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LOGISTICS AND SUPPLY CHAIN MANAGEMENT UNIT

THE EFFECT OF SUPPLY CHAIN INTEGRATION ON EXPORT
PERFORMANCE OF ETHIOPIAN GARMENT INDUSTRY:

THE CASE OF BOLE LEMI INDUSTRIAL PARK I

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SCHOOL OF COMMERCE
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The Effects of Supply Chain Integration on Export Performance of
Ethiopian Garment Industry: The Case of Bole Lemi Industrial Park I

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Declaration

I, Mengistu Abebe, declare that this thesis on the issue enabled “The Effect of Supply chain Integration on Export Performance of Ethiopian Garment Industry: The Case of Bole Lemi Industrial Park -I” in partial fulfillment of the requirements for the Degree of Masters of Art in Logistics and Supply Chain Management at Addis Ababa University School of commerce . This work is original and has not been submitted for any degree any other university or institution and that all sources of materials used for the thesis have been duly acknowledged.

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Certification

This is to certify that the thesis prepared by Mengistu Abebe on the research topic entitled “The Effect of Supply Chain Integration on Export Performance of Ethiopian Garment Industry: The Case of BLIP -I “as partial fulfillment of the requirement of Masters of Arts Degree in Logistics and Supply Chain Management .

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Abbreviations and Acronyms

SC=Supply Chain

SCI=Supply Chain Integration

II= Internal integration

SI= Supplier integration

CI =Customer integration

BLIP-I=Bole lemi industrial park -I

SCM=Supply Chain Management

FDI = Foreign Direct Investment

ETIDI= Ethiopia Textile Industry Development Institute

MOFED= ministry of finance and economic development.

MOTAD =Ministry of Trade and Industry

EIC=Ethiopian Investment Commission

ERP=Enterprise resource planning

MRP= Material and resource planning

Abstract

Supply chain integration has a significant role in the manufacturing industry. The focus of this study is to investigate how supply chain integration affects the export performance of Bole Lemi Industrial Park (BLIP). Key dimensions of supply chain integration considered are internal integration, customer integration, and supplier integration. A sample of 120 employees are drawn using systematic random sampling from all garment producing firms in the BLIP. A structured Likert Scale questionnaire is employed to collect data from the sample respondent. The reliability test is employed to check the Cronbach's alpha on each item. Descriptive and inferential statistics are used to explore and predict how to export performance is affected by the supply chain integration dimensions - internal integration, supply integration, and customer integration. All explanatory variables - internal integration, supply integration, and customer integration – are found to be statistically significant with $p < 0.05$. The result shows that all dimensions of supply integration significantly affect the export performance of the park. The study suggests that working on customer relationship management, building interdepartmental functioning and communication, and creating a material resource planning (MRP) system that is technology are vital to enhancing export performance.

Keyword: *supply chain integration, internal integration, customer integration, supplier integration, export performance*

CHAPTER ONE

This chapter contains the topic of the study such as the background of the study, statement of the problem, the research questions, the objectives of the study, the scope of the study, the significance of the study, the definition of concepts and terms, and organization of the study.

1.1 Background of the study

supply chain mentions the network of firms that are participating, through upstream and downstream linkages, in the different processes and activities that produce value products and services delivery up to the product consumer (Christopher, 2005).

In today's era, Integration is most the main part of successful supply chain management hence the implementation of supply chain management focuses the integration of processes from sourcing, to manufacturing, and distribution across the supply chain. Sabir and Irfan, (2014) commented that the scope of supply chain integration is not limited but it has a wide scope ranging from supplier integration to customer integration covering the central concept of internal integration.

Sadraoui and Mchirgui, (2014) argued that in this century, manufacturers must not only manage their organizations but also participate in the management of the network of upstream and downstream firms.

This day technological advancement of communication and transportation lead to globalization. Due to globalization customers' needs and requirements have been changed and developed. Customers need a suitable product in a suitable place at a suitable time with high quality and suitable cost. To fulfill the customers' requirements organizations should improve all their activities and processes. supply chain management requires integration and coordination for satisfying and responding to change in consumer demand (Lambert and cooper, 2000).

Supply chain management is a system that improves all activities carried out by an organization. Supply chain management is a complex system that covers all supportive activities from suppliers to after-sales services. To be able to grow and survive any organization has to identify its strengths and weaknesses, to re-enforce on strengths and overcome weaknesses. Supply chain integration is the strategy that must span material and product flow from vendors to final consumers. pointed out supply chain integration has affected the performance (Frohlich and Westbrook, 2001

Kumar *et al.*, (2017a) argue that Firms integrating their information and material flow would lead to optimal management of the supply chain, and It involves the alignment of business functions internally within a firm and with its supply chain partners to reduce costs, increase customer value and general performance throughout the supply chain of the shareholder.

Ethiopia's long history in the textile industry began in 1939 when the first garment factory was established. Based on Ethiopian country data, in the last 5 to 6 years, the textile, and apparel industry has grown at an average of 51% and more than 65 international textile investment projects have been licensed for foreign investors, during this period ([Http: www.allianceexperts.com](http://www.allianceexperts.com)).

The Ethiopian government is recognizing the potential benefits likely to be derived from the industrial sector, based on the Growth and Transformation Plan II (GTP II), the government promises to create favorable conditions for the industrial sector to play a key role in the economy for the sake of ensuring faster and sustainable development of the sector. To this end, particular emphasis is given to the expansion and development of micro and small-scale enterprises as well as further development of medium and large-scale industries (MoFED, 2010).

The garment is a fashion product that is influenced by social trends and the global economic environment. In today's world, garment industries make significant contributions to many national economies, especially in the developing world. Many countries are exploiting this industry for reasons of economic growth (Alem, 2009). One

of the main targets of Ethiopia government is attracting foreign direct investment (FDI) into joint public and private industrial parks to transfer knowledge, job creation, and generating foreign hard currency through trade as well as integration with local raw material supplier manufacturing. However, despite the influx of FDI, certain areas of the value chain remain underdeveloped, particularly in the production of accessories, materials, and textiles (ITC, 2015).

Supply-side constraints, including skills gaps, a lack of modern IT systems, and difficulty adhering to quality in international markets, are problematic at various levels of the garment sector supply chain. Backward linkages in textile and apparel production in Ethiopia remain weak and this is the case across the manufacturing sector. This is both created by constraints related to the availability and quality of local suppliers and the global production and sourcing networks operated by transnational firms, which are less conducive to the development of backward linkages (Whitfield and Staritz, 2017).

The major factor affecting supply chain integration contributing for the poor performance of the company can identify such mismanagement of the flows of product/material, information and financial flows of a supply chain and lack of integration which is on the supply side (lack of effective communication with suppliers about production capacity, production schedule, and product development; sharing information about the inventory status and lack of long-term relationships; internal side (lack of internal communication about the plan, collaboration on the company development program, human resource problems, etc, and market side (lack of communication with customers about production plan and inventory status, lack of quick ordering system and lack of information sharing (saber and Irfan,2014).

Hence this study aimed to investigate the effect of supply chain integration on export performance of the Ethiopian garment industry in the case of BLIP-I.

1.2 Statement of the problem

Supply chain integration plays an important role in industry goals. Vaart and Donk, (2008) proposed that SCI is considered one of the major factors in improving performance. Meng, (2012) worked on SCI & performance measurement; a deeper understanding & continuous improvement in internal & external business processes is mandatory for achieving business objectives as well as reaching the desired stage of customer satisfaction. In contrast to this lack of supply chain integration creates on company operations such as inventory cost, low product quality, ineffective communication, and finally customer dissatisfaction (Flynn et al.,2010). According to Sammuell and Kashif, (2013) study which focused on levels and barriers to Supply Chain Integration found that manufacturing and its distributors did not have strong supply chain integration due to fewer level of supply chain integration and challenges were emanated from Lack of information Technology, Lack of information sharing, Lack of trust, Demand distortion-bullwhip, System incompatibility and Lack of knowledge.

Ethiopia is one of a developing country which constructs and expand the industrial park in different sectors. From this industry, the garment is one that shows the significance of capital goods and finance. BLIP-I is one of the industries that practicing supply chains to achieve their customer ineffectively and efficient. according to Gianecchini *et.al*, (2018) industrial zones faced with number challenges such as underdeveloped transport facilities, infrastructure, and utilities, and infant private sectors.

According to data obtained from ETDI, sales of garment and textile was USD 98million in 2015/16 at end of GTP - I projected to GTP- II target increased to USD one billion in the fiscal year 2019/2020. Despite the supply chain integration perspective in the Industrial park garment manufacturing through different stakeholder pre-assessment interviews, it was confronting the supply chain which affects the overall performance at firms. However, most of the industrial park program has not met all of its original targets at the country level 2018/2019 has performed 103million USD. As a report received

from Ethiopia investment commission showed that the cumulative target export was USD 196,968,216 and actual export USD 140,673,728 cumulative against the planned 71%.

From 2015/2016 to 2018/19, It was planned to earn USD 130,40, 52, and 60.9 million respectively, However, the actual export performances were USD 16.9,23.8, 29.4, and 39.4 million. This shows that even if the export achieved of the sector increases from year to year, comparing to the targets set in GTP-II of the garment sector was not very encouraging. Therefore, the study will be focused on how those challenges look like or manifested in supply chain integration on Bole lemi garment industries of export performance.

This study has identified the problem of supply chain integration connection with export performance. Therefore, this study aimed to investigate supply chain integration for the Ethiopian garment industry on export performance in the case of bole BLIP-I.

1.3 Research questions

The following research question was triggered to be answered.

1. What is the effect of supply chain integration for the garment industry on export performance of Bole Lemi industrial park?

Sub - question

1. What is the influence of supplier integration for the garment industry on export performance of garment industry BLIP-I?
2. How does the integration of customers influence the export performance of the garment industry in the case of BLIP-I?
3. How does internal integration affect the export performance of the garment industry in the case of BLIP-I?

1.4 Objectives of the study

1.4.1 General Objective

The General objective of this study is to examine the effect supply chain integration for the export performance of Ethiopian Garment industry in the case of Bole Lemi industrial park I

1.4.2 Specific Objectives

The specific objectives of the study are:

- 1 To identify the level effect of effectsupplier integration on export performance of the garment industry in the case BLIP-I
- 2 To measure the extent of the effect of customer integration on export performance of the garment industry in case BLIP-I
- 3 To find the extent of the influence of internal integration on export performance of the garment industry in case of BLIP-I

1.5 Significant of the study

The of supply chain integration and its effect on performance is important due to the effect on companies' integration linkage of existence, common benefit, and development. Therefore, studying the effectof supply chain integration on export performance is a crucial topic for bole lemi industrial parks. This study will help the government to enact the appropriate trade service facilitation domestic and foreign manufacturing highly join the global supply chain with target industrial park only for export-oriented and will increase the market efficiencies which will have an impact business.

It assesses the major internal, customer, and supplier integration effect and was proposed the possible solution that will input for different stakeholders. The study will be used the student's reference and information on the study matter.

1.6 The Scope of the study

The researcher was distributed the six SCI ,(customer integration , internal integration , supplier integration , information integration , measurement integration and relationship integration) the preview data collection, the BLIP experts rank the three major bottleneck to performance were customer integration, supplier integration and internal integration .This study was the focused effect of supply chain integration with elements customer integration, supplier integration and internal integration on the export performance that considered only financial performance, and also researcher was considered in the angle of the company's side point of view. Geographically, this study was limited to only bole lemi industrial park with the methodology of quantitative approach and descriptive and explanatory research design.

1.7 limitation of the study

The study is to measure the effect of supply chain integration from the perspective of garment industry employees. Financial, transportation, top management unwillingness to support, and time constraint have limited the researcher to investigate the study. This study can be considered as a limitation that could be more complete if the perspective supplier(exporter) and customer (importer) were fused. COVID-19 was a major challenge that limited the study for further full to discuss with the respondent for any ambiguity on research.

1.8 Definition of concepts and terms

Supply chain integration.

The processes of cooperative, collaborative, and building and maintaining the supply chain process upward and downward activities to gain efficient and effective product, service, and information. Kaliani et al.,(2016) mentioned supply chain integration is the degree of which the firm's activities within the upward and downward integration and supply chain partners are integrated. The current study was measured the supply chain integration by the following.

Customer integration: the processes of building the relationship and maintaining the collaboration with the customer that even make a strong bridge with partners for common purposes. Integration involves the strategic competencies, and activities firms apply in providing optimum services with customers through relationship building (Stank *et al.*, 2001).

Supplier integration: Quesada *et al.*, (2008) to the processes and steps involved in sharing information and joint planning with key suppliers to achieve stated objectives and goals of the focal firm with benefits of cost reduction, customer satisfaction, and improved lead times. The processes of mutual benefits and supplier and industry that facilitate the to share a piece of information, and material.

Internal Integration refers to the linkage of business processes of departments in an organization into a strategic fit for improved performance (Fawcett and Magnan, 2002). How different departments through cooperative and collaborative to attain the ultimate goal.

Export performance: Export Performance,” or the outcome of a firm’s export activity, was assessed in this investigation by three financial (or economic) measures such as revenues, profit margins, return on Investment. This is the measurement of a Bole Lemi industrial park garment Industry in financial performance.

The financial performance is the process of measuring the firm's profitability that up to the measure return growth and reinvestment.

1.9 Organization of the Study

This study is to investigate and determine the effect of supply chain integration of the export performance of the Bole lemi garment industry in Ethiopia and recommends the research future directions. The projected study contains five chapters in which the researcher declared the entries processes of the studies.

Chapter one contains the introduction part dealing with the background of the study statement of the problem, the research problem, objectives of the study, scope, and significance of the study. The second chapter: a literature review. This part of the study discussed the literature (theoretical and empirical) review about the subject matter relevant to the proposed study.

In chapter three the Research Methodology of the Study. In this chapter, the researcher mentioned the research approach and design, descriptive of area profile, target population of the study, sampling size, sample design, sources of the data type, variable of the study reliability and validity test, and ethical consideration.

In chapter four presents results and discussion, results in the Interpretation of the analysis, and discussion of the finding.

Chapter Five: Summary, Conclusions, and Recommendations. It is a chapter that contains three sections which include the major summary of finding, a conclusion as well as future research and recommendation.

CHAPTER TWO

LITERATURE REVIEW

This chapter review theory and empirical studies that measure supply chain integration and performance. The purpose of the chapter is to have an in-depth assessment of related studies with a view of trying to establish potential research gaps. The review of the empirical literature enables the researcher to formulate a conceptual framework in line with the study objectives. The following section is to deal with the concepts of supply chain integration and export performance, as well as, the relationship between them.

2.1 Theoretical Literature Review

2.1.1 Supply Chain.

A supply chain is considered as a system that includes a group of activities, processes, and sub-processes such as procurement, operations, transportation, warehousing. It aims to provide the products and services either to consumers or customers starting with purchasing materials and equipment then transforming it to semi-finished products that will be reprocessed again to produce the final products. The concept of the supply chain has been evolved.

Chopra and Meindal (2007) argued that the supply chain contains all members involved the satisfying the customer demand, it includes all functions involved in receiving and fulfilling a customer's requests. These functions include manufacturers and suppliers, warehouses, transporters, retailers, and final customers.

Wheelen and Hunger (2012) stated that "Supply chain management is the forming of networks for sourcing raw materials, manufacturing products or creating services, storing and distributing the goods, and delivering them to customers and consumers". Then they added that the concept of the supply chain is used first to reduce costs, and then to improve customer service and get new products to market faster than others. A supply chain is a network that includes vendors of raw materials, plants that transform those materials into useful products, and distribution centers to get those products to customers.

Known also as the value chain, it is the sequence, which involves producing and delivering a product or service. SCM starting in the late 1980s and came into expanded use in the 1990's. previously that time, trades used terms logistic and operations management interchangeably.

2.1.2 Supply chain management

Definition: Handfield & Nichols, (1999) defined that Supply chain management (SCM) is the integration in the flow of raw materials information system that contains the sourcing and procurement production scheduling, order receiving, and delivery time, and also hold the customer service satisfaction incorporated.

Today many organizations are forced to increase their global market share to survive and sustain growth objectives. At the same time, these same organizations must defend their domestic market share from international competitors. The challenge is how to expand the global logistics and distribution network, to ship products to customers who demand them in a dynamic and rapidly changing set of channels. Strategic positioning of inventories is essential so that the products are available when the customer wants them (Handfield, *et al.* 2002).

According to the Global Supply Chain Forum, SCM is 'the integration of key business chain from the consumer through producer suppliers that provide products, services, and information that add value for the customer and other stakeholders' (Chan *et al.*, 2003). Supply chain management is a proactive relationship between a buyer and supplier and the integration is across the whole SC, not just first-tier suppliers (Cox, 2004). Most SCM-related problems stem from either uncertainties or an inability to coordinate several activities and partners (Turban, *et al.*, 2004).

The American professional association defined Supply chain management, "SCM containing the planning and management of all actions involved in sourcing and procurement, conversion, and all logistics management activities. According to the council of supply chain management professionals (CSCMP), argued that supply chain

integration is concentrated, supply chain management integrates supply and demand management in and outside companies. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third-party service providers, and customers.

According to (Mentzer *et al.*, 2001) the definition of a supply chain is more consolidated as a definition of supply chain management. In this paper, the researcher tried to make a common definition of a supply chain, based on a comprehensive research study conducted by several co-authors. They came up with the following concept, hence, a customer can receive information on products, services, finances from more than two organizations or individuals who are directly involved in the upstream and downstream sources.

Supply chain management is the integration and management of supply chain organizations and activities through cooperative organizational relationships, effective business processes, and a high level of information sharing to create high performing value systems that provide member organizations sustainable competitive advantage (Handfield, 2002)

2.1.3 Supply Chain Integration

The term “Integration” is the incorporated control of many uninterrupted or analogous industrial processes earlier carried on autonomously (Webster’s1966). According to Chen *et al.*, (2009) defined that it is the management of various sets of activities that aims at seamlessly linking relevant business processes within and across firms, and eliminating duplicate or unnecessary parts of the processes to build a better functioning supply chain.

Supply chain integration is an element of supply chain management. Scholars have viewed supply chain management as all the activities involved from upstream suppliers to downstream distributors and retailers to fulfill customer requests (Chopra *et al.*, 2007). The supply chain has always been about companies working together to achieve a purpose (Westbrook, 2002), these relationships have always involved some degree of

collaboration to solve bottlenecks in the supply chain network and overcome bumps in demand and supply. Supply chain integration is a set of activities concerned with the coordination of product flows between supply chain partners, including transactions, materials movements, procedures, and optimization processes, taking into consideration the underlying information flows Froehlich and Westbrook (2001); Sahin and Robinson (2002).

Based on the existing literature SCI construct, including the manufacturer ranging internal integration from it both customer and supplier, and building upon its breaches to develop a significant.

Basic Enterprise Resource Planning (ERP) is one of the various software systems that used to make the integration between the three stages. Monk and Wagner (2013) defined ERP as "a system that can help a company integrate its operations by serving as a company-wide computing environment that includes delivering consistent data across all business functions". Evolution and development in information technology allowed ERP to evolve and be flexible to match the between all supply chain parties. ERP links different applications into a single application that integrates the data and business processes such as integrating the following operational functions: marketing and sales, accounting, human resources, purchasing, and logistics. The rising level of competition that exists among firms globally has brought a shift to do more than just strategy formulation and implementation but to go beyond that and seek partnerships with other firms which would lead to competitive advantage in the market place (Huang *et al.*, 2014)

Many studies propose different supply chain definitions. Committee on Supply Chain Integration, 2000 defined it as "An association of customers and suppliers who, using management techniques, work together to optimize their collective performance in the creation, distribution, and support of an end product. It may be helpful to think of the participants as the divisions of a large, vertically integrated corporation, although the independent companies in the chain are bound together only by trust, shared objectives, and contracts entered into voluntarily"

Flynn *et al.*, (2010) described that supply chain integration (SCI), is the degree to which a manufacturer purposefully work together with supply chain partners and collaboratively control up and down the processes, to achieve effective and efficient flows of products and services, information, money, and decisions, to deliver the maximum productivity to the customer.

SCI contains strategic creativities that contain the supply chain that bonds such as communications, activities, tasks, processes, and locations for constant communication among customers, suppliers, producers, and other members of the supply chain that underlines creating an efficient and bonds system. There are three basic SCI, which include internal integration, customer integration, and supplier integration (lai *et al.*, 2012)). Pagell, (2004) stated that the integration of the supply chain methods of partnership in which firms effort together supportively to reach mutual benefits.

Krajewski, *et. al* (2013) defined supply chain integration as the effective coordination of supply chain processes through the seamless flow of information up and down the supply chain". Supply chain integration can be defined as the process through which all parties involved with the supply chain; suppliers, organizations, and customers are working independently and dependently in a harmonious way to achieve a united objective such as providing maximum customer value, lowering overall cost.

In this study, SCI well-defined as the way of collaboration within supply chain partners that manage within or outside border/firms' activities flow of products, services, and information to deliver maximum products to the client in right place at a suitable price and high speed. Therefore, Supply chain integration was measured by internal, supplier, and customer integration.

1. Internal integration.

Firms can be to integrate capabilities through data, system, and process internally before they engage in meaningful external integration. According to (Flynn, *et al*, 2010) stated that internal integration, as an efficient way of creating inter-department amalgamation collaboration, coordination, communication, and cooperation that takes functional areas

together to make an interconnected firm. As Sweeny *et.al*, (2011), Most of the manufacturing businesses can be identified in terms of the five functions: buy, make, store, move, and sell. This is what is denoted as the internal supply chain. Zhao *et al.*, (2011) collected that Internal integration was the type of collaboration among functional department within a firm and is measured by the degree to which a firm structure organizational strategies, practices, procedures, and behaviors into collaborative, synchronized, and manageable processes structure its to fulfill its customers' requirements. In this study, internal integration defined as the process of maintaining cross-functional cooperation and collaboration within the firm that intends to achieve firms' strategic goals. It was measured by a group of items that identified the nature of relationship, coordination, and collaboration among organizational departments.

2. Supplier integration.

It has been described as a “process of acquiring and sharing operational, technical, and financial information and related knowledge,” (Narasimhan *et al.*, 2010). As Zhao *et al.*, (2010) stated that Supplier integration facilitates understanding and anticipation of the service provider 's needs to better cope up with changing requirements and the mutual exchange of information helps service providers to enhance operational performance. Yeung *et al.* (2009) shown that supplier integration structures the endeavors of a dyad, thus implicating that all activities in the dyad can be subject to supplier integration. On another hand, Danese (2013) found that the objective of supplier integration is smoothing and optimizing the procurement and production processes of the customer firm, thus implicating that supplier integration takes place in activities normally carried out by the customer. From the above literature, it can be summarized that integration is the exchange of information, material, and knowledge. The supplier engages in and supports the operations and activities normally carried out by the buyer.

In the present study, supplier integration is described as the process of collaboration between suppliers and firms that enables the sharing of information, knowledge, skill, resources, and experiences.

3. Customer integration

Customer integration is the component of customer relationship management which puts technology in place that allows customers to process their transactions and to have direct contact with the organization. According to (Swink et al.,2007) strategic integration with customers highlights frequent customer interactions, during which firms discover customer preference and improve demand forecasts. Managing the relationship with the customer is considered a vital element in the supply chain. firm's linkage ability is performed with the customer within the supply chain effectively applied the customer integrations (Udin, *et al*, 2008).

Flynn, et. al. (2010), argued that CI participates main abilities derived from coordination with influential customers.

In the present study, CI is defined as the way of consistently sharing the knowledge, experiences, products, services, and receiving complaints from clients.

2.1.4 Export performance

The measures firms objectives / both economics and strategic for exporting goods into the global market are achieved through the planning and execution of export strategy ” (Cavusgil and Zou, 1994).

According to larges, *et al*,. (2005) export is measured to which the objectives of the firms such as strategic and financial for exporting products to a market are attained.

According to (Dro, 2016) argued that to find opportunities, increase profit, and diversify business risks, exporting plays a major role in a company's growth and survival. According to (Azar and Ciabuschi,2016), conducted the study on “Organizational Innovation, Technological Innovation, and Export Performance: The Effects of Innovation Radicalness and Extensiveness” stated that export performance can be measured using two dimensions, financial performance, and strategic effectiveness.

According to Spanos, (2016) conducted the study on the “Organization and export performance mentioned” mentioned that Export performance may encompass the decision to export, several markets served, the number of products sold, and the value of export

According to Shoham, (1998) argued on export performance defines exporting activity as that part of the firm's operations outside its country of home, which is outside the firm's direct control, which the firm engages in through agents or distributors, also suggests that due to the different interests and goals of the concerned parties within and outside a firm, care should be taken to arrive at a definition of performance that would include the varied perceptions of performance held by the concerned parties.

1. Financial performance

Financial performance is an analysis used to observe which company has implemented the rules of financial implementation properly and correctly (Fahmi, 2014). Financial performance is something that has been achieved by the company's management. it is measured in financial such profit margin, return on investment, and revenues generated. The variables that measure the performance construct are investment return (Narasimhan and Jayaram, 1998), profit percentage on sales and invoicing gross value (Chen, Paulraj and Lado, 2004), invoicing increase, financial liquidity (Narasimhan and Kim, 2002).

2.1.5 Relationship between supply chain integration and export performance

In the literature reviewed, it was mentioned that performance is highly related with SCI. on the other hand, Flynn, et. al. (2010) stated that supplier integration was less influential to performance enhancement than CI, and II. In their study Gimenez, et. al. (2011) found that profits, delivery speed, and transportation cost are the positive and significant effects of performance with integration.

This study was considered supplier integration, internal integration, and customer integration as independent variables, while export performance elements (financial) as the dependent variable.

2.2 Empirical Literature Review

2.2.1 Supply chain integration

Alfalla-Luque, *et al.*, (2012) investigated the former researcher analyze and measure supply chain integration considering three main approaches: (1) external (with supplier and customer) and internal integration, (2) process integration and (3) information/data and physical/materials flow integration.

Even an effective supply chain management would not be able to achieve its objectives and is effective unless it maintained internal and external coordination and collaboration, thereby the importance of supply chain integration has emerged between and among these processes and activities. Besides, the supply chain must be designed in a way that ensures all processes, activities, roles, and stages are aligned to support the supply chain strategy. According to the (van der Vaart and van Donk, 2008) mention that the most dominant in supply chain integrations the approach to improve the various measure of firm performance. (Zhao *et al.*, 2011) emphasized internal integration and concluded that internal integration is the source of both customer and supplier integration through relationship commitment to customer and relationship commitment to the supplier.

SCI helps firms to improve partner-related routines and processes through global and real-time collaboration, and to eventually respond to technological and market changes (Rosenzweig, 2009) According to (Zhang and Huo, 2013) had been focused on dependence and trust and its impact on external integration (supplier and customer). studied the arcs of integration (supplier and customer). The SCI dimensions can be divided into three categories such as CI, II, and SI .. Customer and supplier integrations are generally termed as external integration, which is the extent to which manufacturer forms relationships with its external clients to frame inter-firms strategies, practices, and processes into collaborative, synchronized processes (Stank, *et al.*, 2001b). According to (Bowersox, *et al.*, 1999). mentioned that customer integration relies on the main competitive obtained from the collaboration with customers whereas, supplier integration sourced main competencies related to collaboration to an influential supplier.

On a study entitled “The impact of supply chain integration on performance: a contingency and configuration approach”, Flynn, et. al. (2010) defined internal integration as "the extent to which a manufacturer frames its strategies, practices, and processes into coordinated, collaborative processes to fulfill its customers' demands and effectively interrelate with suppliers.

(Zhao *et al.*, 2011) said that “the internal integration stresses organizational structure, procedures, and practices, so it must be collaborative and synchronized to fulfill customer requirements.

All the above all Supply chain management and are focused can be classified into three macro processes (stages) to a better understanding of supply chain integration Chopra and Meindl (2007): Customer relationship management, Internal supply chain management, and Supplier relationship management. At the start, the organizations were focusing on what they were able to do to manage the business and achieve their goals which were represented by the profitability and customer satisfaction, so the main focus was on managing internal processes between the departments which was effective at that time.

A. Internal Integration

Germain and Iyer, (2006) found that Internal integration underlines the coordination between internal functions and firm-wide standards and norms building the proper supply chain strategy depends heavily on the existence of clear and shared goals, which originally derived from the adoption of all departments of the organizational mission, vision, and objectives.

According to (Kumar *et al.*, 2017b) conducted the study on “ The Impact of Supply Chain Integration on Performance “clarified that Internal integration is as the strategically aligned and coordinated internal processes and functions to achieve maximum performance of an organization and it advances the organization’s performance through decreasing expenses and restricting departmental capacity which wouldn’t maximize the overall goals within the organization. Internal integration can improve customer

satisfaction in many aspects. First, with internal integration, customer requirements are well understood by the whole company via information transfer from marketing/sales departments to other departments. Furthermore, integrated customer order fulfillment processes, in which all activities, functions, and departments involved in fulfilling the order are integrated, can shorten production time, reduce development costs, and increase the speed to market, which in turn improves customer satisfaction.

(Follett, 1993) stated that Internal integration is described as the strategic system of cross functioning and a joint responsibility across various functions where collaboration will be made along with product design, sales, procurement, and distribution functions that will be undertaken to meet customer requirements at a lower possible cost.

Milgrom and Roberts, (1995) argued that internal integration Characteristics within the firm recognizes that different departments and functional areas should synchronize their processes. Because internal integration breaks down functional challenges and causes cooperation to meet the requirements of ultimate's customers, rather than operating within the functional silos associated with traditional departmentalization and specialization, it is expected to be related to performance. Even though the manufacturers may continue a functional organization structure, clients demand flow through functions and activities. During deliance of an order from customers, they don't bother, which departments caused the problem; they just want to identify their demands are met. This informs us of the need for an integrated customer order specification fulfillment, where all necessary actions and functions work cooperatively.

Selecting the appropriate performance measures is challenging, due to the inherent complexity and interdependence of supply chains. While (Chen and Paulraj, 2004) argued that financial performance should be the main measure of SC performance because of the shareholder profit motive, others have described the limitations of relying solely on financial measures of performance. Beamon, (1999) stated that SC performance indicators ought to contain operational indicators, such as customer service and the capability to respond to a dynamic environment.

Internal integration is very helpful in product scheduling attainment. Through cross-functional coordination and working together, production planning and scheduling, customer order management, and demand planning are facilitated to meet the requirement of schedules (Rosenzweig et al.,2003). Information, such as customer orders, inventory level, and purchasing and production schedule information, is communicated effectively among functions, which helps firms to allocate the available resources at suitable schedule costs and also this scholar (Rosenzweig *et al* 2003) has been shown a positive direct relationship between internal and external integration intensity and competitive capabilities.

Koufteros *et al.*, (2005) found that internal integration positively influences product innovation and quality. Also Swink, *et al.*, (2007) found that internal production process technology integration improves manufacturing capabilities in terms of quality, delivery, process, and new product flexibility. Some extant information system research has demonstrated that enterprise resource planning or other integrated software platforms adopters have better operational performance than non-adopters.

According to (Stank *et al*, 2001) conducted a study on the “Supply chain collaboration and logistical service performance” and described internal and customer integration as the most significant differentiators of overall firm performance. Whereas Droge *et al.*, (2004) on their study found that both internal integration and external integration are linked with financial performance. Similarly, (Swink and Song, 2007) found that internal and external integration were linked with financial performance. The researcher argued that internal integration is the one dimension of Supply chain Integration and was positively implicated to export performance. In the current research, internal integration is defined as the process of upholding interdepartmental cooperation and collaboration within the firms that aims to achieve firms’ objectives. It was measured by a group of items that identified the nature of relationship, coordination, and collaboration among the firm's department.

Thus, the researcher proposes:

H1: Internal integration has a positive significant effect on export performance

B. Supplier Integration

According to (Hassan, 2014) stated that suppliers integration and customers integration on new product performance through mediating role of manufacturing flexibility and serviceability" investigates the important role of suppliers integration on manufacturing flexibility, serviceability, customers integration and finally new product performance regarding trust theory among Iran Khodro's employees.

Lotfi *et al.*, (2013) implied supplier integration was the process of obtaining operational, technical, and financial information with the suppliers' producers and suppliers may share information including production plans, demand forecasts, and inventory management. This information sharing results in improving the product and production needs and better exploiting the supplier's and the firm's ability and structure of cost.

Ragatz *et al.*, (2002) found that Suppliers are becoming increasingly important for manufacturers in the global competitive environment as they have a large impact on manufacturing capabilities (such as cost, quality, technology, speed, and responsiveness) of manufacturers. Also, Supplier integration, with high linkage with suppliers as long-term strategic collaborators of manufacturers, can lead to an organization's operational performance (Koufteros *et al.*, 2005).

Frohlich and Westbrook (2001) found that a company with a large extent of arc integration obtained the largest level of market share and profitability. Whereas Rosenzweig.*et. al.* (2003) found that the intensity of SCI has a significant effect on financial performance.

Accordingly, the current study was aimed to examine supplier integration as the process of cooperation between supplier and producers that enhances the sharing of data sources, knowledge, goods, skill, and experiences. It was measured by specific items that reflect the nature of the relationship, partnership, and other relevant issues between supplier and

garment industry. Based on the above empirical theories the researcher develops the following hypothesis

H2: supplier integration has a positive significant effect on export performance

C. Customer integration

When manufacturers work together with their customers, their production schedules can be more accurate and it can reduce frequent schedule modifications. Bullwhip effects can be also reduced through effective information sharing and cooperation between manufacturers and Customers.

According (Swink *et al*, 2007)) manufacturers should be more responsive to their customers' needs and enhance the understanding of customer preferences. Close customer integration makes it easier for manufacturers to meet customers' requirements effectively and efficiently. A tight relationship among customers and the manufacturer gives chances for enhancing the truthfulness of the demand information, which decreases the manufacturer's product design and production planning time and inventory uselessness, allowing it to be more responsive to customer demands.

Devaraj, *et al* (2007) identified that customers did not find that customer integration did not have a significant impact on operational performance. On the other hand, Flynn *et al*. (2010) found that customer integration enhances operational performance. Also, Koufteros *et al*. (2005) identified that CI is positively related to quality and innovation performance.

On a financial performance perspective point, customer integration views Droge *et al*.,(2004) found that customer and supply integration can enhance market share and financial performance. Therefore, based the above empirical review the researcher developed the following hypothesis:

H3: Customer integration has a positive significant effecton export performance.

2.2.2 Export Performance

The dependent variable “export performance” is measured in three dimensions: financial, strategic, and goal-achievement (Lages *et al.*, 2005). According to the Zou *et al.*, (1998) title on “The determinants of export performance “and recommended that the three indicators used to measure the export performance are associated with different conceptualizations of the construct and the ways to conceptualize and measure the export performance are based on financial and strategic results obtained with the exportation, and it comes from the satisfaction. Furthermore, the Zou *et al.* (1998) conducted a study on “determinants of export performance “and model called the “EXPERF scale”, is a generic model that incorporates the three widely used performance mentioned (strategic, financial and satisfaction) and can be used to related export performance across different countries.

As (Hu and Tan,(2016) studied on Export spillovers and export performance in China found that analyze and measures into two broad groups, economic/financial (e.g., profitability, sale) and non-economic/non-financial measures). In this study, export sales, export market share growth, foreign markets served, the profitability of exported products, and export objectives were used as export performance indicators because these measures are widely used by researchers and cover the two main measurements of export performance, financial and non-financial measures.

Referring the above review, the supply chain with supply management important to for integration, therefore, the researcher investigated the supply chain integration as an independent variable represented such as internal, customer information and supplier integration whereas export performance which considered as dependent variable represented by financial, market performance and firm-specific goal.

This study will able to consider the export performance as a measure that adopts the and used by the company to achieve customer satisfaction and output measure, therefore, the export performance was measured by the dimension financial, Financial performance is measured in how the firm can use the resource from maximized profit margin on sales, return on investment, growth in return on investment.

2.2.3. Financial performance.

It is a profit margin on sales, return on investment, growth in return. Chen and Paulraj, (2004) mentioned that Financial performance should be the central target of company performance due to the main aim company is to make a profit to the shareholders.

2.2.4 Operationalization of Export Performance

As Sousa, (2004) mentioned that export performance indicator can classify into measures that objective (if its sources are official source) versus subjective (when it is based on personal experience, rather than based on facts) measure Objective data is usually extracted from official sources, like the company's financial statements and reports. Whereas objective assessment gives accurate information, especially when measuring short-term performance, objective data is not easily available, accessible, and easy to interpret, and they do not separate domestic market information from international market data, nor grant information on single ventures.

As (Katsikeas *et al.* 2000) conducted the study on” Firm-Level Export Performance Assessment: Review, Evaluation, and Development” found that it is difficult to decide or generalized across industries and countries, and they are not always willingly given. The export performance Indicators that are based mainly on absolute values such as export intensity, export sales volume, and export market share, among others, are called objective measures. Meanwhile, indicators that measure the perceptual or attitudinal performance such as perceived export success and satisfaction with export sales are considered to be subjective measures of performance.

Subjective data is based on the personal experience of the respondent and can be important when objective information is not accessible, available, or generalized. It is usually used to assess long-term performance, yet, when employed, it must be used the principle of parsimony.

Export Performance,” or the outcome of a firm’s export activity, was assessed in this investigation by three financial (or economic) measures and three non-financial (or subjective) measures of export performance used in past studies.

Verwaal and Donkers (2002) conducted a study on “firm size and export intensity puzzle” found that study three financial measures such as Export Intensity, Export Sale, and Export Growth.

The use of subjective measures has been suggested in cases where managers may be unwilling or unable to provide objective financial data or because of the difficulty in reconciling cross-national or cross-industrial differences in accounting practices, variations in exchange rates, and financial reporting between home and host countries.

2.2.5 Supply chain integration and Export performance

There is a strong relationship between supply chain integration (Internal, customer, and supplier integration) and overall performance. Export performance is the dependent variable in simplified typical is defined as the outcome of a firm’s activities in the export market (Shomah 1996).

The measure export performance is financial measures such as sales, profit, market share, and non -financial measures relating to product market and experience (Cavusgil and zou1994).

According to Boyer, (1999) Financial performance is commonly used as the main major of the firm's output. Many studies have identified the limitations of financial performance measures in supply chain studies (Eccles and Pyburn, 1998).

Many studies have investigated the relationship between SCI and financial performance, and it is generally accepted that the former enhances the latter. According to (Frohlich and Westbrook 2001) determined that manufacturers with the widest degrees of supplier and customer integration achieve the best performance improvements in terms of market share and profitability. Droge *et al.*, (2004) found that financial performance through time-based performance was related to internal and external integration.

Swink, *et al.* (2007) and Flynn, *et al.* (2010) pointed out that external integration emphasizes the importance of cooperation and collaboration with suppliers and customers. Westbrook and Frohlich (2001), Swink, *et al.* (2007), Van der Vaart and Van

Donk, (2008), and Zhao, *et al.* (2011) suggested that supplier integration and customer integration play different roles in performance improvement and capability development.

Swink *et al.*, (2007) found f SCI components had opposing influences on business performance.

The current study considered the supplier, customer, and internal integration as independent variables, while export performance element (financial) as a dependent variable. Furthermore specifically, the present study aimed to analyze the influences of supply chain integration dimensions and to investigate the effect of supply chain integration on export performance of the Ethiopian garment industry in the case of BLIP-I.

2.2.6 Conceptual Framework and hypotheses

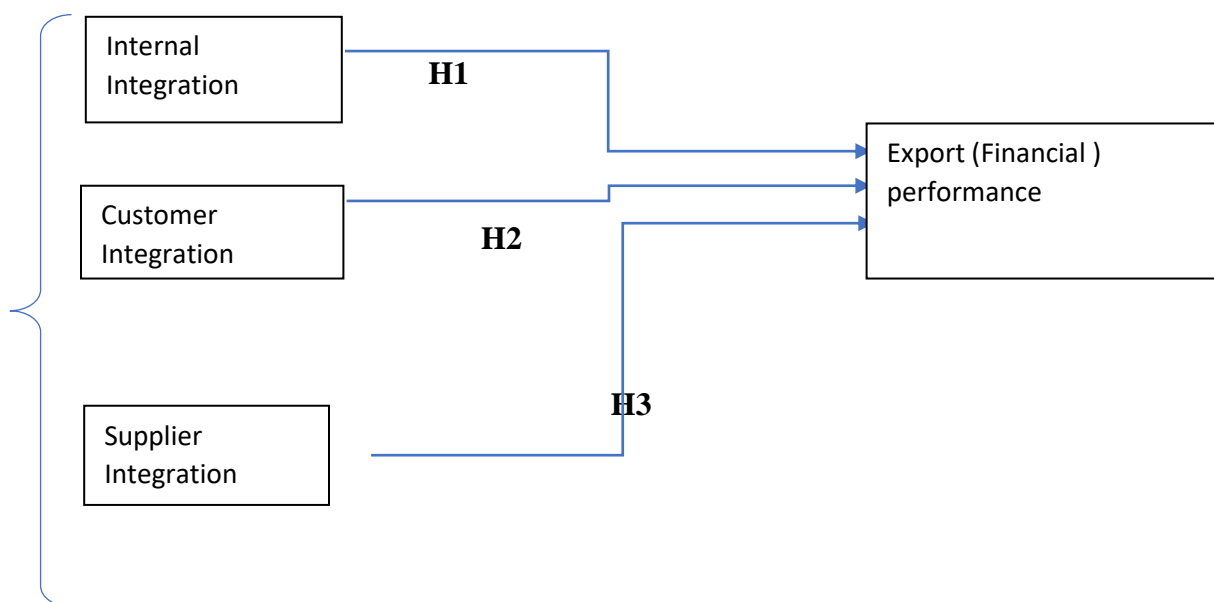
Based on the reviewed literature conceptual framework depicting the relationship between the independent supply chain integration effect being stated and the dependent export performance measures or merits has been developed. The various component of the independent and dependent variables has been illustrated figure below.

Independent Variables

Dependent

Variable

Supply Chain Integration



Source own Model, 2020,

Figure 2.1 conceptual framework of the study

study model has been developed by the researcher based on Independent variable such as (Zhang, M., and Huo, B. (2012), Zhao, L.; Huo, B., Sun, L.; and Zhao, X. (2013)and Xu, D.; Huo, B.; and Sun, L. (2014)), a dependent variable such (Zhao et al.,(2015), Zou et al. (1998), and Lages et al., (2005))

As shown in the above figure 2.1 the hypotheses sought to be tested are formulated as below

H₁: Internal integration has a positive significant effect on export performance.

H₂: Customer integration has a positive significant effect on export performance.

H₃: Supplier integration has a positive significant effect on export performance.

2.2.7 Literature gap

Most of the researches mentioned in the literature review section focused on theoretical and empirical findings to measure the supply chain integration and its effect on the company's performance on overall supply chain integration from the organization, operation, supply chain, and finance. there are few kinds of research done on SCI in an individual company on export performance. However, there is no similar research done on supply chain integration in the Ethiopian garment industry particularly in BLIP-I firms that are involved in the garment industry whose products are made for the international market. Hence, the current study was intended to fill this gap.

CHAPTER THREE

METHODOLOGY OF THE STUDY

This chapter describes the methodology of this research. This chapter contains a research approach, research design, description of area profile, the study population and sample size, target population, sampling techniques, variables of the study, data collection method, validity and reliability, data analysis technique, and ethical consideration. The major purpose of the current study was to examine the main level of supply chain integration on export performance. A descriptive and explanatory type of research approach was used to describe the conditions that exist.

3.1 Research approach

In this study, the researcher used quantitative research approaches. Because it is useful to address specific questions about relatively well-defined phenomena. The research approach employed as data collection using the main questionnaire and was analyzed using statistical tools. A quantitative approach strives for precision by focusing on items that can be counted into predetermined categories and subject to statistical analysis (Taylor, 2013). Based on the measurement of quantity, quantitative studies focus on the size and analysis of causal relationships between variables, not processes.

3.2 Research design

The study was used both (descriptive and Explanatory) research design Research design is the plan and structure of investigation so considered as to obtain answers to research questions. The plan is the overall scheme or program of the research. It includes an outline of what the investigator will do starting from writing hypotheses and their operational effect to the final analysis of data. The research design for this study was fixed to descriptively investigate on the existing problems that significantly affect the export performance of BLIP-I. The was used descriptive study includes a survey and the

major purpose of descriptive research is a description of the state of affairs as it exists at present (Kothari,2004).

Explanatory research emphasizes detail contextual analysis of a limited number of events or conditions and their relationship. Yin, (1993) defined explanatory research method as empirical inquires that investigates a contemporary phenomenon within its real-life context when the boundaries between phenomenon and context are not evident; and in which multiple sources of evidence are used.

3.3 Description of area profile

Since the start of the 2000s, the government of Ethiopia has been aggressively promoting and supporting labor-intensive light manufacturing industries – mainly in the textile and garment sector- to realize the country’s industrialization goal and tackle key socio-economic challenges, such as unemployment. Among others, the key policy interventions that were adopted to transform the country’s economy from low productive agriculture to high productive industry base was through industrial park development to provide efficient and cost-effective services and utilities for globally competitive industries that are attracted to the industrial parks. Since the first private Chinese industrial park, The Eastern Industry Zone, has started operating in 2010, the first Public Industrial Park established in 2014 was BLIP-I. Following BLIP-I, nine states owned and seven privately owned industrial parks are under construction and the same is operational. Besides, there are industrial parks under feasibility study in different parts of the country.

BLIP-I is located in the eastern part of Addis Ababa and possesses 20 sheds (five 11,000-meter square sheds and the rest 5,000-meter square size sheds occupied by eight companies all operating in the garment sector. The major products Produced in BLIP-I are suits, t-shirt, trousers, swimming suits, and shirts. Within the last five years, the industrial park has created 19,000 jobs, and its monthly export on average accounts for \$4 million.

3.4 Unit of analysis

The survey data for this research was collected from BLIP-I garment industry firms' employees working in export/import, manufacturing plant, finance, and logistics departments.

3.5 Target population of the study

Bole industrial park has 11 different firms that are producing and exporting products to international markets. Since the study was on the garment at BLIP-I, the population of the study was selected from employees of the related department such as export/ import, manufacturing plant, finance, and logistics. currently, companies have 172 employees from these departments. Therefore, the population of the study was 172. The researcher selected a sample from those departments by considering all employees in the mentioned departments. The researcher chooses from the BLIP-I by taking all garment industry in the industrial park and surveyed in which represent 72% (8/11*100) of the industrial park contain company. The rest firms which three are producing leather and leather product which is excluded in the present study. Therefore, the target population area sector is garment-producing firms that are located BLIP-I

3.6 Sample size

To determine the required sample size from the target population the researcher used Taro Yamane's (1973), simplified formula to determine the required sample size at 95% confidence level and allowable error = 5%. Since the study target population was 172, the sample size was computed as follows.

$$n = \left(\frac{N}{1+N(e)^2} \right) \dots\dots\dots (1)$$

Where:

- **n** is the sample size,
- **N** is the total number of employees in the manufacturing firms, and
- **e** is the level of precision.

$$n = \frac{(172)/(1+172 (0.05)^2)}{120}$$

3.7 Sampling design

Simple random sampling is a type of probability sampling where every item in the population has an equal chance of inclusion in the sample and each one of the possible samples, in case of a finite universe, has the same probability of being selected (Kothari, 2004).

Sampling is the way of selecting enough number of members of the population of interest, which can be done purposefully or randomly. For this study, the researcher used probability sampling techniques. Probability sampling is a sampling technique where the samples are gathered in a process that gives all the individuals in the population equal chances of being selected (Kothari,2004).

Stratified sampling was employed based on the strata of the selected departments and simple random sampling a random was done using table accordingly. The probability sampling techniques are used proportional stratified random sampling techniques to get information from the BLIP-I garment industry employees due to the researcher can have more precise information inside the sub-population about the variables of the study and to reduce the bias in the population. The number of respondents from each department and each firm was calculated on a proportional basis from a total of 120 respondents as follows.

$$X_i = \frac{(N_i * n)}{N} \dots \dots \dots (2)$$

X_i =number of sample unit from stratum , N_i =total number unit in stratum

n = sample size , N =total number of units in the population.

e.g. Arvind lifestyle apparel mfg. plc sample the size proportion calculated as followed

$$X_i = \frac{(5*120)}{172} =4$$

Table 3.1 Sample size proportion in each department

Bole Lemi IP (Garment industry)	Department	Targeted Employee	sample size proportion
Arvind Lifestyle Apparel Mfg. PLC	Export/Import	5	4
	Manufacturing plant	12	8
	Finance	5	4
	Logistics	6	4
Ashton Apparel Manufacturing PLC	Export/Import	3	2
	Manufacturing plant	10	7
	Finance	3	2
	Logistics	1	1
C & H Garment PLC	Export/Import	1	1
	Manufacturing plant	4	3
Ever top Sportswear.	Finance	2	1
	Logistics	2	1
	Manufacturing plant	10	7
	Finance	4	3
	Logistics	1	1
Jay Jay Mills Garment PLC	Export/Import	7	5
	Manufacturing plant	16	11
	Finance	8	6
	Logistics	6	4
New wide Garment Ethiopia Branch Company	Export/Import	2	1
	Manufacturing plant	8	6
	Finance	4	3
	Logistics	1	1
Shin TS ETP Garment PLC	Export/Import	6	4
	Manufacturing plant	15	9
	Finance	8	6
	Logistics	10	7
Vestis Garment production PLC	Export/Import	2	1
	Manufacturing plant	6	4
	Finance	3	2
	Logistics	1	1

Source: own survey result, 2019

172

120

3.8 Variables of the Study

In quantitative research, variables are defined operationally and are commonly divided into

independent variables such as Internal integration, customer integration, and supplier integration; dependent variable, export performance (financial indicators).

A. Independent variables

The variable that is stable and unaffected by the other variables the researcher is trying to measure. It refers to the condition of an experiment that was systematically manipulated by the investigator. It is the assumed cause. In this study, the independent variable can be categorized as

1. **Internal integration:** is measured through data integration among internal functions, regular meetings between departments among internal core functional groups, and synchronized inventory management (Narasimhan& Kim, 2002).
2. **customer integration:** is measured through follow-up with the customer for feedback, level of computerization for customer orders, frequency of periodic contact with the customer, and level of linkage with the customer through information network (Narasimhan& Kim, 2002). The process of establishing and continuing a coherent connection and company with the clients.
3. **Supplier integration:** is measured through the level of information exchange with suppliers through the internet, the establishment of a rapid ordering system with the main supplier, the extent of the strategic partnership with the main supplier, and stable procurement through the network with the major supplier (Narasimhan& Kim, 2002). The ways of teamwork between suppliers and companies that smoothens the sharing of information, knowledge, materials, and experiences.

B. **Dependent variable:**

The variable that depends on other factors that are measured. These variables are expected to change as a result of an investigational manipulation of the independent variable or variables. It is the supposed effect.

Export performance: In this study dependent variable can be the opinion of operationalization through the financial indicators by aggregating the following particular altogether: profit margin on sales, return on investment, and growth in return.

3.9 Data source and type

The first step of data collection is gathering the task understanding, gathered information investigated given task with the support of the theory. The outcome of a task is to build up a clear representation of observable facts (Weller and Romney, 1988).

There are two types of data which is collected inside any type of study named as primary and secondary. Secondary data collected by other researchers and used in a study to save time, money, raise the quality of available data, and give more time to compare and analyze the collected data (Bell and Bryman, 2007).

The secondary data was on existing literature, that was collected from the existence of different sources such as journal articles, books, working papers, reports, newspapers, and worldwide Web and Ethiopian garments and textile development institutes. Moreover, secondary data is helpful to the researcher and considering how to answer the research question to meet the objectives of the study (Saunders *et al.*, 2009).

The primary collection method includes such as observation, surveys, interviews, questionnaires, computer dialogue, email, and personal interviews (Kotler and Armstrong., 2001). Data provide first-hand information to the researcher to give basic information about the object. Therefore, in this study, the researcher used the questionnaire to collect the primary data from the export/import, logistics, finance, and

manufacturing plant. Because the respondents in these departments have knowledge, skill, and practical job experience that are very related to the subject of study.

3.10 Data collection method

The researcher used questionnaires to collect data from employees working in export/import, logistics, finance, and manufacturing plant. In BLIP-I. The questionnaire consisted of closed-ended questions that helped the respondents to answer easily.

The surveys were planned in such a way to give overall view supply chain integration and export performance that is specific to supplier integration, internal integration, and customer integration BLIP-I. The Supply chain integration indicator was measured using the Likert scale (i.e., strongly agree, agree, neutral, disagree, and strongly disagree).

3.11 Data analysis method

In this study, the researcher described the supply chain integration as an independent variable and the export performance-dependent variable. The hypothesis was tested to answer the research question that is the effect of, customer integration, internal integration, and supplier integration has a significant effect on export performance by using SPSS version 23 (statistical package for social science).

Accordingly, the preparation of all the relevant data was carefully done; the data were analyzed using descriptive statistics (such standard deviation, and mean) for quantitative data, and finally, the interpretation of the analysis result has to be done to reach valid conclusions.

Spearman's rho(rs) test which is not normally distributed and non -continuous variables and correlation should be calculated from the rank data.

Spearman coefficient of correlation analysis has been carried out on the data obtained from the respondents to examine the relationship between the independent and dependent variables, and multiple regressions are used to examine the four combined effect of the three independent variable parts have on the export performance.

Multiple regression involves the specification of the form of the relationships to find a mathematical expression that enables us to predict the score of one variable (called dependent variable) from knowing the score of the other variables (called independent variables). Multiple regression analysis is a statistical analysis technique used to establish the linear relationship between a single dependent variable and two or more independent variables and is used to test the proposed hypotheses (Cooper and Schindler, 2001). It provides an index of the degree of relationship (1 = perfect relationship, 0 = no relationship) between the criterion variable(s), on the one hand, and the weighted combination of the predictor variables as specified by the regression equation, on the other hand, that is, R (Hair *et al.*, 2006).

Regression analysis predicts changes in a dependent variable by simultaneously accounting for the impact of various independent variables via their weighted combination. Interpreting the results of regression analysis may be more easily evaluated by examining the R -squared (R^2) statistic, which indicates the proportion of variance in the dependent variable that is shared by the weighted combination of independent variables (Hair *et al.*, 2006).

The regression analysis used the F-statistic to measure the predictors (Customer, internal, and supplier integration.) effect on the dependent variables (export performance). Each F statistic is a ratio of mean squares. The numerator is the mean square for the term. The denominator is chosen such that the expected value of the numerator means square differs from the expected value of the denominator mean square only by the effect of interest. The effect for a random term is represented by the variance component of the term.

The effect for a fixed term is represented by the sum of squares of the model components associated with that term divided by its degrees of freedom. Therefore, a high F- statistic indicates a more significant effect (Hirschey, 1995:181).

Finally, the researcher aimed to find the following point in the data analysis:

- The demographic background information of the respondents was examined using descriptive statistics in the form of frequency and percentage.

- Central tendency measures such as mean and standard deviation were applied to analyze the effect of supply chain integration on export performance;
- correlation analysis was employed to assesses the relationship between the independent and dependent variables and
- Finally, regression analysis was used to analyze the effect of independent variables (supply chain integration) on the dependent variables (export performance).

3.11 Reliability and Validity test

To eliminate the test validity of the questionnaire, the researcher adopted standardized questionnaires. Reliability is the degree to which results of a study are consistent over time and there is an accurate representation of the total population under study (Golafshani,2003). According to Sekaran (2005) found the range study 0.70 and above Cronbach Alpha supported and produce a reliable scale and whereas any scale with Cronbach Alpha less 0.7 should be eliminated from standard. For the reliability test, the researcher used the 36 primary questionnaires that were calculated using SPSS and achieved Cronbach's alpha coefficient of 0.909. Therefore, based on the above reliability coefficient result, the study of the questionnaires achieved reliability.

In this study, the researcher gave effort in the development of questionnaires as well as collecting the raw data from BLIP-I.

Table 3.2 Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No of Items
0.909	0.909	36

Source: Own survey results in, 2020

Table 3.3 Reliability Test: Cronbach's alpha of independent and dependent

Variables	No. of items	Cronbach's alpha
Supplier integration	10	0.816
Customer integration	10	0.778
Internal integration	10	0.837
Export performance	6	0.839

Source: Own survey result, 2020

The alpha value of every factor was greater than 0.70, indicating that it was a very good statistical result (Hair et al. 1998). As shown above in table (3.4) that Cronbach's Alpha coefficient value for independent variables were ranging from 0.778 and 0.837 and while the dependent variable was only 0.839 which means that Cronbach's Alpha coefficient value is accepted and highly reliable.

3.12 Ethical consideration

In this study, the researcher was collected the appropriate and follow ethical letter from Addis Ababa University school of commerce. The aim is only to collect information from the respondent and other identities will not be recorded. The respondents were informed and asked about their willingness and consent to cooperate while the data collection process carrying out besides, the information did not provide for another purpose via instrument did not accept rather than the educational purpose which means by explaining the purpose of the study, confidential to ensure that any information was not registered by the name of the respondent.

CHAPTER FOUR

RESULTS AND DISCUSSIONs

This chapter discusses the results of the study based on the data collected from primary sources, analysis the data to answers the research question with the objective of the study, and finding the from the data analysis presented preceding the chapter of the report. The aim of this study effectof supply chain integration on export performance of the Ethiopian industrial park Bole Lemi garment industry.

The questionnaire was mainly distributed to those who purposively to those who the researcher considered as them as resourceful and knowledge about the bottleneck of (supply chai integration) garments industries on export performance. The primarily adopted questionnaire well-structure is collected from four departments, i.e. production and techniques (Manufacturing plant), export/ import (merchandise), financial and logistic) which along with supply chain integration in the garment industry in BLIP-I.

The questionnaires were developed in five Likert -scaled items with a value ranging from 5 “strongly agree” to 1” strongly Disagree” Four departments120 questionnaires were distributed; of which 109 were returned. Therefore, the response rate was 90.8%. According to Fowler (2002), a 75% response rate is considered adequate therefore the response rate collected was accepted. The collected primary data were analyzed using descriptive statistics using Statistical Packages for the Social Sciences (SPSS). Mean, standard deviation, percentage, and frequency have been used to analyze the raw data .in order to make reliability the researcher to analyze scale Cronbach’s alpha and also the researcher has made the regression and correlation analysis.

4.1 General Demographics profile of the respondent's

The study required to begin the general information of the respondents participates in the study with their regards to Gender, age level of education, current working Department, and years of experience.

Gender: From the total of the 109 respondents of the study, male respondents are 67 (61.5%) while the female respondents are account for 42 (38.5%) of the study.

The table 4.1 Demographics profiles

Dimension		Frequency	Percent
Gender	Male	67	61.5
	Female	42	38.5
	Total	109	100
Age	24—35 Between	78	71.6
	36—45 Between	26	23.9
	46—55 Between	3	2.8
	≥56	2	1.8
	Total	109	100
Level of education	Diploma	6	5.5
	Degree	68	62.4
	Master and above	35	32.1
	Total	109	100
Department	Manufacturing Plant	36	33.0
	Export/import	34	31.2
	Financial	25	22.9
	Logistics	14	12.8
	Total	109	100.0
Year of experiences	Below 2 years	14	12.8
	Between2---4years	39	35.8
	≥ 5 years	56	51.4
	Total	109	100.0

Source: own survey result, 2020

Age: It is clear that the most respondent ages are between 24 and 35 years old (71.6%), while the least respondent ages are between 46 and 55 years old and 56years old are (2.8%) and above (1.8%) respectively. This indicates that BLIP-I is youth in nature and understand the aim of study to deliver the questionnaire as much as possible.

Level of Education: It seems that most respondents hold a degree with 68 (62.4%) respondents, while the least level of education is diploma with 6 respondents (5.5%). This indicates that majority respondent has holder of degree and master, and easily to understand the questionnaire to respond and aim of the study.

Position: The respondents were the different position of the titles. They were provided with options to choose from; the findings in the table above show that Manufacturing Plant, Export/import and Financial manager, and Logistics a total 109 of the respondents. This confirms that the respondents of this study were knowledgeable professionals about supply chain integration and export performance cases.

Years of experience: It's clear that most respondent years of experience are above five years with 56 respondents (51.4%), while the least years of experience are below 2 years s with 14 respondents (12.8%). they would indicate that most of the respondents have more than five years' experience. Therefore, the respondent has the experience to identify the effect of exists between the Supply chain integration and export performance in the bole lemi garment industries.

4.2 Descriptive analysis of the study variable

The variables of the studies are the independent variables and dependent variables' respondents are measured the 30 items divided under three supply chain dimensions (supplier, Internal, and customer integration). The analysis result is presented in individual supply chain integration variables and a summary of supply chain integration variables using the 30 items is elaborated with its implication.

The dimension of this study measured in Likert scale point from 5 = Strongly Agree, 4 = Agree, 3= Neutral, 2 = Disagree, and 1 = Strongly Disagree. The analysis was made

using descriptive statistics like, mean and standard deviation, described in both independent and dependent variable points. The mean is a measure of central tendency that shows the overall picture of data indicated group data that cluster around a central value. The value (average) of the respondent in each dimension has positive or negative responses, respondent. Hence, the aggregate of each item organized with their respective dimension overall aggregated mean is calculated (transforming in SPSS to accomplish the total supply chain integration of the Bole lemi garment industry.

According to the Alston and miller (2002) and Mohammed *et.al* (2014) studied the Likert scale analysis mean value result that facilitates the discussion as follows.

Table 4.2 keys Likert scale mean result

Likert Scale	Likert Description	Value Allocation categories
1	Not at all	---1.49
2	Slightly Agree	1.5---2.49
3	Moderately agree	2.5---3.49
4	Mostly Agree	3.5---4.49
5	Completely Agree	4.5 ---5.00

Source: Alston and Miller (2002) and Mohammed *et.al* (2014)

4.2.1 Independent Variables

What is the effect of supply chain integration for garment industry on export performance of BLIP? to answer this question the researcher used Mean and Standard deviation. The objective of this study is to investigate supply chain integration for the garment industry on export performance of BLIP-I?

Table 4.3 mean and standard deviation of independent variables

Item	N	Mean	Std. Deviation
Supplier integration	109	3.89	0.47
Customer integration	109	3.57	0.38
Internal integration	109	3.70	0.51
Grand mean		3.72	

Source own survey 2020, N =109

Table 4.3 shows the mean of independent variables is between 3.9 and 3.57 which indicates that there is an agreement among BLIP -I firms on highly implementation of the three supply chain integration dimensions. the above outcomes show that there is an awareness of BLIP. Garment industry a manager about critical of supply chain integration and as well-organized since all the supply chain department are available at each firm and have concepts about supply chain integration. The overall summary of independent variables lies between 3.5---4.49 and value as categories can be considered as mostly agree. Based on the mean of independent variables, the respondent believed that supplier integration is the most important followed by internal integration, finally with the integration of customers. This implies that the ultimate's and strategic goal of that each garment industry attempts to achieve customer satisfaction.

Supplier Integration

The current study was to the assesses the influence of supplier integration for the garment industry on export performance. Supplier integration is the most important element for performance and a key factor for the garment industry in achieving their goals. The high mean (M) indicates that a high level of agreement and low mean indicates that low disagreement of for particular tested supply chain integration on export performance.

Tables 4.4. shows that the mean of supplier integration items between 4.21 and 3.49 which means there is highly important of among BLIP-I the influences of supplier integration items. The results lie categories between 3.5---4.49 which indicates the respondents Mostly agree on the supply chain integration garment industries for supplier

integration. whereas the results lie between 2.5—3.49 which indicates the respondents believed as moderately agree on the supply chain integration garment for supplier integration. The result obtained from the Bole lemi garment industry indicated that there is strong integration with the supplier. This implies that an agreement among garment industries on the implementation of supplier integration due to reason all items are important and affect export performance. Supplier integration is the highest implemented element in the garment industry with a grand mean value of 3.89. This implies that the garment industry's upward integration is high.

Saeed, *et. al.* (2005) study title: "Examining the Impact of Interorganizational Systems on Process Efficiency and Sourcing Leverage in Buyer–Supplier Dyads", aimed at understanding the linkages between interorganizational systems, buyer-supplier relationship, and manufacturing performance. It was found that the external integration (supplier) has increase the manufacturing company performance efficiency .

Table 4.4 mean and standard deviatin of Supplier Integration Items:

No	Items	Mean	Std. D
1	The company share information with suppliers through the electronic network	4.21	0.759
2	The company is working with suppliers through clear contracts	4.13	0.721
3	Suppliers are committed to the required quantity	4.17	0.692
4	Suppliers are committed to the delivery on just in time	3.93	0.847
5	Suppliers are committed to the required specifications	3.94	0.864
6	The company and suppliers are connected with an electronic system to control the inventory	3.83	0.921
7	There are common awareness programs that are held between the company and suppliers to develop the business.	3.49	0.812
8	Our key suppliers are included in our planning and goal-setting activities	3.79	0.883
9	Our company actively engage supplier in our quality improvement	3.92	0.795
10	We maintain a cooperative relationship with our supplier.	3.52	0.812
	Grand Mean of Supplier integration	3.89	0.4661

Source: own survey result, 2020, N=109

A. Customer Integration

The objective of this study is to examine the effect of customer integration for the garment industry on export performance of BLIP-I. The high mean (M) indicates that a high level of agreement and low mean indicates that low disagreement of for particular tested customer integration on items.

Table 4.5 mean and standard deviation of customer Integration Items:

No	Items	Mean	Std. Dev
1	Satisfying customer need is the central purpose of our company	3.44	0.685
2	We involve the key customer in the product design /development stage	3.56	0.718
3	Our key customers have a major influence on the design of the new product.	3.62	0.736
4	The company exchange information with our customer frequently, formally on time	3.67	0.756
5	We share sensitive information (financial, production design) with our customers	3.51	0.925
6	Our key customers share their demand forecast information with us	3.86	0.853
7	The company has a fast system to receive orders from the customer	3.79	0.850
8	The company reserve the full databases for its customer	3.57	0.830
9	The company deals with complaints and observations of the customers properly.	3.27	0.805
10	The company strives to be highly responsive to our customer's needs	3.39	0.694
	Grand Mean of CI	3.573	0.38433

Source: own survey result, 2020, N=109.

Table (4.5) illustrates that the highest mean score of customer integration is (M=3.86) with a standard deviation of 0.853 and the least mean score of customer integration item (M=3.39). The Grand mean score of customer integration is 3.57 and the std deviation is 0.384. The analysis of customer integration of bole lemi garment industries shows that customer satisfaction is the central part of the industry. This means that there is high level of agreement at BLIP and with implementation of customer integration items. The result lies categories between 3.5---4.49 which indicated that the respondents mostly agree with customer integration items and highly important for Bole lemi garment manufacturing and the result lies categories between 2.5---3.49 which indicated that the respondents moderately agree with customer integration items. All items of customer integration are highly critical for BLIP-I garment industry.

According to Christina (2011) and Devaraj (2007) conducted findings, customer integration significant factor for company performance.

Flynn, *et. al.* (2010), added that customer integration participated in the main target manipulated from coordination with the main clients.

B. Internal integration

The present study is to find the extent of the influence of internal integration on the export performance of the bole lemi garment industry. The starting point to make favorable conditions for external integration with external integration.

Table (4.5) result shows that the means of internal integration is between 3.91 and 3.49 which means there is high important among the BLIP -I firms and implementation of internal integration items.

The Grand mean of the internal integration item is 3.70 and with a standard deviation 0.51305, which means there is a contract among the Bole lemi garment industry company on high employment of the internal integration variable. Internal integration across the garment industry respondent measure has scaled the lies at most agree with a mean value of 3.7. Garment industries from the strategic plan, demand planning, and supply planning

integrating with the internal system. Internal integration is the most important influence to measure the garment industry potential to move with their partners in the supply chain and to ensure the minimization of overall cost material resource planning, in working together of the strategic plan, to reduce time delivery and the ultimate goal for profitability. According to Lazarevic et al., (2007) internal operation is the most critical factor to measure an organization's potential to go for external integration. Therefore, the Descriptive Statistics of internal integration items majority mean the result lies between the mostly agree range. Internal integration has a significant influence on operational performance which aligns with the finding of Huo baofeng (2010)

Table 4.6 mean and standard deviation of internal integration items

No	Items	Mean	Std. Dev
1	The company involves different department during the preparation of the strategic plan	3.86	0.799
2	Department in the plant frequently communicate with each other	3.91	0.800
3	The company's functions work interactively with others	3.49	0.812
4	The function of our company works well together	3.91	0.800
5	The company uses the MRP (Material Planning Resource) system	3.49	0.812
6	The company uses the MRP system to production	3.86	0.938
7	The company uses the MRP system to sale	3.72	0.934
8	The company is keen to hold regular meetings with departments managers to coordinate the work	3.49	0.812
9	The company holds extensive meetings to increase the homogeneity among employees	3.69	0.836
10	The company allows the employees to participate in solving the problem and internal conflict settlement.	3.64	0.887
	Grand Mean Internal integration	3.70	0.513

Source: own survey result, 2020, N=109

4.2.2 Dependent variable: Export performance

The objective of this study is to measure the export performance variables the participants were asked to respond to the extent to which the export performance in their garment industry and rate the point in five Likert scales. The result of the dependent variable of export performance was presented in means and standard deviation finally aggregate or total means of items were presented.

As stated earlier in the methodology unit, the dependent variables of the study that is export performance have been measured through the three financial indicators namely profit margin on sales, return on investment, and growth in return by summing them altogether.

Table 4.7 mean and standard deviation of Export performance items

No	Items	Mean	Std. Dev
1	The company export has been very profitable	3.62	0.837
2	The company export has generated high volumes of sales	3.61	0.850
3	The company export has achieved rapid growth	3.57	0.886
4	The company export has got a high rate of return	3.53	0.812
5	The company export has participated return on investment	3.46	0.856
6	The company export has a growth return on investment	3.44	0.844
	Grand Mean Financial performance	3.400	0.636

Source: own survey result, 2020

According to the finding, the result of the company export has been very profitable, giving the company export has generated the volume of sales, the company export has achieved rapid growth, and the company export has got a high rate of return respondent

are agreed. Therefore, four financial performance item measurement lies between 3.5--4.49 the value categories can be considered as mostly agree.

Whereas the company export has participated in return on investment, and the company export has a growth return on investment mean score at 3.44 and 3.45 respectively. The last two financial performance items mean score value categories lie between the 2.5--3.49 Likert scale disruption as moderately agree.

Li *et al.*, (2006) found that Firm performance aims to in what mechanism a firm attains market-oriented and financial. Many studies have found the relationship between SCI and financial performance, and it is generally accepted that the former enhances the latter. For instance, Frohlich and Westbrook (2001) concluded that manufacturers with the widest degrees of supplier and customer integration achieve the best performance improvements in terms of market share and profitability.

4.3 Inferential Statistics

In this section result, the result the study was presented in inferential Statistic for this aim of investigating the objectives of the study and testing of the correlation coefficient analysis, multiple regression analysis, and hypothesis testing were applied

4.3.1 spearman' Correlation

Spearman's rho(rs) correlation should be calculated from the rank data. In this section, the correlation coefficient used to determine the relationship between supplier integration, customer integration, and internal integration with related to the export performance of Bole lemi industrial park. According to Duncan C. and Dennis H. (2004), the correlation coefficient can range from -1 to +1. The value of -1 represents a perfect negative correlation while a value of +1 represents a perfect positive correlation that there is a strong relationship between the, while values that closer to zero shows that there is small or no direct relationship. The results of the correlation coefficient may be interpreted as follows.

Table 4.8 correlation coefficient analysis and interpretation

ID	Correlation Coefficient	Interpretation	Sign
1	1.00 to -0.8]	strong	Negative
2	(-0.8 to -0.6]	Substantial	
3	(-0.6 to -0.4]	Medium negative	
4	(-0.4 to -0.2]	Low	
5	(-0.2 to 0.2)	Very Low	
6	(0.2 to 0.4)	Low	Positive
7	(0.4 to 0.6)	Medium positive	
8	(0.6 to 0.8)	Substantial	
9	(0.8 to 1.00)	Strong	

Source: Duncan and Dennis (2004),

Table (4.9) shows that there is a significant relationship between supplier integration, customer integration, internal integration, and export performance. Three of the independent variables are correlated at $P < 0.01$. This is implying that the independent and dependent variables have a potential effect on the performance of the Bole lemi garment industry.

The result of the correlation analysis output shows that supplier integration, internal integration, and customer integration are positively correlated with export performance. But the relationship between the supplier integration and internal integration with export performance is greater than relationship customer with customer integration with export performance Bole lemi garment industry.

Table 4.9 spearman correlation analysis

			supplier integration	internal integration	customer integration	export performanc e
Spearman's rho	supplier integration	Correlation Coefficient	1.000	.700**	.402**	.579**
		Sig. (2- tailed)	.000	.000	.000	.000
		N	109	109	109	109
	internal integration	Correlation Coefficient	.700**	1.000	.422**	.598**
		Sig. (2- tailed)	.000	.	.000	.000
		N	109	109	109	109
	customer integration	Correlation Coefficient	.402**	.422**	1.000	.516**
		Sig. (2- tailed)	.000	.000	.	.000
		N	109	109	109	109
	export performance	Correlation Coefficient	.579**	.598**	.516**	1.000
		Sig. (2- tailed)	.000	.000	.000	.
		N	109	109	109	109

** . Correlation is significant at the 0.01 level (2-tailed).

Source: own survey result, 2020

The results illustrated that the supplier integration and Export performance of the Bole lemi garment industry is positively related (0.579^{**} $p < 0.01$) and is being medium correlated. This implies that increasing the supplier integration within the garment industry will lead to an increase the export performance.

The study result indicates that the customer integration and export performance of the Bole Lemi industry are positively and significantly related (0.516^{***} , $p < 0.01$) and is being medium corelated. Export performance has a positive relationship with customer integration and it is statistically significant with a confidence of 99 % and medium

correlation. This means that improving the extent to which the garment industry will lead to increased export performance.

Table 4.9 result indicates that the internal integration and export performance of the garment industries are positively and significantly related (0.598^{**} , $p < 0.01$) and medium correlated. this means that increasing the internal integration within the garment industry has the potential to increase the export performance (that particular to financial performance) of the garment industry.

Internal integration has a 59.8 % relationship with export performance, has 70% with relationship supplier integration, and 42.2% with customer integration.

4.3.2 Multiple Regression Analysis

To be testing the multiple regression the following assumption must be fulfilled such as normality test using in a histogram and using skewness and kurtosis statistics, multicollinearity using Tolerance and Variance Inflation Factor (VIF).

A) Normality test assumption.

Normality is the normal distribution sample test that is normally distributed around the mean .The assumption of normality needs to be checked for many statistical procedures, namely parametric tests because their validity depends on it. Statistical errors are common in scientific literature and about 50% of the published articles have at least one error (Ghasemi, A. and Zahediasl, S., 2012.). Test assumption the normal of distribution, Skewness value should be the range from +2 to -2, and Kurtosis values should be within a range of ± 7

Table 4.10 skewness and kurtosis

Variables	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Internal Integration	109	-0.310	0.231	0.236	0.459
Customer Integration	109	0.001	0.231	0.081	0.459
Supplier Integration	109	0.078	0.231	-0.336	0.459
Valid N (listwise)	109				

Source: own survey result,2020.

Table 4.11 indicates that the normality test assumption of skewness and kurtosis is satisfied.

From figure (1) the bottom number represents the regression standardized residual (independent variables) score number the along the side represent frequency in score number distributed and means that the data symmetrical bell shape curve, the highest frequency score middle and the lowest score extreme (i.e., the left and right side).

Annex B ...Histogram

Normality figure (2) shows that data were normality distributed that the relationships between independent and dependent variables are linear. The values of residuals are normally distributed. this assumption is tested looking normal p-p plot of regression standardized residual. This means that the errors are normally distributed. Multiple regression assumes that variables have normal distributions (Osborne & Waters, 2002). The closer dot lies to the diagonal line closer to the normal residual are distributed. Hence, The P-P plot for the model suggested that the assumption of normality of the residuals may have been violated. The normal p-p plot of regression standardized residual of supply chain integration and export performance shown in the (Annex B)

B) Linearity test assumption: Defines as dependent variables are linear functions on the independent variables (Balance, 2004). The assumption was tested by producing

scatterplots of the relationship between each independent variable and the dependent variable. Hence, Scatter plot, each independent variable, and the dependent variable found to be linear is not satisfy the scatterplot for linearity and non -continuous variables. Appendix B

C) Homoscedasticity:

This assumption means the variables around the regression line are the same for the value of independent variables. or whether they tend to bunch together at some values, and other values. This assumption states that the variance of error terms is alike throughout the values of the predictor. A plot of standardized residuals versus standardized predicted values can indicate whether points are equally distributed throughout the values of the predictors. Multiple linear regression requires the relationship between the independent and dependent variables to be linear. the linearity assumption can best be tested with scatterplots. The result of this variance of the residual is constant and plot of regression standardized residual and predicted value showed that the assumption of homoiconicity has been met. The scatter plot between regression standardized predicted value and residual found to be homoscedasticity a shown in appendix B.

D) Multi collinearity test.

Multicollinearity assumption states that independent variables should not be related to each other. The assumption can test the predictor (independent variables) are not too correlated. If they are highly correlated, then multicollinearity exists. High predictor-predictor correlation ($r > 0.85$), (Robert 2006). Table 4.10 of Spearman correlation analysis shows that the relationship between the explanatory variables such as internal integration, customer integration, and supplier integration is “r” value below $r > 0.85$. According to Hair *et al.*, 2006 indicated that the range of Tolerance values below 0.20

and VIF values above 4.0 indicate a multicollinearity problem. An assumption test at the coefficient table 4.12. This allows us formally to check the independent variables are not highly correlated Table

Table 4.11 multicollinearity

		Model		
		1		
		Internal integration	Customer integration	Supplier integration
Collinearity Statistics	Tolerance	0.952	0.755	0.787
	VIF	1.050	1.324	1.271

a. Dependent Variable: export performance

Table 4.11 the analysis collinearity statistics show that the assumption has been not met Tolerance values were above 0.20 (ranged from 0.755 to 0.952) and all VIF scores were below 4.0 (ranged from 1.05 to 1.324). Hence, the result indicates that independent variables of the study have no multicollinearity exist.

E) The values of the residual are independent.

This assumption is to test the observation to be independent of one another. The assumption is tested by using the Durbin-Watson statistic the residual is uncorrelated. In this case, the value was close to 2 (Dubrin-Waston=1.819). so, the result has been met by the assumption.

Table 4.12 Model Summary

Model	R	R Square	Adjusted R Square	Std. error of the Estimate	Durbin-Watson
1	0.872 ^a	0.760	0.753	0.32465	1.819
a. Predictors: (Constant), customer integration, internal integration, supplier integration					
b. Dependent Variable: export performance					

The R square obtained from R and is measuring the proportion of variance in the dependent variable (export performance) predictors in the regression model. The R^2 is always between the 0 and 1 inclusive. According to the Moore *et al*, (2013) as a rule of thumb for interpreting the strength of a relationship based on its R-squared value (use the absolute value of the R-squared value to make all values positive).

- If R-squared value < 0.3 Very weak effect size
- if R-squared value $0.3 < r < 0.5$ weak or low effect size
- if R-squared value $0.5 < r < 0.7$ Moderate effect size, and
- if R-squared value $r > 0.7$ strong effect size.

From this explanation, the R square lies on $r > 0.7$ and considered a strong effect. This model summary also illustrates that the correlation between export performance and combination independent variables (predictors) is 0.872 indicated by multiple regression. R square value of 0.76 and adjusted R square value 0. 753. It is shown that 76% of the variance in export performance is explained by the supply chain integration dimension the remained 24% of the variance is explained by other variables that do not state in the current study. Hence other researchers can work to find the other dimension to fill the remaining 24% gap which has a contribution to export performance.

Table 4.13 ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	35.037	3	11.679	110.806	.000 ^b
	Residual	11.067	105	.105		
	Total	46.103	108			
a. Dependent Variable: export performance						
b. Predictors: (Constant), supplier integration, customer integration, and internal integration						

The F- statics ration in the Anova test shows that the table 4.13 total regression model is a good fit. Table 4.13 indicates that a set of effective supply chain integration (supplier integration, customer integration, and internal integration) variables statically significantly predicts the export performance $F(3,105) = 1108.6$ and $sign = .000$. That is the regression model is a good fit for the data.

Table 4.14 Regression Coefficients a

Model		Unstandardized Coefficients		Standardize d Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-0.233	0.292		-0.799	0.426
	Internal integration	0.175	0.066	0.131	2.674	0.009
	Customer integration	0.555	0.051	0.598	10.872	0.000
	Supplier integration	0.315	0.045	0.380	7.055	0.000

a. Dependent Variable: export performance

Source: own survey result, 2020

The beta weight is an average amount of the dependent variable is increase when independent variables increase by one (when all other independent variables are held constant) using the standardized coefficient.

H₁: Internal integration has a positive significant effect on export performance.

Table 4.14 shown that there is the significant and positive effect of internal integration on export performance was tested at 5% confidential interval (CI) result are (Beta =0.311, t=2.674 and sign=0.009), It was shown that internal integration has a positive effect and significant role in determining the export performance. Therefore, this is H₁ as shown on the conceptual framework null hypothesis is accepted.

The findings indicate that internal integration has a statistically positive and significant effect on export performance. the findings indicate that the BLIP-I garment industry

contains the different department during the strategic plan and depend on different relationship, to communicate with each other. depending on the company MRP to production and sales. To enhance export performance. Based on the company's regular meeting with the department manager, extensive meeting and employees to participate in solving the problem internal conflict to increase homogeneity and delivery within time, and fertile ground for export performance.

According to Zhao *et al*, (2015) analysis found that internal integration has a statically positive significant effect on financial performance. This research result indicates that internal integration has a positive effect and significant on export performance even though the researchers used different instruments the final result is argued.

Huo (2012) showed that internal integration improves external integration and that internal and external integration, directly and indirectly, enhances the company's performance and that goes directly with the study result about the most important role of internal integration.

H₂: Customer integration has a positive significant effect on export performance.

Table 4.14 shows that customer integration has a positive and highest relationship on export performance, and there is a statically significant relationship between the customer integration with an export performance so, a hypothesis is supported because of (Beta=.0.598 t=10.872 and sign=0.000). hence, this is H₃ as shown on the conceptual framework the hypothesis is accepted, customer integration which is the most important variable among supply chain integration because customer satisfaction is the ultimate goal that all organizations seek to achieve. The finding indicates the customer integration has a positive and significant effect on export performance. The findings of the indicated at the BLIP-I garment industry (firms) the relationship with their customer is to increase export performance..

The study was not much with Flynn *et al.*, 2010; and Swink *et al.*, 2007 found that customer integration has no significant effect on financial performance. But similar with

found , Zhao *et al*, (2015) argued that customer integration has a positive effect on financial performance

H₃: supplier integration is a positive effect on export performance. This is H₂ as shown on the conceptual framework analyzed and result in table 4.15 indicates that there is a statistically positive and significant effect of supplier integration on export performance, with (Beta 0.380, t=7.055, and sig=0.000). Therefore, the table coefficient indicates that there is a significant and positive relationship between supplier integration and export performance, and the hypothesis is supported. The current study shows that supplier integration has also a positive significant influence on export performance of BLIP-I with a coefficient value of 0.380, t=7.055, and sign = (0.000) is less than 0.05. The result indicated supplier integration has a positive and significant on export performance. Based on the developed conceptual framework, the item used to measure supply chain integration was the company share information supplier through electronics network, clear contact (specification, quantity, and delivery JIT) share planning, quality improvement, and cooperative relationship

From table (4.14), generalized that supply chain integration (SCI) variables such as internal integration supplier integration and customer integration were found to have a positive effect on export performance at Bole Lemi industrial park garment industry.

Study argued with Peterson (2005) showed that the supplier involvement has a positive impact in new product development and made significant improvements in financial returns as well, and Saeed, *et. al.* (2005) showed that the external integration enhanced the manufacturing firms' process efficiency.

Based on comparing the Beta coefficient the largest influence on export is customer integration (0.598) the next supplier integration (0.380) and low-performance indicators is internal integration (0.131). The study believed that customer integration high effect shows the top management awareness about the effect of customer integration and the positive influence of the other two variables (supplier and internal integration).

CHAPTER FIVE

SUMMARY OF MAJOR FINDING, CONCLUSION, AND RECOMMENDATIONS

In this section, the study results summary, conclusion, and recommendation will be presented based on results and discussion in chapter four. finally, the researcher forwarded the relevant recommendation and conclusion of the study

5.1 SUMMARY OF MAJOR FINDING

In this study there focused the of supply chain integration of the Ethiopian garment industry on the export performance in the case of BLIP-I. the study investigated the relationship that exists between supply chain integration (supplier, customer, and internal integration) and on export performance (financial). to achieve the objective, the study, data were collected from the Bole lemi garment industry employees the descriptive statics regression, correlation analysis was applied and quantitively approach was used.

The demographic profile of study is very critical input for the researcher study the in understanding the aim of the study and responding questionnaire.

From the descriptive statistics, the result analysis of the aggregate means scores value of supply chain integration variables (supplier integration, customer integration, and internal integration) were lies between mostly agree. This implies that there is highly implementation of supply chain integration in BLIP-I.

The finding of export performance shows that the average mean score value was lies between mostly agree with Financial performance.

The correlation analysis of findings indicates that there is a significant and positive relationship between all the four variables of independent and dependent. However, the correlation coefficient of export performance with customer integration is statically

significant confidence level at 95% (Sign=0.05) the remaining variables were significant confidence level was 99% (0.01).

The regression analysis of finding indicates that supplier integration and Internal integration has a positive effect on export performance at the Bole lemi garment industry and also statically significant. Customer integration has negative effect on export performance at the bole lemi garment industry is not statically significant. This study shows that the test of supply chain integration and export performance Based on the result study summary of all combination of finding the result indicates that supplier and internal integration has positive and correlation with export performance as a significant level that at 0.05.

5.2 CONCLUSION

The dimensions used to measure the SCI such as customer integration, supplier integration, and internal integration. Examinations were adapted to measure the effect of SCI dimensions on export performance. The conceptual framework and hypothesis could be developed to measure supply chain integration with export performance.

The study result shows that the effect of supply chain integration among the bole lemi garment industry and which of the statistically significant independent variables in the BLIP-I garment industry. The result shows that the garment industry was organized since export/ import, logistic manufacturing plant, and Finance department available at each garment Industry and have a concept about supply chain integration. The study result shows that correlation analysis of independent variables (SI, II &CI) has a positive correlated dependent variable (financial performance).

As a finding indicated that SCI dimensions, customer integration, supplier integration, and internal integration a statically significant and positive effect on export performance. The most important variables on export performance could be ordered as flows. Customer integration, supplier integration, and internal integration.

The most important influences customer, receiving an order from the customer, handling complaints and observation of the customer properly, and finally, highly responsive.

The important items of supplier integration are share information electronic network, clear contact with the supplier, control inventory, common awareness programs to develop their business, and a cooperative relationship. Finally, internal integration items that positive effect on export performance are, preparation of strategic planning, use MPR, regular meetings with department managers, and internal conflict.

There is a significant effect of supply chain integration on export performance and in the garment industry. The results indicate that the BLIP-I garment industry is well organized since import/export (supply chain) departments are available at each firm and they aware of about perception importance of supply chain integration since the garment industry producing an export-oriented product and closely integrated with customer requirement and their specifications.

The overall assessment results of the structural of conceptual framework model discovered that the model had satisfactory statistical significant in predicting the research model. Generally, the study showed that the superior export performance can be attained through supply chain integration effect.

5.4. RECOMMENDATION

As illustrated in the finding of study all three supply chain integration dimensions have a statistically significant and positive relationship and effect on effect on export performance. Based on the study result, the following recommendation will able to propose.

5.3.1 Recommendation for the Bole lemi industrial park and others

- ✓ It is recommended to engage the customer designing the firm product will postivley affect customer integration
- ✓ It is recommonded that greater attention to internal integration that involles interdepartment.

- ✓ It is recommended that to give attention to strategic relation with supplier management and jointly increasing the the activities homogeneity.
- ✓ It recomanded that government body has working manufacturing firms strategically align to implement long tems planning policyto bole lemi gamrnet industry.
- ✓ Export performance of BLIP-I garment sectors can be improved by linkage with the customer through the information network such a major influence on the design of the new product, and customer satisfaction

5.3.2 Recommendation for academic and future research

This study to the garment industry at the bole lemi garment industry, so

- ✓ It is advisable to study supply chain integration with considering a multi-product industrial park that participates in the export sector.
- ✓ It is recommended that restudying the same topic in the bole garment industry will assessing the advanced result in the supply chain.
- ✓ It is recommended that the same topic with different companies that participated in the export market will be a feasible result.

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APPENDIX A

Addis Ababa University School of Commerce

Department of logistic and supply chain management

Post Graduate Program

My name is Mengistu Abebe and I am a graduate student at Addis Ababa University School of Commerce. For my final thesis, I am studying on title “*Effectof supply chain integration of Ethiopian garment industry on export performance*”. Because you are part of this thesis, I am inviting you to participate in this research study by completing the attached surveys. The following questionnaire will require approximately 20 minutes to complete, please answer all questions as honestly as possible and return the completed questionnaires promptly. The information you provide is a very essential element for my research and they will be treated strictly confidential. Thank you for taking the time to assist me in my educational endeavors.

General instruction and information: **Part I** contains questions about the general demographic characteristics of the respondents and **part II** contains questions that are related to the research objectives. Please attempt to answer all the questions.

Part I: General question about the respondent

Demographic information

Please:” tick “in the box for your answer from the alternatives.

Q1) Gender? 1) Male 2) Female

Q2) Age

1) 24---35

2) 36---45

3) 46—55

4)above 56

Q3) Level of education

- 1) Diploma
- 2) Degree
- 3) Master and above

Q4) Current position Department of job title

- 1) Manufacturing plant
- 2) Export/import
- 3) Financial
- 4) Logistic

Q5) Year of experience

- 1) Below 2years
- 2) Between 2—3 years
- 3) Above 5 years

PART II: SUPPLY CHAIN INTEGRATION: FOR EACH QUESTION PLEASE MARK “” ON YOUR DESIRABLE ANSWER.

DESCRIPTION :5=Strongly Agree ,4= Agree ,3=Neutral ,2= Disagree ,1= Strongly Disagree

<i>S. No.</i>	<i>Questions</i>	<i>SA</i>	<i>A</i>	<i>N</i>	<i>DA</i>	<i>SDA</i>
		<i>5</i>	<i>4</i>	<i>3</i>	<i>2</i>	<i>1</i>
SI	Supplier Integration	5	4	3	2	1
SI1	The company share information with suppliers through the electronic network	5	4	3	2	1
SI2	The company is working with suppliers through clear contracts.	5	4	3	2	1
SI3	Suppliers are committed to the required quantity	5	4	3	2	1
SI4	Suppliers are committed to the delivery on just in time	5	4	3	2	1
SI5	Suppliers are committed to the required specifications	5	4	3	2	1
SI6	The company and suppliers are connected with an electronic system to control the inventory	5	4	3	2	1
SI7	There are common awareness programs are hold between the company and suppliers to develop the business.	5	4	3	2	1
SI8	Our key suppliers are included in our planning and goal-setting activities	5	4	3	2	1
SI9	Our company actively engage supplier in our quality	5	4	3	2	1

	improvement.					
SI10	We maintain a cooperative relationship with our supplier.	5	4	3	2	1
II	Internal Integration:	5	4	3	2	1
II1	The company involves different department during the preparation of the strategic plan	5	4	3	2	1
II2	Various Departments in the Factory frequently communicate with each other.	5	4	3	2	1
II3	The company's functions work interactively with others.	5	4	3	2	1
II4	The function of our company works well together.	5	4	3	2	1
II5	The company uses the MRP (Material Planning Resource) system	5	4	3	2	1
II6	The company uses the MRP system to production	5	4	3	2	1
II7	The company uses the MRP system to sale.	5	4	3	2	1
II8	The company is keen to hold regular meetings with departments managers to coordinate the work	5	4	3	2	1
II9	The company holds extensive meetings to increase the homogeneity among employees.	5	4	3	2	1
II10	The company allows the employees to participate in solving the problem and internal conflict settlement.	5	4	3	2	1
CI	Customer Integration	5	4	3	2	1
CI1	Satisfying customer need is the central purpose of our company.	5	4	3	2	1
CI2	We involve the key customer in the product design /development stage	5	4	3	2	1
CI3	Our key customers have a major influence on the design of the new product.	5	4	3	2	1

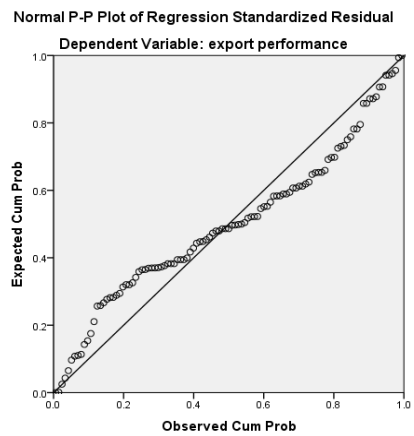
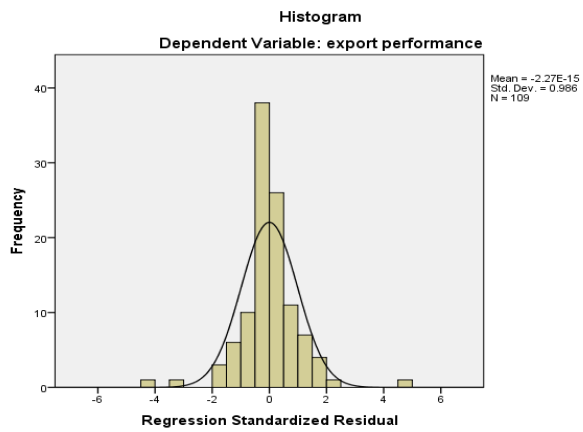
CI4	The company exchange information with our customer frequently, formally in a timely manner.	5	4	3	2	1
CI5	We share sensitive information (financial, production design) with our customers.	5	4	3	2	1
CI6	Our key customers share their demand forecast information with us	5	4	3	2	1
CI7	The company has a fast system to receive orders from the customer	5	4	3	2	1
CI8	The company reserve the full databases for its customer	5	4	3	2	1
CI9	The company deals with complaints and observations of the customers properly.	5	4	3	2	1
CI10	The company strives to be highly responsive to our customer's needs	5	4	3	2	1

Export performance

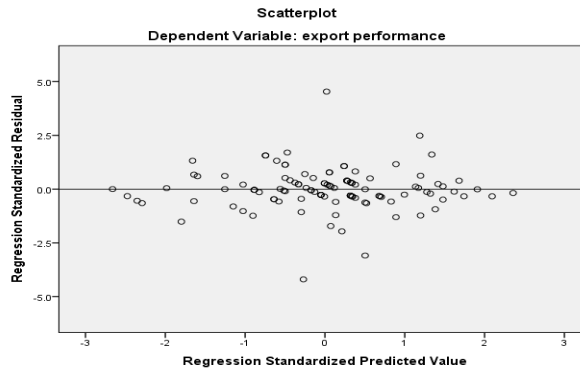
FP	Financial performance	5	4	3	2	1
FP1	The company export has been very profitable	5	4	3	2	1
FP	The company export has generated high volumes of sales	5	4	3	2	1
FP3	The company export has achieved rapid growth	5	4	3	2	1
FP4	The company export has got a high rate of return	5	4	3	2	1
FP5	The company export has participated return on investment	5	4	3	2	1
FP6	The company export has a growth return on investment.	5	4	3	2	1

Appendix B1

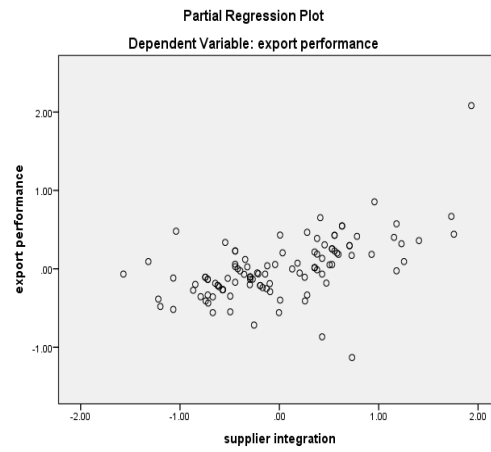
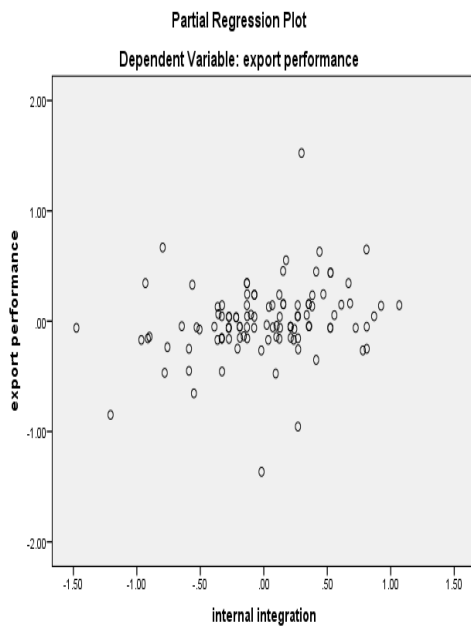
1.1 Normality test

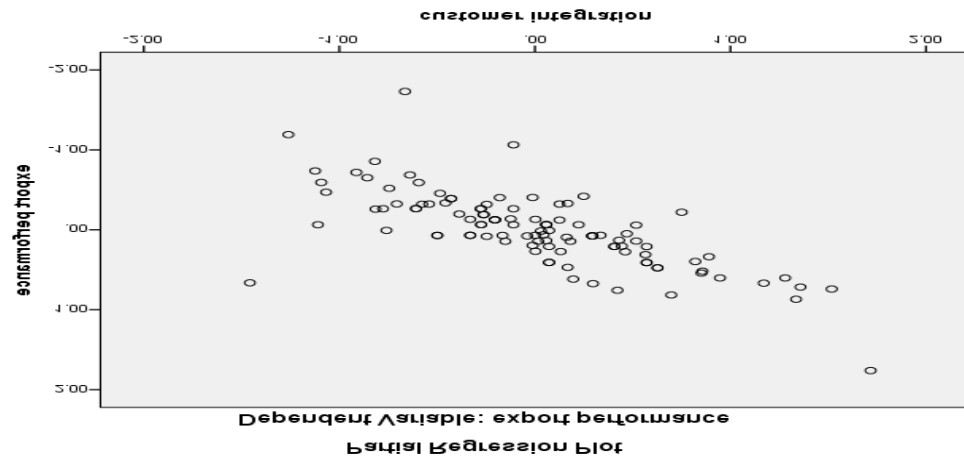


1.2 Homoscedasticity Test



1.3 Linearity Test





APPENDIX C 3

3 .Reliability test

3.1 Supplier integration

Reliability Statistics

Cronbach's Alpha	N of Items
.816	10

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
SI1	35.33	21.908	.420	.807
SI2	35.43	22.210	.398	.809
SI3	35.39	22.572	.363	.812
SI4	35.63	20.160	.599	.788
SI5	35.62	20.311	.562	.792
SI6	35.73	20.586	.478	.802
SI7	35.79	19.427	.594	.788
SI8	35.77	20.827	.475	.802
SI9	35.64	21.065	.512	.798
SI10	35.70	21.157	.561	.794

Customer integration

Reliability Statistics

Cronbach's Alpha	N of Items
.778	10

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
CI11	35.69	18.494	.305	.775
CI12	36.04	17.739	.414	.763
CI13	35.92	17.262	.483	.755
CI14	35.93	17.458	.432	.761
CI15	36.14	17.157	.359	.773
CI16	36.05	17.026	.427	.762
CI17	35.98	16.314	.542	.746
CI18	36.14	15.935	.624	.734
CI19	35.98	17.463	.394	.766
CI20	35.98	17.444	.489	.755

Internal integration

Reliability Statistics

Cronbach's Alpha	N of Items
.837	10

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
II21	34.49	25.011	.489	.826
II22	34.45	24.694	.537	.821
II23	34.40	25.799	.479	.827
II24	34.45	24.213	.603	.815
II25	34.45	23.861	.554	.820
II26	34.50	23.863	.531	.822
II27	34.64	24.195	.494	.826
II28	34.48	24.418	.484	.827
II29	34.67	24.131	.582	.817
II30	34.70	23.935	.556	.819

Export performance.

Reliability Statistics

Cronbach's Alpha	N of Items
.839	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
FP1	17.58	10.672	.596	.816
FP2	17.62	10.015	.683	.799
FP3	17.61	10.554	.562	.824
FP4	17.71	10.524	.616	.812
FP5	17.77	10.549	.591	.817
FP6	17.76	10.294	.644	.807