variables

Internal integration,

Customer integration,

Supplier integration and

Supply Chain Integration with Government support.

3.7. Data analysis

After primary and secondary data are collected and summarized in reduced format, it is analyzed in accordance with the objective of the research.

3.7.1. Tools and Methods

- ✓ To analyze the data collected by questionnaire from the enterprises and experts, descriptive analysis was used, which represent and interpret the Data by using tables. It is also display

the collected data in a concise and meaningful way, to show the respondents position towards Supply Chain Integration activities.

- ✓ To analysis the level of supply chain integration of the enterprises mean and percentage were used and it's presented by histogram.
- ✓ To determine the strength of each variable relationship (supply integration, customer integration, internal integration, SCI with governments support and Enterprise Growth) Bi-variate Correlation test was done with IBM SPSS v20 (Statistical Package for the Social Sciences) software. In order to test the correlation Spearman correlation coefficient was selected, Because of the data specific characteristic and data size (small data size).
- ✓ To fit the model and to predict values of the dependent variable from one or more independent variables regression analysis also done.

3.8. Data validity and Reliability

3.8.1. Validity

According to (Kothari, 2004) Validity is the most critical criterion and indicates the degree to which an instrument measures what it is supposed to measure. Additionally (Mugenda, 1999) reveals that validity of research tool has two components. The first is construct validity which deals with the consistency of the questions with the responses intended by the researcher. This validity is assured by structuring the questionnaire according to the specific objectives. The second form of validity is content validity, i.e. the ability of an instrument to gather the data required for the analytical techniques suggested (Peil, 1996). This is assured using close ended questions to avoid irrelevant answers. To ensure the entire validity of the questionnaire, both the drafted questioner and semi structured interview question was distributed to supply chain expertise and senior researchers for their comment and suggestion. Then after, the revised questions were presented for research advisors, for their valuable comment and suggestion. Finally certain adjustments were made on the structure, concepts, and wordings of the questions, to improve its clarity. Construct validity is assured by rearranging the questions according the comments of the respondents in order to keep the flow of questions. With this regard, the questioner translated in to Amharic language with Google translator to remove any ambiguity to respondents.

3.8.2. Reliability

The test of reliability is another important test of sound measurement. A measuring instrument is reliable if it provides consistent results. Reliable measuring instrument does contribute to validity, but a reliable instrument need not be a valid instrument (Kothari, 2004). The most common technique used in the literature to assess the scale of reliability and stability is use of the Chronbach Alpha Statistics. Chronbach Alpha should be over 0.70 to produce a reliable scale and any scale with Chronbach Alpha less than this standard should be eliminated (Sekaran, 2005; Brown, 2002). Accordingly, the researcher applied Cronbach's alpha to check the consistent of each questionnaire.

Table 3.1: Cronbach's alpha result for supply chain integration and growth measures

Reliability statics		
Supply chain Integration	Cronbach's Alpha	N of Items
Supplier integration	.985	5
Customer integration	.949	5
Internal integration	.957	5
Enterprise growth	.978	3
SCI with Government support	.982	2
Over all questioner	.990	19

As shown in Table 3.1 the cronbach's Alpha value each variables questioner and overall content of the questioner is statistically reliable.

Chapter Four

Data Presentation, Analysis and Interpretation

4.1. Introduction

Under this chapter the data presentation, analysis and interpretation were carried out based on the prepared questioner and semi structured interview. The primary data were collected through Amharic questionnaire from 20 respondents who are working in the enterprise as a top managements level (two respondent from each SMWE), since the top managers (Main Manager, Deputy Manager, Secretary and Finance manager/Treasurer) are the responsible bodies of the enterprise (leading, coordinating and communicate with Government offices) and they are selected by the remaining members of the enterprise.

Accordingly all questioners were filled with the assistance of the researcher; therefore there is no rejected questioner. Table 4.1 shows the respondents status.

Table 4.1: Questionnaire respondent's back ground

Current position in the enterprises	Frequency	Educational back ground	Service level (years)
Manager	8	10-Degree	2-7
Deputy manager	4	9-Diploma	1-4
Secretary	5	7- certificate	2-5
Finance manger	1	12	2
Raw material purchasing, market finding and product quality control committee leader	2	10 and Diploma	1 and 3

In addition to the questionnaire, semi structure interview was conducted with seven (one representative from each office) different government officials/ expertise's in their respective work places and these expertise's supports SMWE directly and indirectly.

The data was analyzed using Statistical Package for Social Science (SPSS v20) based on the methodologies, research design and tools of the proposal. Data analysis, discussion and interpretation of the results are presented in the following subheadings:

4.2. General information

4.2.1. SMWE general information

As indicated in table 4.2 the general information part contains enterprises name, year of establishment, number of members and employees (additional job created), startup capital, current capital and their respective level.

Table 4.2: General information about SMWE

S.No	Name of enterprise	Year of establishment (E.C)	No of members during establishment	Current		Startup capital (Birr)	Current capital (Birr)	Level	Address
				member	employee				
1	Birhan Shema CO.P	2003	20	20	15	20,000	3,000,000	Medium	Bole
2	Habtamu Dilbeto Shema	2006	24	24	3	136,000	300,000	Small	Kolfe
3	Kechene Alibash Shema	1996	46	41	5	4,600	153,000	Small	Gulele
4	Addis Birhan shema	1996	25	25	3	3,500	998,000	Small	Gulele
5	Fikir Andinet Shema	1996	23	23	2	6,650	630,520	Small	Gulele
6	Abo Shemane Shema	1996	33	33	6	5,000	480,000	Small	Gulele
7	Entoto Godana Shema	1996	39	39	2	3,900	230,000	Small	Gulele
8	Addis Tesfa Shema	1997	25	25	3	3,000	330,000	Small	Gulele
9	Ersbeers Shema	2003	11	11	4	5,000	480,000	Small	Gulele
10	Tibeb le Ediget Shema	1996	39	34	4	4,0000	159,000	Small	Gulele

4.2.2. Product

As per the collected data, major products of the enterprises are Netela, Gabi, Qemis, Jano, Kuta, Buluko, scarf, Teletafi (Tibeb) etc.... These products mainly use for wearing/dressing purpose and also during the observation the researcher understand that, most of these product produced by enterprises located around Shiromeda. Whereas products like bed cover, curtain, table runner and covers are produces by enterprises located around Addisu Gebeya; the remaining enterprises produce both household and clothe products. Additionally, the products are classified as finished and semi finished products. For instance, finished products, those directly soled for customers from the weavers like Gabi, Kuta, Scarf, Teletafi (Tibeb) but the semi finished products like Qemis, Bed cover, trousers ,coats etc are products sold for local garments, sewers and embroidery for further value addition.

4.2.3. Raw material

The raw materials used by the enterprises are very common like Menen (fine count yarn),Asmera (fine count yarn), Salayish , Dyed fetil (locally spanned and dyed thread), pics (fine thread imported from China) and woldeyes, most of them are locally produced by large textile factories and local hand spinners. While others like Saba, Caloos (silk), acrylic (suf thread), metallic/ workezebo with silver or gold / and Chinas thread are imported from China and India.

4.2.4. Raw material/accessories and component suppliers

From ten enterprises there are only three enterprises has two common raw material/accessories and component suppliers (privet owned medium and large weaving companies); the remaining enterprises bought their raw material / accessories and components from any small supply shops located nearly to their working premises (shromeda), kechene and sometime from Merkato (largest market place in Ethiopia).The main reason is most of the weavers work separately not as an enterprises, so every weaver buy whatever he/ she wants for his/her next product. Sometimes, they did bought a large amount of raw material from large suppliers when they receive order with a larger amount. Including the three enterprise none of them have purchasing department and purchasing person; rather they have a purchasing committee and whenever the purchasing issue was raised the committees perform the job. These committees were selected by the enterprise members.

4.2.5. Customer/buyer enterprises/ companies

There are six enterprises has common customers (exporters and cultural shop owners), even if their order is not consistent. Some customers bring a raw material, their quality standards and sometimes designs and others give only their specification. There remaining four enterprises has no common customer as an enterprise they produce separately and sell it separately for retail shops, consumers (Sunday Sechema markets), sewers/ designers/.The above six enterprises also did this action when they don't have an order on their hand. Here also none of them have marketing department and marketing manager; this job is performed by the enterprise leaders or management members.

4.2.6. Annual sales and purchasing plan

None of the enterprises have annual sales and purchasing plan. Their main reasons are lack of awareness of the necessities of this to plans for their business, inconsistent relationship with customers (they don't know their customers annual need) and to perform a planned purchase there is a financial constraint and also a supply constraint (amount and variety).

4.2.7. Supplier Integration

Table 4.3: Summary of Respondent's view about Supplier Integration of SMWE

1. Information on Supplier Integration								
S.NO	Items		Strongly Agree(5)	Agree(4)	Neutral(3)	Disagree(2)	Strongly Disagree (1)	Total
1.1.	You have effective communications with your suppliers on production capacity, production schedule, quality consideration and new product development or design change.	Frequ	0	3	2	5	10	20
		%	0	15%	10%	25%	50%	100
1.2.	You and your supplier have transparent information about each other's inventory, sales forecasting, production planning, order tracking, tracing and delivery status	Frequ	0	4	2	6	8	20
		%	0	20%	10%	30%	40%	100
1.3.	You collaborate with your suppliers' development program(s).	Freq	0	0	4	7	9	20
		%			20%	35%	45%	100

1.4.	You have strong partnership and quick ordering systems with your major supplier.	Freq	2	2	1	5	10	10
		%	10%	10%	5%	25%	50%	100
1.5.	You have long-term relationships with your suppliers.	Freq	0	1	2	7	10	10
		%	0	5%	10%	35%	50%	100

Source: survey output

4.2.8. Customer Integration

Table 4.4: Summary of Respondent's view about Customer Integration of SMWE

2. Information on Customer Integration								
S.NO	Items		Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Total
2.1	You have effective communication with your customers on market information and new product development, quality consideration and design demand.	Freq	8	4	2	5	1	20
		%	40%	20%	10%	25%	5%	100%
2.2	You share transparent information about the available inventory with your major customers and have quick ordering system.	Freq	4	4	2	8	2	20
		%	20%	20%	10%	40%	10%	100%
2.3	You collaborate with your customer's development program(s).	Freq	4	2	0	10	4	20
		%	20%	10%	0%	50%	20%	100%
2.4	You have strong partnership your customers by receive feedback and provide quick response to your customer about quality, delivery and service satisfaction and share technical information with each other to make joint decision if required.	Freq	8	6	0	5	1	20
		%	40%	30%	0%	25%	5%	100%
2.5	You have long-term relationships with your customers	Freq	2	2	0	14	2	20
		%	10%	10%	0%	70%	10%	100%

Source: survey output

4.2.9. Internal Integration

Table 4.5: Summary of Respondent's view about Internal Integration of SMWE

3. Information on Internal Integration								
S.NO	Items		Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Total
3.1.	You have effective communications between different departments regarding a new product or process development program and other technical information like production, quality, design, process and delivery with each other quickly.	freq	4	4	0	8	4	20
		%	20%	20%	0%	40%	20%	100%
3.2.	All departments in your enterprise collaborate with the company's development program(s).	freq	2	2	0	12	4	20
		%	10%	10%	0%	60%	20%	100%
3.3.	You share your sales forecast, production plan, production progress and stock level with your purchasing and marketing department (or with anyone involved in purchasing and sales activity).	freq	2	2	0	13	3	20
		%	10%	10%	0%	65%	15%	100%
3.4.	You share your mission, vision, goal and organizational culture with everyone in the enterprise	freq	4	6	0	7	3	20
		%	20%	30%	0%	35%	15%	100%
3.5.	Your managers commitment to work together with other managers' and support everyone to work together to achieve your enterprises goal.	freq	8	4	0	5	3	20
		%	40%	20%	0%	25%	15%	100%

Source: survey output

4.2.10. Enterprise growth and Government support

Table 4.6: Summary of Respondents view about growth and Governments support of SMWE

4. Information on Final performance, Job creation and Technology transfer								
S.NO	Items		Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Total
4.2.	Your enterprise internal and external integration will help you grown up your sales, profit, and market shear.	Freq	4	6	4	2	4	20
		%	20%	30%	20%	10%	20%	100%
4.3.	Your enterprise internal and external integration will help your enterprise to increase number of members or employees	Freq	6	4	2	6	2	20
		%	30%	20%	10%	30%	10%	100%
4.4.	Your enterprise use new machinery, process, management systems (technology) to satisfy its customers.	Freq	4	4	3	6	3	20
		%	20%	20%	15%	30%	15%	100%
5. Information on Government support								
S.NO	Items		Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Total
5.2.	Governments support your enterprise to have a an integration with your supplier and customer	freq	2	3	3	8	4	20
		%	10%	15%	15%	40%	20%	100%

Source: survey output

As indicated in question 5.2, 12 respondents were answered that the government support towards integrating the enterprises with customer and supplier is very less and the respondents recommended some supports that aids them to create an integration with their customer and supplier; the summary indicated in Table 4.7

Table 4.7: Suggested government support for SMWE from respondents

Support type	Respondent	Description
Finance (lone or machinery)	16	
Training (business or technical)	12	Business (customer relationship and export procedures) Technical (quality standards, quality control)
Business development service (BDS)	6	
Technology (productive machinery, new process)	9	

Work premises, display and sales outlet	20	Sales outlet
Market linkage (local or global)	12	With large manufacturers and exporters
Others (Raw material supply/ raw material supply linkage and weavers union/association establishment)	20	Supply of raw material is a very critical problem for the sector

Source: survey output NB. Respondents were select more than one support

4.3. Overall Supply Chain Integration

For the question about the existing integration with all supply chain actors, four respondent answer there is an integration between supply chain actors, because some of the enterprises work collaboratively with their suppliers and also their common customers. In the contrary sixteen of the respondents were answered there is no integration between the supply chain actors. They believes that every actor run their business separately not only external actors (suppliers and customers) but also internals (members of the enterprises). The reasons are presented in Table 4.8

Table 4.8: Respondents view about poor integration between supply chain actors

Reasons not to have integration between supply chain actors	Respondents	%	Description
Different interests among the actors in the supply chain	6	13%	Some raw material suppliers and cultural shop owners needs more profit and influence the weavers therefore the weavers focus on buying and selling their raw material and product respectively from/for random supplier/customers rather than having common supplier/ customer.
Too many small transactions in the supply chain	14	29%	Due to financial constraint the enterprises can't fulfill the minimum order quantity of suppliers therefore they focus on small transaction.
Lack of knowledge about supply chain	12	25%	
Not give attention to the supply chain	4	8%	
Other reasons (luck of trust between enterprise members, top management commitment and poor communication and information sharing)	12	25%	During the establishment of the enterprise most of the members gathered from different places and even they don't know each other (different age group, different educational status, different technical and business skill level, different life goal) which create luck of integration

Source; survey output NB. Respondents were select more than one support

With regards, about advanced information technology seven respondents use internet access with their cell phone to promote their product and communicate with their customers; the remaining respondents don't use any advanced information technology because of their knowledge gap.

The distribution systems used by the enterprises to deliver their product to the customers are direct sales for final consumers, distributors (whole sale and retailers) and agents received their product and export it to different countries throughout the world; this is because none of the enterprises involved in export market.

Table 4.9: Product distribution system of SMWE

Distribution system	Respondents	Description
Direct sales	20	In their working premises and on Sunday shema markets
Distributers	20	They distribute for other enterprises, privet owned traditional shops,
Agents	4	For export

Source: survey output NB. Respondents were select more than one support

For the final question roused in the questioner; the enterprises used different mechanism to access markets and to communicate with their customers presented in Table 4.10

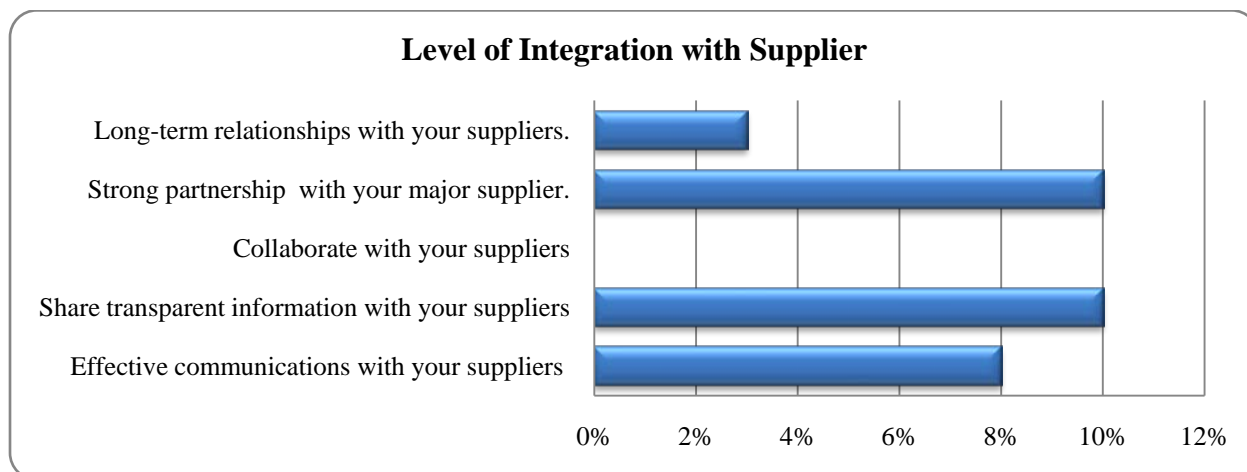
Table 4.10: Mechanism followed by SMWE to access the market

Mechanism to access the market	Respondents	Description
Direct contact	20	Local customers
Display shop	16	Provide by the government in the shema cluster
Agents	4	International customer

4.4. Data analysis and Interpretation of the survey

4.4.1. Level of Integration with Supplier

In hand loom weaving manufacturing sector the supply problem is a very critical issue. The sector use more than 80% of its raw material from local market but the integration between supplier and weaver is very poor. The data from the survey in figure 4.1 clearly shows the problem severity



Source: survey output

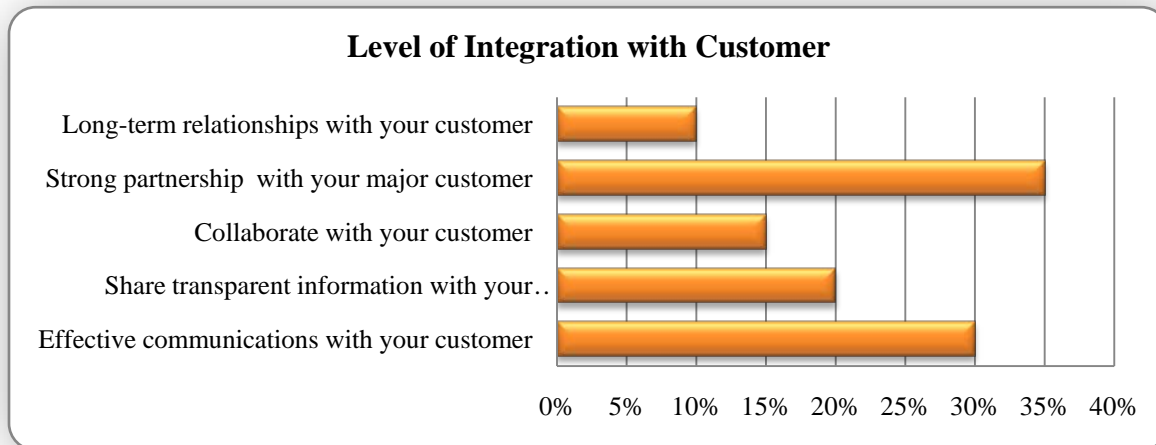
Figure 4.1: Level of Integration with supplier

Information sharing and strong partnership by quick ordering system gets a score of 10%, this is relatively the largest result as compared with other factors but still it's below the medium requirement. In the contrary their collaboration with supplier is laid at 0%, this indicates, the relationship between enterprises and their suppliers has not pass beyond seller and buyer relation, and also they don't have any collaborative work together. The left over dimensions of supplier integration also has a minimum percentages, effective communication with supplier 8% and long-term relationship with supplier 3%. As mentioned in section 4.2.4 only three enterprises have two common raw material supplier and the remaining enterprises bought their product from different supplier, this and the survey analysis clearly confirm that the sector do have a supply integration problem.

As per the interview conducted with the expertise (those supports the SMWE) working in different government office, the raw material supply problem of the sector is known; the whole sale suppliers received the raw material from large textile factories and import accessories and additional type of raw material from Chain and India, the main problem here is they import what they want not what the markets demands(limit the diversity of raw material), they hide raw material when its needed by the weaver then they released it by increasing its price after some time and some suppliers import low quality raw material and distributed it with minimum price which affect the quality of the final product. With this regard the government starts some initiatives to solve the problem like: establishing raw material supplier enterprises and locate them near to the weaving enterprises to create integration, and also establish government owned

raw material supplier company (Raw material Supplier for Small and Medium Manufacturing Industries or former “Jinad”); But the problem is still presented by the weaver and government officials.

4.4.2. Level of Integration with Customer



Source: survey output

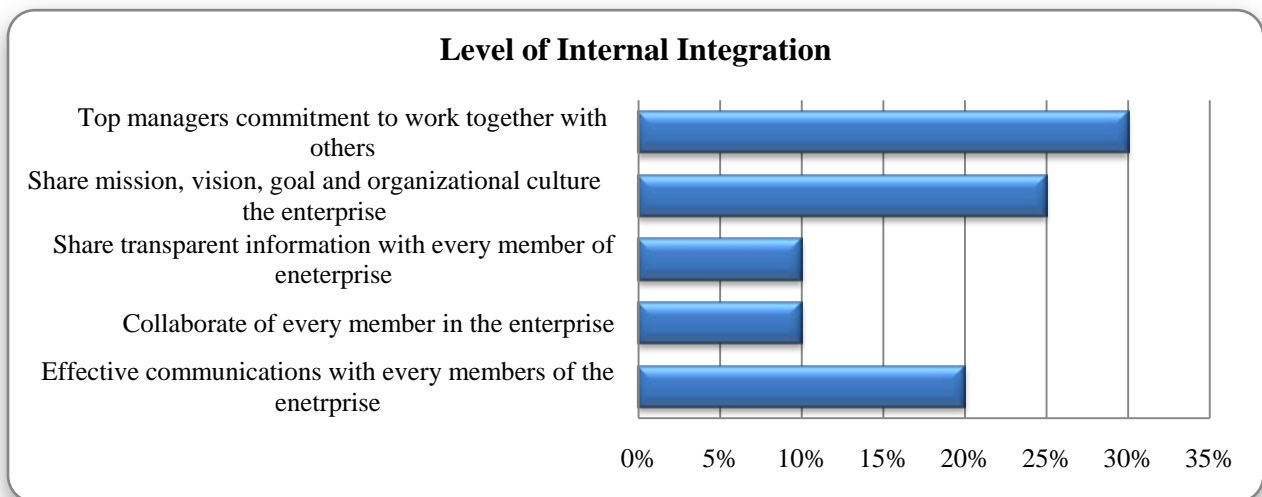
Figure 4.2: Level of Integration with Customer

As indicated in figure 4.2 the enterprises' have 35% strong partnership with their major customer and it's the highest score among other dimensions of customer integration. The next score is effective communication with their customer, it's about 30%. The remaining dimensions like sharing transparent information with customers, collaboration with customer and long-term relationship with their customers scored 25%, 20%, and 10% respectively. All percentage levels indicate the enterprises have relatively a good relationship with their customers than suppliers, even if it's not rich to the medium level.

As mentioned in section 4.2.5 the enterprises have two types of customers; customers of the enterprise and customers of members. The enterprises' customers are very few in numbers and they are exporters and traditional shop owners; on the other hand every member has their own customer. As stated by the respondents in their questioner and interview most of the enterprises took government supports by the name of enterprise (working premises, loan) but each member of the enterprise work separately (took orders from their individual customer, produced it without the awareness of enterprise, deliver it as per the customer requirement and/or sale it for individual customer on Sunday market and distribute it door to door for traditional shops).

Likewise from the interview made with expertise, there was a quality problem to have a potential common customer, each member has different level of technical skill and business understanding therefore every member has different quality concern, even if some enterprise's pass the 1st problem there was sales outlet problem to meet their customer and there was also a market (local and international) assessment knowledge gap. And they also declared that, having customers as an enterprise and creating a long-term relationship with them has a better advantage to increase the enterprise growth and individual benefits than having customer separately by each individual members.

4.4.3. Level of Internal Integration



Source: survey output

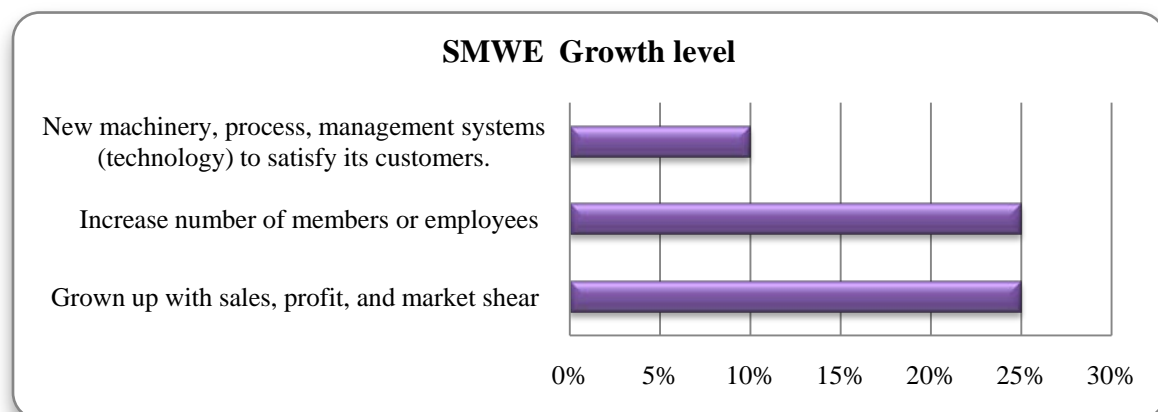
Figure 4.3: Level of Internal Integration

As indicated in Figure 5.3 the level of top management commitment to work together with others is about 30%, the level of shared mission, vision, goal and organizational culture to all enterprise members is about 25% and level of effective communication with every members of the enterprise is about 20%, the three dimensions of internal integration are relatively on a good level and the remaining dimensions sharing transparent information and collaboration between enterprise members are about 10%. The overall result showed the level of internal integration is very less and it needs more focus.

Similarly the interview made with experts (those supports enterprises) the lack of internal integration problem between enterprise members creates a great impact on enterprises growth.

The government knows these enterprise as a cooperative/group but in reality they work individually and it's completely diverts from governments plan. Every member in the enterprise has their own supplier, production style and individual customer, this might help individuals to generate income but government expect more as an enterprise. In most of enterprises, Members in the enterprises don't trust each other; most of the weavers believe that, the skill that each individual weaver has different from one another so there is a fear of stolen their designs by others. In the process of hand loom weaving product manufacturing the effort spent to produce different products differ one another (For example producing "tibeb" is time consuming and requires creativity) to do so as an enterprise it needs collaborative effort of individuals but most of the enterprise members do not need to collaborate each other. The top managers of weaving enterprises have taken their management's task as an additional commitment because everyone in the enterprise works separately. So if they were focusing on managements tasks (like planning, coordinating, controlling, market assessment etc.) they affect their income. Sometimes the enterprises get large amount of order from large companies or customers but the members give priority for their individual customer's order which affect the delivery time and create dissatisfactions of large companies. This all reasons approves that the luck of internal integration pull the enterprises from growth.

4.4.4. SMWE Growth



Source: survey output

Figure 4.4: Level of SMWE growth

As shown in the figure 4.4 the enterprise growth in terms of new job opportunity and financial performance is about 25% and in terms of technology utilization, the level is about 10%. The overall result shows the level of enterprise growth is under medium.

According to interviewees the reasons are: lack of internal integration, if members integrate internally they can solve their external problems, expect more from government, most of the enterprise expect everything from government including supply of raw material and provide market; obviously the government provides support for enterprises to smooth their growth progress but government support doesn't replace their effort they did to grown up to the next level.

4.4.5. Level Government Support

The level of government support for SMWEs is about 12.5% and it indicates the government support is less when it's compared with when they were in Micro level. According to interviewees the reason is connected with the previous enterprise support policy lunched by the government; previously the government provide more support for micro level enterprises this include tax incentives, and the support decrease when they transform to the next growth level (Small and medium), due to this reasons most of the enterprises had no interest to grown up to the next level. Currently the government was launch new supporting strategy for Small and Medium manufacturing enterprises and establishes an office which facilitate the supporting strategy, and which is called FSMMEDA. The agency provides and facilitates support for SME and assists them to grown up to the next level.

4.5. Correlation Analysis and result Interpretation

Table 4.11 shows the correlation between dependent, intermediate and independent variables. The dependent variable is Enterprise Growth (Financial, Job Creation and technology transfer), the intermediate variable is Government Support (GS) and independent variables are Supply Integration (SI), Customer Integration (CI), Internal Integration (II) and Supply Chain Integration (SCI).

Table 4.11: Correlation between variables

Spearman's rho		EG	SI	CI	II	SCI	GS	SCIPGS
EG	Correlation Coefficient	1.000						
SI	Correlation Coefficient	.961**	1.000					
CI	Correlation Coefficient	.996**	.964**	1.000				
II	Correlation Coefficient	.989**	.962**	.991**	1.000			
GS	Correlation Coefficient	.956**	.901**	.961**	.964**	.962**	1.000	
SCIPGS	Correlation Coefficient	.995**	.965**	.998**	.991**	1.000**	.962**	1.000

** . Correlation is significant at the 0.01 level (1-tailed).

Source: survey output

As indicated in table 4.11 all the independent and intermediate variables are positively and significantly correlated with enterprises growth and even if the level of correlation varies from one another.

↔ Correlation between II and SI

The II and SI has a positive and significant relation (.962**, $p < .001$). This is an indication that, the internal integration of each enterprise's members helps them to have strong relationship with their suppliers. Otherwise its difficult for individual to fulfill their suppliers requirement, For example, if an enterprise needs to bought raw material from large textile manufacturing companies, the enterprises should at list satisfy the minimum order quantity sated by the company, which is very difficult to fulfill by individuals in terms of amount and money.

↔ Correlation between II and CI

CI has also positive and significant relation with II (.991**, $P < .001$), which is relatively large as compared with SI. As mentioned in section 4.8.2 the level of integration of enterprises with their customer is very weak and the main reason for this is the luck of their internal integration, most of enterprises doesn't work as an enterprises rather they work individually and its difficult for customer to meet them as an enterprise and provide order and money, working individually with in one enterprise weaken the trust of customers (It's difficult to create B2B relation with other companies/enterprises).

↔ Correlation between SI and EG

SI has a positive and significant relation with EG (.961**, $P < .001$). This is an indication that having/enhancing supplier integration with SMWE will increase their growth (with finance, job creation and technology transfer). Supply is a basic requirement in every business therefore

strengthens relation with supplier will facilitate the overall business performance and smoothen the growth road.

↔ **Correlation between CI and EG**

CI has also a positive and significant relation with EG (.996**, $p < 0.001$). Having a strong relation with customers is become a mandatory criteria in order to survive with in a competitive business environment (Didonet et al., 2014). Enterprises can enhance their integration with customers by giving more focus on the dimensions of CI to grown up their business.

↔ **Correlation between II and EG**

The relation between II and EG has also positive and strong relation (.989**, $p < 0.001$). As indicated in their level of internal integration, it is the root cause for other integration problem. The interviewees also mentioned, luck of trust and collaboration between enterprises' members become a basic problem that hinders their growth. And the result proofs how the luck of internal integration affects the enterprises growth.

↔ **Correlation between GS and EG**

Here also there relation is positive and significant (.956**, $P < 0.001$). Obviously the government support contributes a lot for enterprises' growth but the difficulty is selection of proper support for enterprises' that can really enhance the enterprise growth and sustain them in their growth level.

↔ **Correlation between SCI with GS and EG**

Here also positive and strong significance relation between SCI with GS and EG (.995**, $P < 0.001$). The government develops a support strategy for enterprises'; the support should be varying from enterprise to enterprise and sector to sector. For a specific case of SMWE, supply chain integration problem has a very significant impact for their growth; therefore supporting these enterprises' by strengthening their supply chain integration effort will enhance their growth and also sustain this growth.

4.6. Regression Analysis and result Interpretation

Regression analysis is a way of predicting an outcome variable from one predictor variable (simple regression) or several predictor variables (multiple regressions) (Andy field, 2009). The research hypothesis has two parts; with regards hypotheses *H1a* and *H1b* show the impact of internal integration on external integration (Customer and Supplier integration) and the regression analysis result is shown below.

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	CI, SI ^b	.	Enter

a. Dependent Variable: II

b. All requested variables entered.

Source : survey output

Here the dependent variable is internal integration and the independent variables are supplier and customer integration and both are accepted for the analysis.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.987 ^a	.974	.971	1.094

a. Predictors: (Constant), CI, SI

Source : survey output

The model summary displays the significance and percentage of variation in supply chain integration which is caused by independent variables. Multiple correlations R of +0.560 represent the combined correlation of all the independent variables. Adjusted R_2 tells us that 97.1% of the variation in supply chain integration can be explained by variation in the two independent variables taken together.

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	770.607	2	385.304	321.990	.000 ^b
	Residual	20.343	17	1.197		
	Total	790.950	19			

a. Dependent Variable: II

b. Predictors: (Constant), CI, SI

source: survey output

In the ANOVA result table the F value is 321.99 which is significant with $p < .001$. This result indicates that the two independent variables taken together as a set are significantly related to the dependent variable. The chance of obtaining these results assuming the null hypothesis to be correct is less than 1 in 1,000.

Coefficients^a

Model	Un standardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-.966	.757		-1.277	.219
1 SI	.349	.134	.281	2.598	.019
CI	.753	.113	.720	6.663	.000

a. Dependent Variable: II

Source: survey output

From the coefficients table, the coefficients of predictor variables are statistically significant at less than five percent ($P < .005$) for supplier integration (SI) and customer integration (CI), therefore, the alternative hypothesis related to these dimensions (**H1a** and **H1b**) are accepted and the null hypothesis is rejected.

The remaining hypotheses **H2, H3, H4, H5a** and **H5b** also tested with regression analysis. The analysis result is shown below

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	SCI, SI, CI, II, SCIPGS	.	Enter

a. Dependent Variable: EG

Source: survey output

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.985 ^a	.970	.962	.821

a. Predictors: (Constant), SCI, SI, CI, II, SCIPGS

Source: survey output

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	326.891	4	81.723	121.260	.000 ^b
Residual	10.109	15	.674		
Total	337.000	19			

a. Dependent Variable: EG

b. Predictors: (Constant), SCI, SI, CI, II, SCIPGS

Source: survey output

Coefficients^a

Model	Un standardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-.737	.602		-1.225	.240
SI	1.032	.604	1.271	1.710	.108
CI	1.615	.615	2.365	2.625	.019
II	1.485	.649	2.274	2.288	.037
SCIPGS	1.090	.564	4.864	1.933	.002
SCI	1.485	.649	3.188	2.288	.017

a. Dependent Variable: EG

Source: survey output

As indicated in the output result the coefficients of four predictor variables (CI, II, SCI and SCI with GS) are statistically significant at less than five percent ($P < .005$); therefore the hypothesis generated with this factors will be accepted. In the contrary the supplier integration is not significant ($P > .005$) and as a result null hypothesis related to this dimension is failed to reject. The result summary of all proposed research hypotheses are presented on table

Table 4.12: The result summary of all proposed research hypotheses

Hypothesis	Result	Reasons
<i>H1a0: The internal integrationist is not positively related to customer integration</i>	H1a0: Rejected	$\beta = .281$
<i>H1a: The internal integrationist is positively related to customer integration</i>	H1a: Accepted	$P = .019 < .05$
<i>H1b0: The internal integrationist is not positively related to supplier integration</i>	H1b0: Rejected	$\beta = .720$
<i>H1b: The internal integrationist is positively related to supplier integration</i>	H1b: Accepted	$P = .000 < .05$
<i>H2o: Supplier Integration is not positively related to SMWEs growth</i>	H2o: Accepted	$\beta = 1.271$
<i>H2: Supplier Integration is positively related to SMWEs growth</i>	H2: Rejected	$P = .108 > .05$
<i>H3o: Internal Integration is not positively related to SMWEs growth</i>	H3o: Rejected	$\beta = 2.274$
<i>H3: Internal Integration is positively related to SMWEs growth</i>	H3: Accepted	$P = .037 < .05$
<i>H4o: Customer Integration is not positively related to SMWEs growth</i>	H4o: Rejected	$\beta = 2.625$
<i>H4: customer Integration is positively related to SMWEs growth</i>	H4: Accepted	$P = .019 < .05$
<i>H5a0. The SCI with government support has not positively related and enhances SMWEs growth</i>	H5a0: Rejected	$\beta = 4.864$
<i>H5a. The SCI with government support has positively related and enhances SMWEs growth</i>	H5a: Accepted	$P = .002 < .05$
<i>H5b0. The level of SCI has not positive impact the SMWEs growth</i>	H5b0: Rejected	$\beta = 3.188$
<i>H5b. The level of SCI has positive impact on the SMWEs growth</i>	H5b: Accepted	$P = .017 < .05$

As shown in the result summary of regression analysis, the independent variables (CI, II, SCI and SCI with GS) are significantly affect the dependent variable (EG), on the other hand, the supplier integration has an impact on the enterprises' growth as indicated in the correlation analysis but the level of impact is very less on enterprises' growth as compared with other independent variables statistically.

4.7. SWOT analysis for Small and Medium Weaving Enterprises (SMWE)

After analyzing the respondents answer, expertise's view and carrying out a wide observation, SWOT analysis was conducted before developing and proposing a model to have a holistic understanding about the handloom weaving sector beside their supply chain integration. SWOT stands for Strengths, Weaknesses, Opportunities and Threats. A SWOT analysis identifies strengths and weaknesses within an enterprise, and opportunities and threats outside the enterprise.

Table 4.13: SWOT analysis of SMWEs

Strength	Weakness
<ul style="list-style-type: none"> ☞ There is a tough market competition (with imported product like chiffon) but they are straggling a lot to survive in the market ☞ They kept their indigenous knowledge by transferring to their children's and also promote their culture and tradition ☞ In Some enterprises there is intra and inter organizational integration 	<ul style="list-style-type: none"> ☞ Even if they acquire indigenous knowledge of weaving, there is huge gap of business knowledge ☞ Very poor cooperativeness and lack of trust between weavers ☞ Weak integration (long-term relationship) with other enterprises (raw material suppliers, cultural cloth traders, end users) ☞ Wrong attitude about government support (they consider the government support continues as long as they remain in micro level) ☞ Produce products by imitation not by innovation (not market oriented) ☞ Weak export exposure ☞ Lack of information sharing (supplier, customer , government institutes) ☞ Poor quality product (not give concern about quality) ☞ Not interested to use technology and prefer traditional ways of production.

Opportunity	Threats
<ul style="list-style-type: none"> ☹ The government still look over alternatives to help (support) them to transform to the next level ☹ The existence of large enterprises (more focus on exporting weaving products) so it might be possible to create an integration between them ☹ Increasing demand of hand woven products locally and internationally. ☹ Hand loom technology development ☹ Financial availability for supporting the sector ☹ There is responsible government body to support SMES (FSMMEDA) ☹ High potential for cotton production ☹ Government incentives to support the sector (import duty free machineries, establish raw material supplier government body which is “Giniad”, provide both technical and business training with free) ☹ Availability of duty-free quota-free (DFQF) trade agreements to support the sector: like AGOA, COMESA, EU and global markets through Everything but Arms (EBA) ☹ Availability of raw material supplier manufacturing companies 	<ul style="list-style-type: none"> ☹ Very few new establishment of weaving enterprises and this might force the government to focus to for other alternative textile sectors (decreasing government support) ☹ Luck of weavers because the knowledge transform from father to children not institutionalize ☹ Increasing amount of imported alternate fabrics and cloths like linen fabrics from Thailand , chiffon from China, Harambe fabric from Kenya (affect the weaving enterprises competitiveness by amount and also by price) ☹ The attitude of customer about the seasonality of hand loom weaving clothes

As indicated in the SWOT analysis the enterprises had so many opportunities to enhance to strengthen their supply chain and also their growth. From the identified weakness of the enterprises; business knowledge gap, Wrong attitude about government support, Produce products by imitation not by innovation (not market oriented), Weak export exposure and Poor quality product (not give concern about quality) are additional issues, those requires focus of enterprises beside integrating their supply chain.

4.8. Experience of private owned handloom weaving product manufacturers and exporters

After conducting SWOT analyses of the SMWEs, the researcher took some successful (in terms of; job creation, capital growth and export performance) private owned handloom weaving product manufacturers and exporters (large and medium companies) to understand, how they handle those treats, improve their strength, minimize their weakness, gain benefit from those mentioned opportunities and a benefit gains from their strong supply chain integration to grow up their business. According to (ETIDI, 2014) report there are about 8 handloom weaving product manufacturers which include both medium and large manufacturers. The main difference from SMWEs is they took their trade license from trade and industry offices not from MSED offices and they might use incentives set by the government for textile sector but SMWEs has additional supports (all supports stated for growth oriented enterprises) from the government beside the sectoral incentives. Surprisingly, these private owned companies' growth faster and they become beneficiary from government incentives (AACCSA, 2015; USAID, 2017).

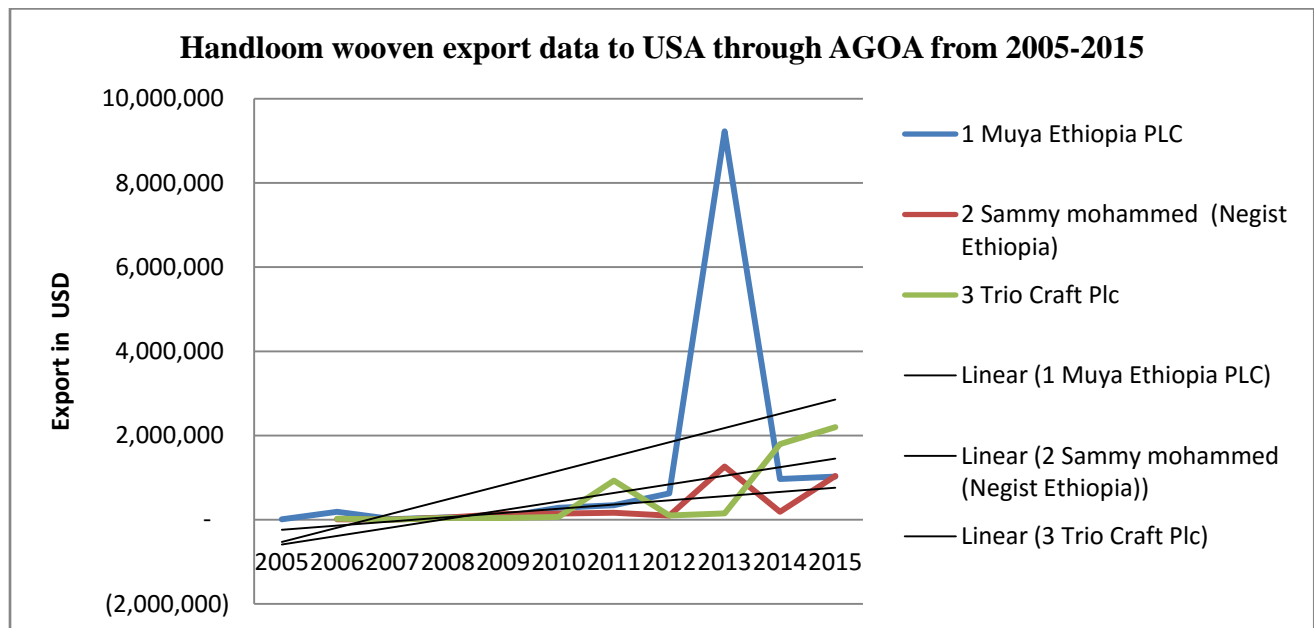
Table 4.14: Summary of private owned weaving product exporting companies

Company	Description
MUYA Ethiopia	<p>The pioneer exporter of Ethiopian hand loom weaving products. The company established in 2005 by women entrepreneur designer Sara Abera, and has been growing as a major handicraft center with its quality and design. During its establishment there were 15 weaver employed by the owner with the capital of 5,000 birr, currently the company has more than 150 weavers with a capital of more than 20 million Ethiopian birr, and set a plan to hire an additional 500 weavers. The company produces high quality, handmade household products inspired by traditional Ethiopian patterns for wholesale export such as cushion covers, runner rugs, cotton throws, and table settings, distinctive fashion accessories like handbags and shawls; this products sold in some of the most up-market shops in the world – including Club 55 in St. Tropez , designer shops in New York, Tokyo, Athens, Vienna and Zurich. The handloom, winding machine and raw materials they used, to produce their products are the same with SMWE; there major differences are their management system;</p> <p>Top management commitment: there are different challenges in the sector from finding quality raw material and weaver to deliver the products to the customers (both local and international) therefore managers should be committed to pass on these challenges and survive in the market.</p> <p>Quality: since it's a major issue in global market, the company provides especial concern about quality from raw material to final product.</p> <p>Trained and skilled weavers: it is instrumental for exporting companies to be able to continuously supply to the export market and meet demands of international buyers</p>

	<p>Sustainable supply: supply is basic with amount, variety and quality to do so the company has common suppliers and has long term relationship.</p> <p>Creativity: to satisfy the customer need, the company owner traveled around the country to collect traditional designs of various peoples and all of the products of MUYA have some motifs from these traditional designs.</p> <p>Trust and collaboration: the knowledge level of every weaver varies, in order to impress customers and satisfy their need by producing harmonized colorful weaving product “Tibeb” collaboration and trust between every weaver is basic.</p> <p>Suitable work environment: weaving work, especially “Tibeb” making is very laborious, time consuming and need concentration so the weavers should have suitable working environment to be more productive and creative.</p> <p>Listen customer voice: nowadays weaving products become a part fashion industry, and it has very tough competition worldwide; companies should listen their customers voice and response quickly for their requirement, with this regard companies can survive in this competition.</p> <p>Long-term relationship with customer: customers need reliable product and companies needs satisfied customer and sustainable profit, therefore long-term relationship can balance this two scenarios.</p>
<p>Trio-crafts PLC</p>	<p>Trio-craft is “the home of handmade textiles and products based in Ethiopia.” It is also established by women entrepreneur Elisabet Kassa in 2005, with a startup capital of 10,000 birr and 7 employees. Since its inception, the company register impressive growth in the manufacturing and sale different handloom products like bedspreads, bedcovers, towels, scarves, fabrics (for further value addition), table mat(runners), pillow cases, curtains for both local and export market (Spain, USA, Japan). Currently the company has 60 permanent and more than 15 par time employees and more than 10 million birr capital. Beside the manufacturing and sales activity the company provides short term training on basic handloom weaving product manufacturing and carpet making. The major uniqueness of the company are:</p> <p>Quality: quality and packaging is of international standards ensuring item by item quality control.</p> <p>Knowledge transfer: the company trains everyone who has an interest of knowing Ethiopian hand crafts especially for women and youths, as a result the company contribute for employment generation and communicate new skills.</p> <p>Value chain upgrading: in order to keep the organicness of Ethiopian handloom weaving products, beside weaving process the company perform confections (sewing, pressing), dyeing(with natural dyes), printing (silk screen with natural dyes) and product packaging .</p> <p>Long term relationship with suppliers and customers: to sustain in the competitive global market long term relationship is option less option.</p> <p>Technology upgrading: the company uses 3M wide handloom to produce wide curtains but others use 1.50 M wide handlooms and stitches this curtains if wide size is required.</p> <p>Collaboration: locally Ethiopian handloom weaving products worn seasonally and delivery time is critical for export market. In order to full fill both local and international customers requirements internal</p>

	collaboration of each member and external collaboration with each stakeholder is a key for survive in the market.
Negist Ethiopia PLC	<p>It is also established by women entrepreneur Aster Reta in 2003. Negist produce and export hand woven textiles bridging the traditional and modern world with a unique approach to Ethiopian design and fabrics. She started the business by herself with one loom the she transferred it to her son Sammy Mohamed. Currently the company has more than 50 employees (with permanent and par time) and also works with designers, embroiderers, and seamstress and cotton spinners collaboratively. The main products of the companies are fashion accessories used to make scarves and sarong handbags, home accessories like throws cushion covers, table clothes, runners, mats and bed covers, And different garments including tunics, pants, ponchos, dresses and night wears. All this products are exports to several high-end department stores, boutiques and shops worldwide. The main Uniqueness of the company from others are:</p> <p>Strong collaboration and partnership with stakeholders: especially hand spins cotton suppliers, large textile companies, embroiderers and SMWE. The company outsources its products for SMWE and sub-contracting export orders for different cooperatives those are working on women empowerment and HIV victim supporters.</p> <p>Customer focus: the company conducts a market survey in every year to understand the test of both local and international customers.</p> <p>Management commitment : there are internal and external challenges; internally hand woven making is time taking and need patience, also the weavers working culture was not in the orientation of business company, so the managers support all employees and encourage them to achieve their goal. By the external side the sector not gains much attention from the society and also the government so managers take the responsibility to introduce the sector and face the obstacles.</p> <p>Focus on employees: involve every one, make fair employment and create healthy working environments.</p>

The three mentioned private owned handloom woven companies in Table 4.14 follows their own business philosophy to sustain in the competitive market but they can pass the survival stage and record dramatic growth in their business (ECCSA, 2013) . All the companies export their product in international markets, including USA, Europe and Japan. Accordingly Figure 4.5 shows their export performance in to USA market in US dollar through AGOA, which a QFDF trade agreement between GoE and US government to encourage the export performance of African countries in US market.



Source: own compiled from ETIDI report

Figure 4.5: Export of hand woven products to USA through AGOA

4.9. Summary of Findings

According to the analysis done in the previous section, summary of the findings is presented as follows.

- ⌘ The enterprises' works as an enterprise have a good performance in terms of finance and job creation.
- ⌘ The level of integration of SMWE with their internal members, suppliers and customers is very weak and it's really affects their growth.
- ⌘ In majority of the enterprises, the members are work separately (individual bases) and this hinders the enterprises' from having common customers/companies , therefore each individuals sell their products to any buyers they find in the market instead of establishing long-term relationship with customers. The same also happened with their suppliers.
- ⌘ The major factors that affect the supply chain integration and also their growth beside the week internal and external integration are; too many small transactions in the supply chain, lack of knowledge about supply chain, not give attention to the supply chain, different interests among the actors in the supply chain and luck of trust and collaboration between enterprise members.

- ⌘ There is the lack of trust, collaboration and top management commitment in the enterprises, which leads the enterprises to lose their chance of competing in local as well as export market; as a result it affects their growth.
- ⌘ All the independent variables (SI, CI, II, SCI, SCI with GS) are positively and significantly correlated with dependent variable (SMWEs) with a significant level of 1%. Even if the correlation is positive and significant the significance level varies from variable to variable and this is proven by the regression analysis.
- ⌘ As per the regression analysis result, internal integration is positively related with supplier and customer integration therefore the null hypothesis is rejected and the research hypothesis is accepted.
- ⌘ Additionally the result indicates CI, II, SCI and SCI with GS have positive and significant effect on SMWE, therefore the null hypothesis is rejected and the research hypothesis is accepted. In the contrary the supplier integration has larger p value ($p=0.108 > 0.05$) accordingly the null hypothesis is accepted and the research hypothesis is rejected.
- ⌘ As per the interview made, there was almost no horizontal linkage among enterprises due to lack of trust.
- ⌘ Most of the enterprises mix the government's role with their responsibility; the government provides and facilitates support, then evaluates the enterprises to transform to the next level. But most of the enterprises will not want to grow up to the next level and they need to have continuous government support.
- ⌘ Information technology is a basic tool in the supply chain integration but the level of using this tool is very weak by SMWEs.
- ⌘ Most of the SMWE follows door to door product distribution mechanism to reach to their customers, but it is time consuming and limits their relationship towards customers. The SMWEs have a product display shops inside their working clusters but during the observation conducted by the researcher, almost all displays are empty and closed.
- ⌘ None of the enterprises has a sales outlet and they are expected from government, and also none of the enterprises had a direct export experience rather they sell their products for agents and other private owned handloom manufacturing companies.
- ⌘ In the contrary the entire three benchmarked companies have a sales outlet in different places of the capital city (Addis Ababa) in Bole air port, in different Hotels, Malls and

even in Shromeda. This made the companies easily found by their customers and also promote their products to new customers.

- ⌘ As indicated in the experience of private owned hand loom companies, they registered better growth progress (with their financial performance, job creation, technology utilization, product quality, competitiveness in both local and global market, value chain upgrading, innovation / creativity and customer handling/ satisfaction level) than government supported enterprises. The reason is strong top management commitment, better organizational culture (towards product quality, customer satisfaction, employee satisfaction (give a big respect and value for their employees), having long-term relationship with suppliers and customers, creating strong B2B relation other companies and strong inter-organizational integration between every members in the company), effective utilization of governments incentives and having a conducive working environment to be more creative.
- ⌘ From the SWOT analysis beside there are additional weakness identified those need focus by the enterprises beside developing and strengthening their supply chain factors; like, business knowledge gap, Wrong attitude about government support, Produce products by imitation not by innovation (not market oriented), Weak export exposure and Poor quality product (not give concern about quality) are additional issues, those requires focus of enterprises beside integrating their supply chain.
- ⌘ In general the finding shows that, the SMWE growth rate is very stagnant even when it's compared with the governments plan and supply chain integration has a great contribution for this.

Chapter Five

Proposed Model

5.1. Introduction

After conducting intensive literature review the next step was data collection through questionnaire, interview and observation; then all the collected data was analyzed and interpreted. SWOT analysis and review of experience of successes full private owned handloom weaving manufacturing companies was also conducted. Consequently, based on the review and finding result the researcher develops a supply chain integration model. There are other supply chain integration models developed by other researchers (Chen & Landry, 2018; Huo et al., 2012; Palomero & Chalmers, 2014) but this model is different from others because of two main reasons; First, it is developed with the consideration of existing situation of SMWEs by collecting primary data from each enterprise. Second, this model developed to enhance the growth of SMWEs; with this regard it adds additional performance/growth/ measures like job creation, technology transfer, innovation and product quality; besides competitiveness and financial performance which are the very common performance measures in supply chain integration. During the conceptual framework development the researcher uses only three growth determinants (finance, job creation and technology transfer) but after conducting SWOT analysis (from weakness of enterprise besides their weak supply chain integration) and reviewing the experience of private owned handloom manufacturing companies the researcher includes innovation, competitiveness and product quality as an additional growth indicator for the SMWEs. It is known the government prepared the general growth evaluation criteria for enterprises but for enterprises who are engaged in textile/ fashion/ sectors the above criteria's are mandatory to survive and grow up (ITC, 2016; Khurana, 2018b) it is also proved by the experience of private owned handloom weaving manufacturing companies. Due to this reason the researcher includes the above growth indicators in the model.

Additionally the model includes the supplier integration after validating the model by expertise. Even if the statistical result excludes the supplier integration; the experts suggest including the supplier integration in the model; due to the supply problem of SMWEs. Therefore the final supply chain integration model as shown Figure 5.1 includes the supplier integration, customer integrating, internal integration, selected KGI and respective government supports.

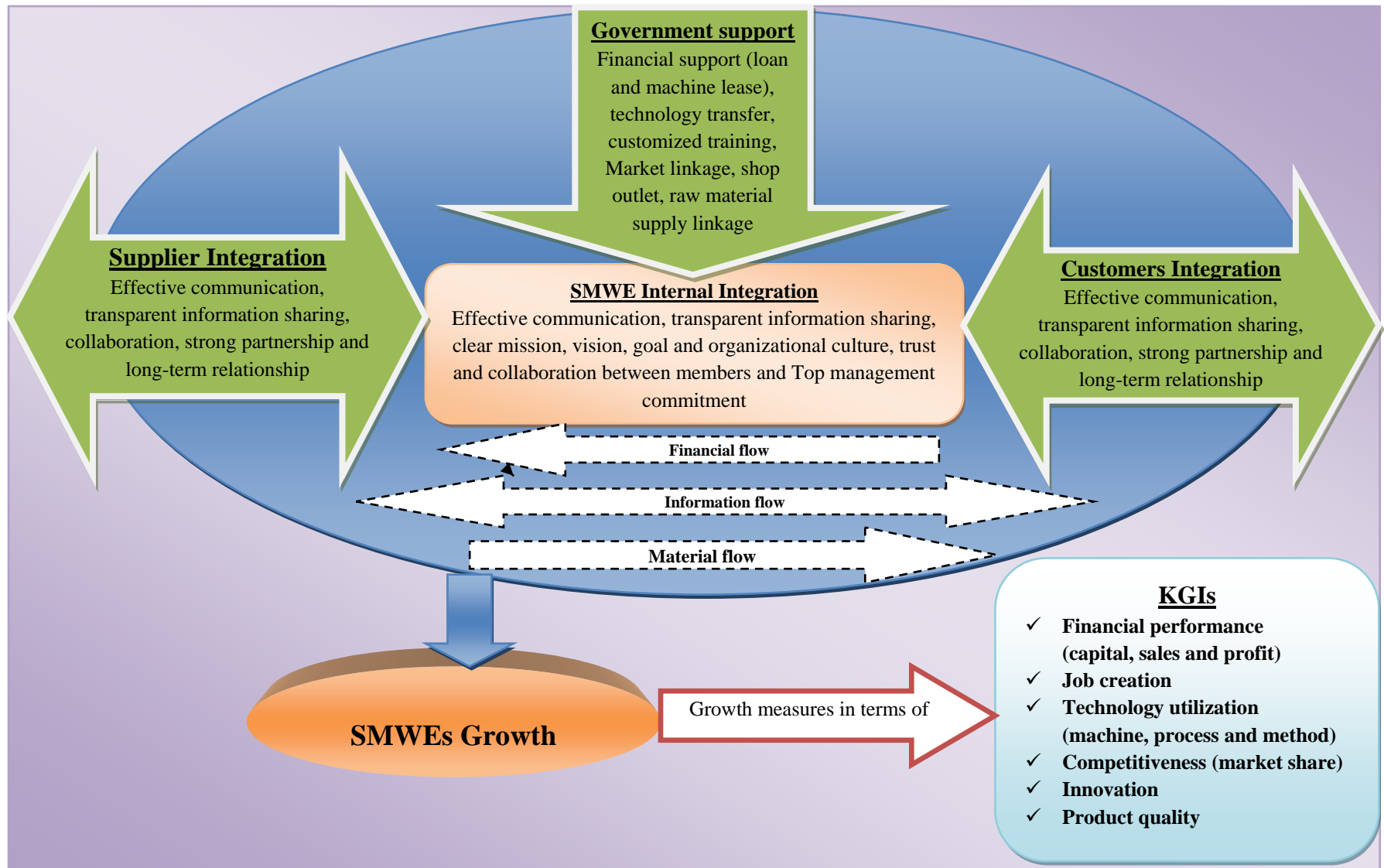


Figure 5.1: Proposed model for enhancing the level of growth of SMWE

5.2. Model description

The following section discussed the model and how its solves the growth problem of enterprises

Internal Integration

Internal Integration refers the entire integration of enterprises' functional departments and members. The main aim of internal integration is improving the overall performance process of the enterprises from order to cash process, as a result grownup the enterprises. The internal integration problem is a critical problem for SMWEs and their level of integration is very weak affects their growth. Both the analysis result of correlation and regression also proves the impact of internal integration on enterprises growth and it's clearly indicates on the model. To obtain an effective solution from the model, enterprise should focus and work on internal integration dimensions; effective communications between different departments/members regarding a new product or process development program and other technical information like production, quality, design, process and delivery with each other quickly; build trust and collaboration between members , share transparent information with every members of the enterprises, develop clearly defined mission, vision , goal and organizational culture and share it with every member and top management commitments to work together with other managers' and support everyone to work together to achieve your enterprises goal.

Supplier Integration

The supply of raw material is mandatory for any manufacturing firms. As a manufacturing enterprise SMWE also use different raw material and accessories for their entire manufacturing system. However, as indicated in the analysis result level of integration of enterprises with their supplier is very weak and it affects the enterprises manufacturing system as well as their growth. Even if the regression analysis reveals that the significance supplier integration is relatively lower as compared with internal integration, customer integration and SCI with Government supports. But the correlation analysis shows the significances of supplier integration on enterprises' growth and it's also supported by the expert's opinion. Therefore the researcher includes the supplier integration and suggests the SMWEs to focus and work on supplier integration key areas like; long term partnership with suppliers, effective communications with suppliers, transparent information about each other's inventory status, collaborate with suppliers' development program and create a long-term relationship with their suppliers.

Customer Integration

Customer Integration also another significant component which highly affect the enterprises growth, this also confirm by correlation and regression analysis. Therefore, the enterprises should focus and work on customer integration dimensions; effective communication with their customers on market information and new product development, quality consideration and design demand,; share transparent information about the available inventory with your major customers and have quick ordering system; collaborate with their customer's with different development programs; strong partnership their customers by receive feedback and provide quick response to their customers about quality, delivery and service satisfaction and share technical information with each other to make joint decision if required and create a long-term relationships with their customers.

Government Support

The government provide different supports for enterprises especially when they were in micro level and the support decrease when they become small and medium enterprise, and these SMEs face a lot of challenge after graduation, getting financial support, advanced training, business development service, tax incentives etc. due to this most of the enterprises will wont to grown up to the next stage. On the other hand there enterprises needs to grown up and straggle a lot to achieving it, because if they grown up they become more advantageous than staying in micro level, and hand loom weaving product manufacturing SMEs are one of these enterprises. Therefore proposing systematic tool like supply chain (based on their current problem) for these enterprises will helps them by to have a smoothen road for their growth effort, and also provide insight for government bodies, what kind of support is suit for this enterprises to grown up accordingly supports government to achieve its developmental goal. Accordingly, the model indicates the support types expected from governments to facilitate the proposed supply chain integration and also their overall growth progress; including financial support (loan and machinery lease), technology transfer (machinery, process and method), market and supply linkage, customized training(based on the their gap), provide/facilitate shop outlet.

Key Growth Indicators

In Ethiopia government evaluates the enterprises growth with four determinants; financial performance, job creation, technology transfer and government support utilization. However, internationally there are additional KGIs beside the above mentioned determinants like

innovation, entrepreneurial skill, competitiveness, product quality, market share etc. different countries used different mechanism for evaluation. But for enterprises who are engaged in textile/ fashion/ sectors innovation, competitiveness, product quality are mandatory to survive and grown up (ITC, 2016; Khurana, 2018b) it is also proved by the experience of privet owned handloom weaning manufacturing companies. Due to this reason the researcher includes the above growth indicters in the model.

5.3. Model validation

According to (Kothari, 2004) hypothesis testing determines the validity of the assumption (technically described as null hypothesis) with a view to choose between two conflicting hypotheses about the value of a population parameter. But others argue about the biasness of the first assumptions. Therefore in order to solve the biasness problem and to test the model is a reasonable representation of the actual system the expert's opinions and comment were collected. After doing the regression analysis and develop the first draft of the model; interview wear conducted by the researcher with four expertise; FeSMMEDA textile and Leather sector support director, ETIDI Small and Medium Textile Enterprise Sector Support Director, MUYA Ethiopia P.L.C. General Manager and Trio Crafts P.L.C production manager; about the daft model with a consideration of statistical hypothesis test results (which include II, CI, GS and EG and Exclude SI).

They all are suggests to include the supplier integration in the model and their reason was; "the weavers might gate daily income by continuing their current relationship with their suppliers, but if there is needs to grow up the sector as a business's and support them to join in the fashion industry, the raw material supply become a major requirement, so to fulfill this requirement making strong integration with supplier will be a basic criteria".

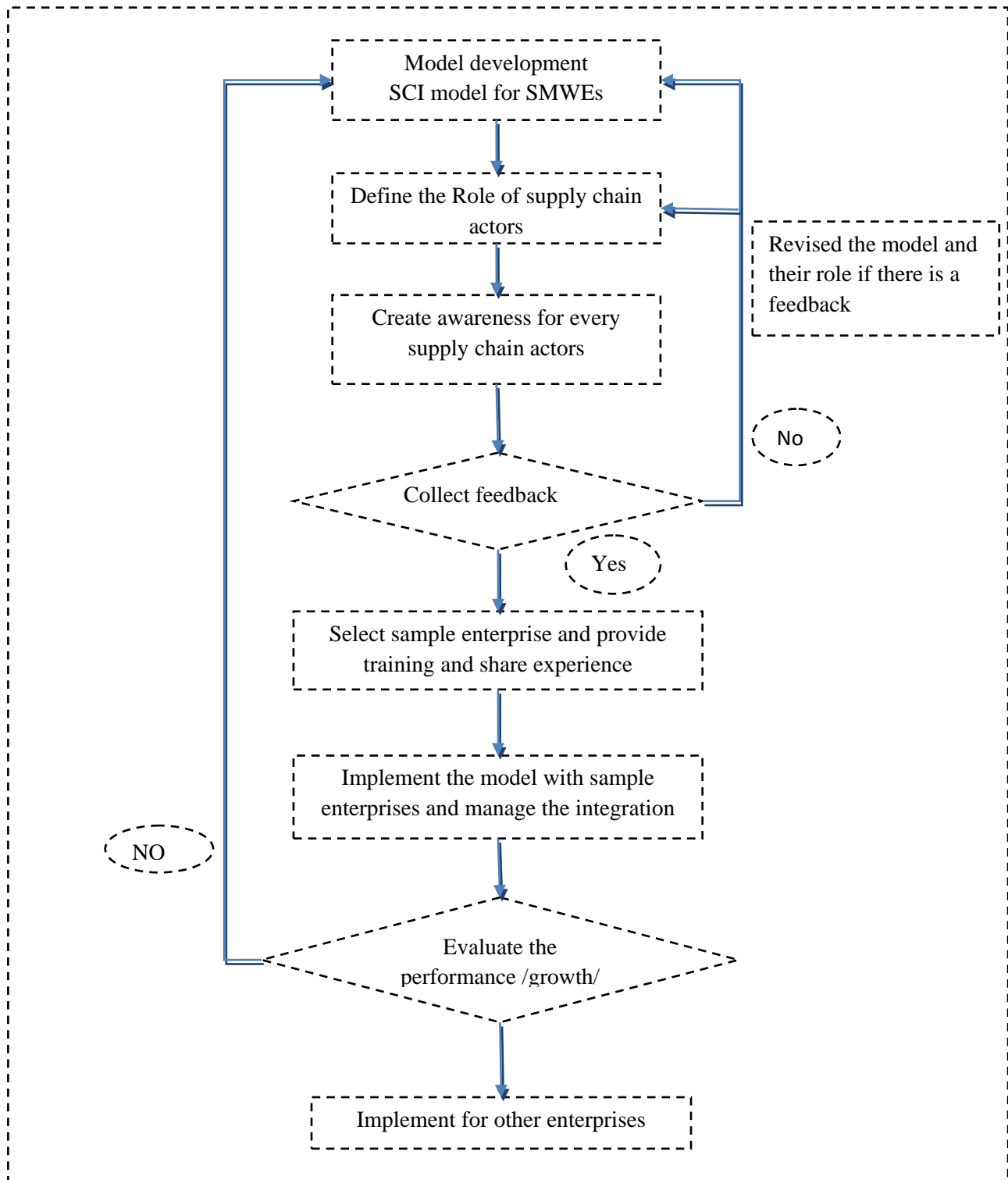
They also agree that, the government support plays a big role in the enterprises growth but the problem was; most of the government supports are general/standardize/. But some sectors like weaving sector need customize supports like special business trainings with regards quality, customer handling, export procedures etc., supply and market linkage and supply modified technologies.

Therefore by combining their valuable comment with the study major finding, the researcher develops a model which enhances the SMWEs growths.

5.4. Model implementation procedure

After the development of the model there should be a way which shows how the model is implemented; so the researcher suggest some implementation procedures

1. In the supply chain integration there are so many actors, the focal company, suppliers, customers, and other stakeholders. In the case of SMWEs the stakeholders are supportive bodies like FeSMMEDA, ETIDI, Weavers Association, AAMSMEDO, ECCSA etc. and other private owned handloom weaving product manufacturing companies. Therefore before implementation, the every actors role must be define.
Here the supply chain integration used for mainly for SMWEs so the owners of this model are the enterprises but they might face some constraints (finance and expertise) during the beginning of implementation. However to solve this constraints in advance the researcher suggests, the government to assist and evaluate the implementation till the SMWEs empower (doing it by themselves).
2. Create awareness about the developed, the actor's role, the benefit and barriers of supply chain integration. Doing this step will help the actors to come up in to the same consensus and understanding about the whole supply chain integration.
3. Collects feedback from the awareness creation and modify the model based on the feedback if necessary.
4. Select two or three enterprise, provide training about the SCI, share others experience and arrange possible resources including finance
5. Implement the model with the selected enterprise
6. Manage the implemented supply chain integration
7. Measure the performance in terms of enterprise growth; the evaluation is performed after the year of implementation and this evaluation is performed by the government bodies.
8. Evaluate the performance, if it's not successful redesign the model and if it's successful then implement it for other enterprises.



Source: own

Figure 5.2: Model Implementation procedure

Chapter Six

Conclusion and Recommendation

6.1. Conclusion

The results in this research study identify the effect of supply chain integration on Small and Medium Weaving Enterprise (SMWEs) growth. The implementation of supply chain integration (internal and customer integration) concept with government support leads the enterprises to enhancing their growth. Some of the results of this study are consistent with the previous studies which were conducted in different countries SMEs. In addition, the findings provide further evidence for the conventional wisdom that 'the more integration the better business growth'. Furthermore, the regression result shows that there is no statistically significant evidence on the relationship between supplier integration with SMWEs growth and the internal integration of the enterprises affects their relation with both their supplier and customers. However, the correlation analysis and experts suggestion supports the significance of supplier integration on the enterprises growth, therefore the researcher include the supplier integration in the proposed model.

Supplementary, the result shows that implementation of supply chain integration for Small and Medium weaving enterprises needs the efforts of enterprises top management and/or every members commitment/, and also governments support to see the super power of supply chain integration on enterprises growth. Therefore, enterprises manager's expected to consider supply chain integration as a one of enterprise objective in order to enhance their growth through financial performance, job creation, technology transfer, innovation, competitiveness and product quality. The researcher also recommended to enterprise managers to strengthen their internal integration with all functional departments/ enterprise members and externally with their customers and other stakeholders to enhance and sustain their growth.

6.2. Recommendation

From the research findings, the researcher suggests the following points as credible recommendations to the problem.

- ☞ The lack of trust and collaboration between enterprises members leads enterprises weaken their internal integration this affects their external integration therefore the

enterprises must maintain their internal integration problem then the remaining problems will be solved likewise. Since the integration of internal function/ members within the enterprise is a primary activity in any organization. The enterprise should have to give a critical emphasis on alignment among departments/members through effective communication, information sharing, collaboration and working together to achieve their enterprise's goal.

- ☞ Without the integration of customer into the enterprise it is impossible to survive in the market. Linking the customer through effective communication, information sharing with the enterprise to get feedback from the customer, creating partnership and collaboration with customers and long-term relationship with customers. In order to facilitate the enterprise recommended having a sales outlet and also information communication access to easily communicate with their customer and promote their products locally and internationally.
- ☞ Even if, the statistical result removes the supplier integration based on their existing situation, the raw material and accessory supply is basic in a manufacturing activity therefore the enterprises should also give focus like customer integration.
- ☞ As a small and medium scale enterprise they might face a lot of challenges to growth and survive in the market due to the lack of finance and expertise, but the government provides different supporting packages for these enterprises, therefore the enterprises should exploit these supports properly in order to grow up their enterprises.
- ☞ It is recommended to use the proposed model which leads to the integration of the whole supply chain of SMWEs. The model shows the approach how to implement an integrated supply chain which is more focused on internal and external (customer and supplier) integration.
- ☞ The implementation of this model requires the commitment of every supply chain actor especially the SMWEs. So the owners of this model will be the enterprises but they might face some constraints (finance and expertise) during the beginning of implementation. However to solve these constraints in advance the researcher suggests, the government to assist and evaluate the implementation till the SMWEs empower (doing it by themselves).

- ☞ Like any other tool after implementation measuring the performance of the supply chain integration is mandatory; therefore the researcher suggests performing the evaluation after the year of implementation and this evaluation is performed by the government bodies.
- ☞ The model is developed based on the existing situation and previous background of the enterprise but during implementation the assistants and evaluators' (government bodies) might get additional factors or feedbacks; so they will be the responsible bodies to redesign the model based on the feedback.
- ☞ The enterprises are expected to grown up and the SMWE had a great chance to grown up because of the nature of their business (fashion oriented business, high demand of product, availability of raw material, labor intensive etc). Therefore as a growth oriented fashion business the SMWEs must consider technology transfer, innovation, and competitiveness and product quality in their day to day business activity besides strengthening their supply chain integration to grown up their business.

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Appendix A: Research Questions

Addis Ababa University
Addis Ababa Institute of Technology (AAIT)
School of Mechanical and Industrial Engineering (SMIE)
Industrial Engineering Stream

Questionnaire to be distributed for Small and Medium Weaving Enterprises (SMWE) Managers
“Supply Chain Integration to Enhance the Growth of Small and Medium Weaving Enterprises “

Dear participants;

My name is Masresha Tasew conducting a thesis entitled- “Supply Chain Integration to Enhance the Growth of Small and Medium Weaving Enterprises” for partial fulfillment of M.SC in industrial engineering at AAIT, AAU. With sincerity I would like to extend my deep appreciation to your enterprise and respondents for the willingness and cooperation in undertaking this valuable research. I request your kind cooperation in answering the questions as truthfully as possible. For other questions pertaining to this study, please contact Addis Ababa University, Addis Ababa Institute of Technology, School of Industrial and Mechanical Engineering. The information obtained from this questionnaire will be kept confidential and will not be used for any other purposes.

NB:

- ❖ It is not necessary to write your name?
- ❖ Please try to address the entire question given below?
- ❖ For the closed ended questions use (✓) mark for your choice in the given box

Thank you for your cooperation.

Name (optional): _____ contact Address: _____

Current position in the enterprise: _____

Service year: _____

Educational background:

Elementary High school

Certificate Major: _____

Diploma Major: _____

Degree Major: _____

Masters Major: _____

PhD Major: _____

Others (Please specify): _____

6. General Information

This part of the questionnaire just tries to gather some general information about your Purchasing, supply, distribution and sales activities.

6.2.Name of enterprise:_____

6.3. Establishment year:_____

6.4.How Many members during establishment:_____

6.5. Number of existing members: _____

6.6.Startup capital of the enterprise:_____

6.7.Current capital of the enterprise:_____

6.8.What are your enterprise's

product(s)?_____

6.9.What are the main raw material/accessories and components used by your enterprise_____

6.10. Did your enterprise have a common raw material/accessories and component

suppl Yes No

6.11. How many raw material/accessories and component suppliers do you have?

6.12. Did your enterprise have a purchaser or purchasing department?

6.13. Did you have common customer/buyer enterprises/ companies?

6.14. Did your enterprise have a marketing manager or marketing department?

6.15. Did your enterprise have annual sales plan?

6.16. Did your enterprise have annual purchasing plan?

7. Information on Supplier Integration						
S.NO	Items	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
7.2	You have effective communications with your suppliers on production capacity, production schedule, quality consideration and new product development or design change.					
7.3	You and your supplier have transparent information about each other's inventory, sales forecasting, production planning, order tracking, tracing and delivery status					
7.4	You collaborate with your suppliers' development program(s).					
7.5	You have strong partnership and quick ordering systems with your major supplier.					
7.6	You have long-term relationships with your suppliers.					

8. Information on Customer Integration						
S.NO	Items	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
8.2	You have effective communication with your customers on market information and new product development, quality consideration and design demand.					
8.3	You share transparent information about the available inventory with your major customers and have quick ordering system.					
8.4	You collaborate with your customer's development program(s).					
8.5	You have strong partnership your customers by receive feedback and provide quick response to your customer about quality, delivery and service satisfaction and share technical information with each other to make joint decision if required.					
8.6	You have long-term relationships with your customers					
9. Information on Internal Integration						
S.NO	Items	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
9.2	You have effective communications between different departments regarding a new product or process development program and other technical information like production, quality, design, process and delivery with each other quickly.					
9.3	All departments in your enterprise collaborate with the company's development program(s).					
9.4	You share your sales forecast, production plan, production progress and stock level with your purchasing and marketing department (or with anyone involved in purchasing and sales activity).					
9.5	You share your mission, vision, goal and organizational culture with everyone in the enterprise					
9.6	Your managers commitment to work together with other managers' and support everyone to work together to achieve your enterprises goal.					

10. Information on Financial performance, Job creation and Technology transfer						
S.NO	Items	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
10.	Your enterprise internal and external integration will help you grown up your sales, profit, and market shear.					
10.	Your enterprise internal and external integration will help your enterprise to increase number of members or employees					
10.	Your enterprise use new machinery, process, management systems (technology) to satisfy its customers.					
11. Information on Government support						
S.NO	Items	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
11	Governments support your enterprise to have a an integration with your supplier and customer					

If you are not agree with No 6 question, what kind of support you recommend

Finance (lone or machinery)

Training (business or technical)

Business development service (BDS)

Technology (productive machinery, new process)

Work premises, display and sales outle t

Market linkage (local or global)

Other _____

12. Information on supply chain integration

12.2. Do you think there is integration between the supply chain actors (supplier, producer (you), retailer and customer) of your enterprise?

Yes No

12.3. If your answer is “No” for the above question what are the reasons for supply chain integration ineffectiveness in your enterprise is/are:

Different interests among the actors in the supply chain

- Too many small transactions in the supply chain
- Lack of knowledge about supply chain
- Not give attention to the supply chain
- Other reasons_____

10.3 Does your company use advanced information technology (computer or internet etc...) in order to integrate its supply chain? Yes No

10.4 For the question above, if your answer is no, what are the reasons for not using information technology?

10.5. What type of distribution system does your enterprise use to deliver its products to the customer (E.g. outlet, direct sales)?

10.5 What mechanism does your enterprise use to access market and to communicate with customers (direct contact or Agents)?

Thank you !!!

Interview question

1. Dose strongly integrated supply chain (both internal and external integration) of weaving SME enhance their financial performance? YES NO
2. If your answer is “NO” what is your recommendation rather than supply chain integration to enhance their financial performance?
3. Dose strongly integrated supply chain (both internal and external integration) of weaving SME enhance the ability of creating a job for others? YES NO
4. If your answer is “NO” what is your recommendation rather than supply chain integration to enhance their ability to create job of others?
5. Does the supply chain integration can help SMEs to grow up to the next level without government support? YES NO
6. If your answer is “NO” What kind of support you recommend from Government for Weaving SMEs?
7. What are the problems faced by the weaving sector currently (related to supply chain integration)?
8. What are the problems on the supply side of the weaving SMEs?
9. What are the problems within the interdepartmental functions (internal integration) of the weaving SME?
10. What are the problems on the demand side of the weaving SMEs?

If have suggestion, recommendation and comment; you are welcome.

Thank you!!

Appendix B: List raw material supplier / local textile companies/

No	Company name /supplier/	Factory location	Address	Product
1	Adama Spinning development P.L.C	Adama	911541236	Cotton yarn (for Dir and Mag)
2	Edget Yarn Sewing Thread S.C	Addis Ababa	113202008	
3	Awassa Textile S.C	Hawassa	911204398	
4	Kombolcha Textile S.C	Kombolcha	912412798	
5	Bahir Dar Textile S.C	Bahir Dar	911601441	
6	Dire Dewa Textile Factory	Dire Dewa	911250718	
7	Arbaminich Textile S.C	Arbaminich	113719430	
8	Ethiopian Sewing Thread Factory	Addis Ababa	114420658	
9	Eture Textile P.L.C	Adama	911102843	
10	SMN textile P.L.C	Dukem	936555720	
11	Almeda textile P.L.C	Adewa	928956667	
12	KK P.L.C	Addis Ababa	935987228	Acrylic (suf thread)