The Effect of Supply Chain Management Practices on Operational Performance:

The Case of National Alcohol and Liquor Factory

By

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Declaration

I, Kidane G/aregawi, announce that this paper is my original work on the Title “The effect of supply chain management practice on organizational performance: in the case of National Alcohol and Liquor Factory” for the partial fulfillment of the requirements for the Masters of Arts in Business Administration degree at Addis Ababa University, College of Business and Economics. Both origins of materials used in the study have been properly credited. I also confirm that the paper has not been applied to any other institution in order to obtain a degree.

Declared by: Kidane G/aregawi

Signature_____

Date: June, 2021

Cofirmed by: Asres Abitie (PhD)

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Date: June, 2021

Certification

This is to certify that Kidane G/aregawi performed under my guidance on the research project titled "The effect of Supply chain management practice on organizational performance: In the case of National Alcohol and Liquor Factory." This thesis is original and can be submitted in partial fulfillment of the qualifications for the award of the Masters of Art in Business Administration degree.

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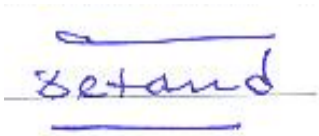

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Abstract

Nowadays, supply chain management practices became a basic for acquiring competitive advantage and improving organizational performance as competition is not any longer between firms. Supply chain practices are initiatives that have an impact on the entire supply chain. Although these practices have a significant impact on an organization's operational success, they are hampered by contextual factors such as industry, firm size, and supply chain length. As a result, the ultimate goal of this study was to assess and examine the effect of supply chain management practices on the National Alcohol and Liquor Factory's operational performance. The study used a quantitative approach to achieve the study's goals, and the associations presented within the framework were tested using descriptive and explanatory research methodologies. The first-hand data were collected from 132 employees of the National Alcohol and Liquor Factory by using Likert scale type questioner as an instrument for collection of the employees' perception towards the variables then the collected data were analyzed using descriptive statistics, correlational and multiple regression analysis. The most important finding of the study indicated that supply chain management practices i.e. strategic supplier partnership, customer relationship management, level of information sharing, and internal lean practices have significantly affected the operational performance of the National Alcohol and Liquor Factory. However, the organization should improve its supply chain practices so as to enhance operational performance even further. Specifically, National Alcohol and Liquor Factory should improve the involvement of key suppliers in solving problems jointly, planning, and goal setting yet as on new product development, the company should also work on sharing proprietary information and cases that affect one another partner. Additionally, the company should improve the frequency of interaction with customers and process setup time reduction.

***Keyword**: Supply chain management practices, strategic supplier partnership, customer relationship, level of information sharing, internal lean practice, and Operational performance.*

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Acronyms/Abbreviations

ANOVA= Analysis of variable

CRM – Customer Relation Management

NALF = National Alcohol and Liquor Factory

ILP – Internal Lean Practice

JIT – Just in Time

LIS – Level of Information Sharing

SCMP- Supply Chain Management Practice

SCM-Supply Chain Management

SPSS - Statistical Package for the Social Sciences

SSP- Strategic Supplier Partnership

TVET- Technical and vocational education training

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

According to Hult and Ketchen (2007), competition among firms is evolving fundamentally in today's insecure and competitive marketplaces, from competing on the basis of own abilities and abilities to competing with the whole supply chain. As a result of rising competition, businesses have realized that improving internal efficiency is not enough; their whole supply chain must be competitive as well Childhouse and Towill (2003). In recent decades, supply chain approaches have shifted their focus from manufacturing units to company-level supply networks (Guansekaran et al., 2004). According to Puigijaner and Lainez (2008), supply chain coordination is strategically important for assisting supply chain operations in improving operational performance. According to, understanding and executing supply chain management is a critical necessity for keeping competitive in the global market and boosting profitability (Moslem et al., 2013).

Supply chain management has emerged as a critical area of study for academics and corporate enterprises. Concerns have been raised about the construction of an effective supply chain, which has been identified as a crucial instrument in product and service management as well as strengthening enterprises' competitive edge (Christopher, 2003). The notion of supply chain management is crucial in helping businesses enhance their operational performance. The strategic management of resource flow through the supply chain is referred to as supply chain management (SCM). According to (Storey et al., 2015), knowledge and effective management of supply chain procedures is critical for increasing profitability and remaining competitive in the market.

Various researchers use different elements like supply chain practices. (Chin et al., 2014) Identified; supplier management, customer relationships, manufacturing participation in strategy and, inventory control as supply chain integration relations to operational capability. Supply chain integration, information sharing, customer service management, geographic proximity, and

Just in time (JIT) capabilities were identified as essential elements of SCM practice by (Tan et al., 1998) using factor analysis. As part of the SCM process, Alvarado & Kotzab (2011) emphasized on the usage of inter-organizational systems, core competences, and avoiding surplus inventory through postponement. In his case, study-based research found four methods that aid supply chain responsiveness (Li et al., 2006). Outsourcing, strategic supplier relations, information exchange, and product modularity are just a few of them.

Many factors have an impact on supply chain performance. Strategic supplier partnerships are one of the most important factors determining supply chain practice Narasimhan and Jayaram (1998). Effective supplier partnerships can be a vital component of effective supply chain management (Li et al., 2006). It has the potential to improve supplier performance, reduce time to market, and increase customer response and satisfaction Frohlich and Westbrook (2001). Another issue is having strong client relationships, which are necessary for the proper execution of SCM strategies on the downstream side of the chain (Moberg et al., 2002). Close client relationships enable a company to set itself apart from its competitors, maintain client loyalty, and dramatically increase the value it gives to customers (Magretta, 2008). Besides, for Supply Chain integration, information sharing is another critical factor. Supply chain partners who share information on a regular basis are better able to comprehend the demands of the final consumer and respond promptly to fluctuating market demand (Li et al., 2006). Failures can arise when there is a delay in receiving information, a shortage, or a distortion in the supply chain. Furthermore, while information sharing is vital, the influence on SCM is dependent on the quality of the information given, when and how it is shared, and with whom it is shared.

The alcohol industry has undertaken a crucial change in Ethiopia. It’s adopting best practices with a vision to strengthen the alcohol industry. As per the knowledge of the researcher, there’s no empirical research carry on the effect of supply chain management practices on operational performance back up by formal and published research in this area initiated the research in order to check out the inefficiencies of SCM practices that affect the operational performance of National Alcohol and Liquor Factory.

This study has done on National Alcohol and Liquor Factory (NALF). Even though alcohol manufacturing in Ethiopia is aged more than a century, it is a growing sector. As a result, the

industry is pulling numerous business companies and the number of liquor producers has been increasing. NALF has two manufacturing branches; located in the Addis Ababa Mekanisa area and at Sebeta Town. The factory started operation in 1906 G.C. and currently has 250,000 hectoliter liquor; 109,500 hectoliter pure alcohol and 9,307 hectoliter denature alcohol. The factory produces different types of liquor products namely; Gin, Ouzo, Supermint, Vodka, Cognac and Appretive for drinking purpose; pure alcohol for medical research and as input for perfume; denature alcohol for hospitals, beauty salons, and cleaning purpose; and currently the factory also produced hand sanitizer that helps to prevent COVID-19. To improve its operational efficiency, the company creates a strategic partnership with its local and foreign input suppliers. The company distributes its products through geographically segmented distributing agents and its own sales vehicles. Therefore, the researcher empirically identified the effect of supply chain management practices on operational performance in the case of the National Alcohol and Liquor Factory.

1.2. Statement of the Problem

Many enterprises understand the value of supply chain management in ensuring the long-term viability of their goods and services, as well as increasing firm and supply chain productivity. This has resulted in administrators, analysts, and entrepreneurs paying greater attention to successful supply chain management practices in business firms, according to (Tan et al., 1998).

The ability of some earlier observational supply chain management studies to build instruments capable of evaluating SCM activities was limited. On the other hand, some researchers have based their efforts on investigating the connection between supply chain management practices and organizational performance. The link between supply chain management activities, operational efficiency, and supply chain management-related organizational performance was also investigated by the researchers. These and other studies have generated a wide range of results due to subjective and objective performance measures. This has been due to SCM's interdisciplinary origins, philosophical ambiguity, the evolutionary essence of SCM ideas, and differences in the environments in which organizations work.

Despite the increasing number of empirical studies, there is no definitive evidence linking SCM to performance. Comparability is harmed by a lack of agreement on the demarcation and

dimension of SCM procedures, as well as the use of multiple units of analysis and various perspectives to performance evaluation. Furthermore, some analysts believe that, in compared to developed world techniques, developing countries supply chain management methods are still in their early stages. As a consequence, many theoretical and empirical questions remain unanswered. Therefore, the researcher try's to answer the problems rose above from developing country side supply chain management practices specifically in beverage industry.

Additionally, the supply chain management practice of Alcohol industry in Ethiopia has no well-organized literatures in this area. Literature accessed by the researcher focused on other aspects of the SCM or in developed countries practices and contexts. Hence, there is knowledge gap on how well is the performance of supply chain management practice and its effect on operational performance in Ethiopia. According to the researcher's knowledge, no empirical studies on the impact of Supply Chain Management practices on operational performance from the perspectives of strategic supplier alliances, customer relationships, level of information sharing, and internal lean practices on operational performance that integrated forward and backward integration on the Alcohol industry have been performed. As a result, in order to add to the knowledge gap and debate about the causal relationship between SCM practices and operational efficiency, this study has concentrated on the effect of supply chain management practices on operational performance of the National Alcohol and Liquor Factory. In order to do so the research has addressed the following questions:-

- What is the effect of strategic supplier partnership on operational performance?
- How customer relationship management affects operational performance?
- What is the effect of information sharing on operational performance?
- To what extent internal lean practice affects operational performance?

1.3. Objective of the Study

1.3.1. **General objective**

The general objective of the study is to investigate the effects of supply chain management on operational performance in the case of National Alcohol and Liquor Factory.

1.3.2. **Specific Objectives**

The specific objectives for identifying the effect of supply chain management practices on operational performance in National Alcohol and Liquor Factory stated here under;

- To examine the effect of strategic supplier partnership management on operational performance;
- To analyze the effect of customer relationship management on operational performance;
- To Identify the effect of information sharing on operational performance; and
- To find out the effect of internal lean practice on operational performance;

1.4. Definition of Terms and Concepts

Supply chain: is described as a series of interconnected participating enterprises that add value to a stream of changed inputs from their source or origin to the final products or services that final customers require (Lu, 2011).

Supply chain management: is a network of relationships, with the goal to deliver superior value, i.e., management of upstream and downstream interactions with suppliers and consumers in order to provide higher customer value at a lower cost to the entire supply chain (Christopher 2003).

Lean: is about doing more with less- a philosophy for identifying and eliminating waste across the entire business activities (Lu, 2011).

Level of information sharing: The degree to which crucial and confidential information is shared with a supply chain partner Li et al. (2006).

Supply Chain Integration (SCI): activities and processes which are closely coordinated internally and externally under a shared vision and value among the participating participants (Kim, 2006).

Customer Relation Management (CRM): Comprises the full set of methods used to handle customer complaints, create long-term client relationships, and improve customer satisfaction (Li et al., 2006).

1.5. Significance of the Study

The investigation results are important to the academicians, researchers, for business practitioners, and management units in the case company. Specifically, the study aids in the

identification of challenges and growth opportunities in supply chain operations, as well as their relation to the National Alcohol and Liquor Factory's operational performance. This research will also contribute to narrow the gap in the literature on the generalization of the causal relationship between SCM practices and performance on the beverage industry.

1.6. Scope of the Study

Quantitative approach was used in this study. Data in quantitative form is derived from a variety of scientific research, books, papers, and other sources are subjected to rigorous quantitative analysis in the quantitative method. The factory clearly produces three different types of products (pure alcohol, denatured alcohol, and various types of alcoholic beverages).

Despite the fact that a variety of supply chain management strategies were used in the factory and had an effect on operational performance, the researcher narrowed the scope of the study to the four major supply chain management practices listed on the specific objectives of the study.

1.7. Organization of the Study

The study is categorized into five chapters, each of which is briefly classified using main titles and sub-titles to form it easier for users to read. As a result, the following is the overall structure of the study:-

The first chapter, Introduction, is made up of the following parts; background, statement of the problem, research questions, objective, the importance of the research, and definition of terms are all included. The second chapter includes a survey of similar literature, and analytical analysis, and a conceptual framework. In chapter three, test design and methodology, testing technique, research design, unit of study, sample population, sampling design, measurement and instrumentation, data collection procedure, and ethical considerations are incorporated. The results and their explanations are presented within the fourth chapter. The overview, findings, and suggestions that help to improve the operational performance of the company, limitations & further research directions are presented in chapter five. Finally; there are references, survey instruments, and other annexes at the end.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

Introduction

The literature on supply chain management and operational performance ideas is examined in this chapter. These chapters cover the major conceptual issues, theoretical, empirical, and theoretical literature on this topic.

2.1. Theoretical Review

It briefly describes the resource-based view theory, the relationship theory, and the value chain theory of the supplier, and supply chain management versus logistics, as well as major initiatives and drivers of supply chain growth, supply chain integration, supply chain management dimensions, and operational performance.

2.1.1. Resource Based Review

The theory's central tenet is that instead of focusing on the competitive business environment to gain a market niche or an edge over competitors or threats, the company should instead look within at the resources and potential it already possesses. According to Petraf (1993), the Resource Based View Theory states that competitive advantages are derived from the assets and capabilities that a business possesses that are significant, unusual, unique, and not interchangeable.

2.1.2. Relational View Theory

The Relational View, according to Dyer and Singh (1998) and Holcomb and Hitt (2007), examines current results as prospective sources. Investments in relation-specific qualities, broad information interchange, complementary and scarce resources, and lower transaction costs all contribute to Relational View. Both of these sources are impacted by more productive management factors that are based on informal defenses, such as belief and reputation. According to the Relational Based View hypothesis, in order to have a lasting competitive advantage, relational tools and talents must be valuable, valuable, and difficult to copy or

replace. The relational perspective simplifies understanding of the relationship and impact of supply chain management on operational performance. Precision and timeliness, as well as the flow of information, are all closely tied to knowledge sharing. Long-term relationships with suppliers and customers can assist minimize transaction costs by developing trust (Cooper et al., 2007); and (Li et al., 2006). It can also help with information sharing and ensuring appropriate resource investments.

2.1.3. Porter's Value Chain Theory

According to Porter (1985) advocate the distinguishable evidence and strategic exploitation of horizontal and vertical integration. Vertical integration characterized as the method in which a few steps with in the production or distribution of offerings are controlled by a single firm or corporation, in order to extend that company's or entity's power within the marketplace. The horizontal integration is a strategy to grow market share over a comparable company (Chircu et al., 2000). Optimizing the vertical linkages with suppliers is the basic of supply chain management.

Value chain analysis portrays the actions inside and around the organization, and relates them to an investigation of the competitive strength of the organization. Therefore, it evaluates each specific action includes to the organizations products or services. This thought was built up on the understanding that an organization is more than random compilation of machinery, equipment, individuals and money. As it were in the event that these things are organized into frameworks and efficient enacts it will ended up credible to deliver something for which customers are willing to pay a price. Porter (1985) defined the primary activities which have directly impact to add value to production of the goods or service and support activities, which instead have indirect impact on the final value of the products.

The (Porter, 1985) primary activities are:

1. **Inbound Logistics** refers to all the processes related to receiving, storing and distributing inputs internally within the organization.
2. **Operations** refer to all processes related to converting raw materials or inputs to finished goods.

3. **Outbound** Logistics refers to all activities deliver a firm's offerings to their customers.
4. **Marketing and Sales** refers to all the processes a firm uses to persuade clients to purchase from them instead of their competitors.
5. **Service** refers to activities that enhance the value of the product, such as installation, repair, training, parts supply, and product adjustment.

   The support activities are procurement, human resource management, technological development and firm infrastructure.

2.1.4. Supply Chain Management

Supply chain is described as a series of interconnected participating enterprises that add value to a stream of changed inputs from their source or origin to the final products or services that final customers require (Lu, 2011). It involves coordinating organizational units along a supply chain and managing product, knowledge, and money flows in order to meet consumer demands and boost the supply chain's overall competitiveness. As a consequence of these concepts, the upstream and downstream players, as well as the coordination of all the companies involved, as well as a company's internal operations, are core components of the supply chain and its management. The upstream function is involved starting from sourcing the input up to operation within the enterprise while the downstream function involved on distributing the products to final customers. If delays are unavoidable, managers must minimize their effect on the supply chain and the value it transports.

Where managers in an exceedingly supply Chain including outside organizations ought to house the individuals outside of its own company, during this circumstance common understanding should be come to between the managers of offices inside the corporate itself. On the other hand, the term supply Chain management has been utilized to depict the organizing and control of materials and knowledge streams also as logistics actions not because it were inside an enterprise, but also externally between firms. Because of the growing number of actors and forces, a supply Chain may grow into a supply network which can require a more complex and sophisticated management setting (Cooper, Lambert, & Janus, 2007).

Supply chain management is described by Mentzer (2001) as the systematic, strategic coordination of traditional trade functions and strategies over these business capacities within a single company and across businesses across the supply chain, with the goal of improving the long-standing performance of single enterprises and the supply chain as a whole. Supply chain management deals on how firms utilize their suppliers' processes, innovation, and capability to upgrade competitive advantage. Supply chain management (SCM) improves competitive execution by closely coordination the inside cross-functions inside a company and viably expanding them to the outside operations of outside buddies to be fruitful.

All functions in sourcing and procurement, conversion, and all logistics management practices that involve preparing and working with channel stakeholders, such as vendors, intermediaries, and clients, are included in supply chain management. Each firm within the supply chain specifically or by implication influences the execution of other supply chain individuals, as well as the general execution of the supply chain (Cooper et al., 2007).

The thought of creating strides items and services through Supply chain management; counting to decrease the assembly time and price without compromising the merchandise quality, is that the managers have to work agreeably with other organizations within the provision chain (Handfield and Nichols, 2002). Within the long term, through shared understanding between them and capacity to decrease the hazards of instabilities in production processes, higher degree of efficiency will be accomplished. In spite of the very fact that originally it had been utilized primarily in manufacturing industry to enhance responsiveness and adaptability, and has been found to too make strides organizational competitiveness (Gunasekaran, Patel, & McGaughey, 2004), Supply chain management has presently been recognized by numerous to be an vital key tool for organization’s effectiveness and to induce competitive advantage.

2.1.5. Supply Chain Management versus Logistics

Some scholars do not recognize between supply chain management and logistics, they merely interchange the names. Christopher, (2003) defines supply chain management as an expansion of logistics. Logistics is essentially a planning orientation and framework that seeks to create one plan for the flow of products and knowledge through business. Supply chain management builds

upon this method and appears for to understand linkage and coordination between sorts of the substances within the pipeline. Schary & Skjott-Larsen (2008) too see supply chain as over logistics. It incorporates also the flow of fabric and products to client and quite that; it includes the organizations that are a part of these processes crossing organizational boundaries to attach their inner operations as portion of this technique. The scope supply chain spans the whole set of organizations from procurement the input to distributing of the ultimate product or service to the last word customer (Schary & Skjott-Larsen, 2008). Therefore, many scholars agree that SCM is broader than logistics.

2.1.6. Drivers of Supply Chain Management and Main Initiatives

In today's global economy, businesses are under - pressure to reduce costs while maintaining output and quality standards in order to produce results. In order to attain these objectives, companies must effectively overcome a number of challenges. As Meakem(2003) points out, free competition economies and unused innovations are creating new supply and demand markets around the globe. Many organizations, for instance, are seeking out for supply from China. But great numbers of these organizations lack the information and knowledge fundamental to drive more supply and production offshore. The rules of free market worldwide competition dictate that only the fittest survive. As a result, businesses around the world are consolidating at a fast rate. This in turn requires organizations to choose the leading suppliers and pull them into core partner. Organizations across geographies and businesses are scrutinizing make-versus-buy choices. And numerous are finding expanded value in outsourcing production of goods and services.

Handfield and Nichols (2002) divide the drivers into the following categories:

i. Increasing consumer demand for product and service cost, quality, supply, and technology, as well as cycle time, as a result of global competition.

ii. The rise and greater acceptance of higher order cooperative inter-organizational relationships.

iii. The information vast change.

As a result of this trend, businesses are devoting increasing amounts of time and resources to finding new ways to improve market competitiveness through more reliable and effective supply chain management.

Supply chain management has generally the following aims (Blanchard, 2007):

- Articulate exactly what a company's supply chain looks like and what it encompasses.
- Identify specific bottlenecks that are slow down the movement of information, goods, and services.
- Ensure that the right procedures are in place, and that the right goods are shipped to the right location at the right time.
- Empower the appropriate individuals to accomplish all of the above.

2.1.7. Supply Chain Integration

The aim of supply chain integration has been identified as increasing linkages within each segment of the chain, encouraging better decision making, inducing all chain parts to associate in a more productive manner, as well as creating supply chain visibility and identifying problems. Supply chain integration is a close orientation and coordination inside a supply chain, frequently with the utilization of shared management information systems (MIS). The proximate interrelationship between the level of supply chain management practices and competition capability may have a more critical impact on operational performance. The Information Revolution has expanded worldwide competition, leading to the development of new kinds of inter-organizational relations and forcing companies to build up their integration into the supply chain (Kim, 2006).

Working on integrated supply chain requires continual information sharing. On the other hand, in numerous companies, management has come to the conclusion that optimizing the product flows cannot be finished without implementing a process approach to the business. The Supply chain integration incorporate customer integration, internal integration, material and service provider integration, technology and planning integration, measurement integration and Relationship. Collaboration between buyers and suppliers, joint product creation and improvement, common frameworks, and shared knowledge are all examples of supply chain integration. A number of

scholars have moreover found that higher levels of integration for the most part lead to way better performance (Gimenez & Ventura, 2005 and Stock & Boyer, 2009).

The three main components of a different academics' model for an integrated supply chain are the management of information and financial flows, the management of product and material flows and the management of connections between supplier chain participants. All aspects of integration include participatory work, cooperation, the sharing of information, trust, alliances, common infrastructure and a fundamental move away from the supervision of individual functional modes towards the supervision of coordinated form chains. The integration degree might begin with the item strategy and merge to the extreme all the procedures. Moreover, some researchers do all activities throughout the valuable product life including services, reversal logistics and recycling (Ballou et al., 2000).

2.1.8. Dimensions of Supply Chain Management

SCM practices were identified as a series of actions aimed at promoting sustainable management of the supply chain in an organization by Handfield and Nichols (2002). Six aspects of SCM procedures are recognized by factor analysis: integration of the supply chain, sharing information, supply chain features, customer relationships; quality of information and lean system and deferment. SCM techniques include a number of actions connected to the operational function of companies (Muhammad, 2004). He has also split these operations into six dimensions: strategic partnerships with suppliers, customer connections, information exchange, data quality, lean system and postponement. Four specific metrics are chosen to measure SCM procedures when analyzing and consolidating the literature. The four dimensions encompass the upstream and downstream (customer relationships) sides of the supply chain, the information flows via the supply chain and internal lean practice.

2.1.8.1. Strategic Supplier Partnership

The term strategic supplier partnership refers to a long-term arrangement between a company and its suppliers. It is planned to make use of the core and organizational capabilities of participating partners in order to help them achieve notable long-term benefits (Stuart, 2007).Strategic supplier alliances allow you to collaborate more effectively with more critical

suppliers that are willing to share responsibility for operational success. Suppliers that get involved early in the product development process will help with more cost-effective design methods, selecting the best products and innovations, and design assessment (Tan et al, 1998). Strategically aligned companies can collaborate together and eliminate inefficient time and effort (Balsmeier & Voisin, 2006). As a result, successful supplier collaborations can be an essential part of a cutting-edge supply chain. Raps (2005), claims that the key to win is an integrator see of the usage prepare of procedure. Scholars have emphasized the key significance of joining suppliers, producers, and customers. Christopher, (2003) stresses the significance of connecting an imaginative procedure to the company's vision and by and large business methodology. Customers are appeared to be key drivers of execution advancement and advancement and are the foremost critical factor in accomplishing integration within the supply chain.

2.1.8.2. Customer Relationship management

Close customer relationship enables an organization to differentiate their offerings from its competitors, develop customer commitment. Customer relationship management (CRM) is a fundamental component of an organization since of the anticipated benefits likely to happen in case done well and the likely detriments to emerge in the event that ignored, the assurance of what precisely constitutes customer relationship management and its performance remains to be a prominent point of dispute in CRM studies has demonstrated to be nothing short of extraordinary (Lambert, 2005). CRM has a major advantage by helping firms to know the needs and behavior of their potential current customers in detail and modify their business operations to make sure that the customers are served in the best possible approach (Reimann et al., 2010). Fundamentally, it is known that all customers didn't play equal role in the customer relationship management or didn't help for its success; so, each firm should distinguish all of its customers' needs and deliver its offerings to meet their needs, close interaction with customers to accomplish its objectives.

2.1.8.3. Level of Information Sharing

The volume and quality of information exchanged are two aspects of the level of information sharing. Both viewpoints are critical for SCM practice and have previously been viewed as separate constructs of supply chain management (Moberg et al., 2002). The degree to which

simple and proprietary data is transmitted to one's supply chain partner is referred to as the level of amount perspective of data sharing. Supply chain partners that regularly exchange information will function as a single entity. Together, they will achieve ultimate consumer loyalty and, as a result, react to the demand more quickly.

2.1.8.4. Internal Lean Practices

Internal lean techniques are another supply chain management strategy, which pertains to using less resource while keeping the same mass manufacturing pace and giving consumers with multiple possibilities. Internal lean practices, according to Lu (2011) are associated with lean production and continual pursuit of enhancing the process philosophy by avoiding non value adding activities and wastes within an organization. To accurately characterize lean is difficult and it is likely that each company working out incline will take after their claim special course. It is the method of evacuating all of the wasted time and assets within the production. Nowadays, incline is advancing into managing approach that enhances all activities at each level of an organization. Agreeing to Mark et al., (2009), today`s demand driven supply chains require incline acquirement strategies whose objectives are: to dispose of squander in all obtainment cycles, prevent deficiencies, decrease stock investment, decrease purchase lead time and cost, increase stock turnover and guarantee clients fulfillment. These strategies guarantee more noteworthy effectiveness and standardization of procedures.

2.1.9. Operational Performance

Supply chain management practices affect not only operational performance, but also competitive advantage of an organization. According to (Christopher, 2003) and (Li et al, 2006) operational performance is a firm’s execution which is measured against standard on validated of capability, ability and environment obligation such as cycle time, efficiency and environmental protection. It refers to an organization's ability to deliver the type and volume of product requested by customers on time (Li et al., 2006).

Competitive criteria may also be used to conceive and assess operational performance. Performance improvements can present itself in a variety of ways, such as stock reduction, shorter lead time, or enhanced quality. Combination these kinds of upgrades under the wider areas of competitive demands such as cost, quality, delivery, and time can be a beneficial

quantification strategy that provides for comparison, comprehensiveness, and hypothetical support (Priscila & and Luiz, 2011).

In the event that an organization performs well at either one or more of these operational performance goals, the organization will be able to work towards a business strategy based on competitive variables. It is important to know that the accomplishment of any business strategy is not minor on as it were the capability of operations to recognize the fit of performance goals, but moreover on the reality that whether clients value the chosen competitive variables on the premise the business strategy is based. Operational capabilities progress one another, permitting operations intelligence to be built in a progressive way. In extension, they expressed that there's a grouping in which operational capabilities ought to be evolved. The starting point, the base is accomplishing talent in quality and after that greatness in determination (Ferdows & Meyer, 1990).

Price/cost, efficiency, distribution, and versatility have all been identified as essential competitive needs that can be conceptualized as indicators of operational success in numerous empirical studies (Tracey, Vonderembse, & Lim, 1999). Later research has expanded on time-based rivalry as a key strategic goal. Time has been established as another source of competitive advantage by (Stalk, 2008) and (Handfield & Pannesi, 1995). Price/cost, efficiency, distribution, and time to market are also depicted as dimensions of competitive advantage measure on operational performance by Li et al. (2006).

2.2. Empirical Review

The supply chain performance studies has observed both conceptual and experimental contributions; Developing complexity in today’s supply chain operations and expanding competitiveness has driven the firms to explore for key performance indicators, the studies investigate the empirical contributions on supply chain performance so as to dig encourage with to discover the existing gaps and future research opportunities.

Holmberg (2014) tried to discover how difficulties are a result of lacking utilize of frameworks technique to advance get it the dynamism. The data was collected from six firms which are home furnishing trades in Sweden to analyze its supply chain. This was complemented with broad survey of management, quality and logistics activities. The study shown the existence of a weak

relationship between strategy and activities; firms are still putting more prominent emphasis on monetary measures disregarding other factors which cause resistance by a few of its employees. Too it was greatly troublesome to classify firms inside a supply chain on the premise of systems thinking.

In his report Srinivasan et al. (2011) analyzed quality and performance of the supply chain with the least risk of demand, supply and natural instability in the interaction between buyer and supplier association. The finding demonstrates a good connection. The study also found that this positive relationship is essentially geared towards demand-side risk and natural vulnerability and then stressed the need for supply chain directors to have close relationships with their suppliers based on shared belief and transparency that will enable them to cope with demand side risk.

Moslem et al. (2013), by using essential supplier relations, provider interconnection, outsourcing, information sharing quality and in-house lean practice to influence operational performance in the manufacturing companies of Iran in the khuzestan region, distinguished the impact of supplier chain management practices Moslem et al. (2013). The data show that the association between SCM practices and performance is considerable and beneficial.

Alireza et al., (2011) have researched the Malaysian Electronic Industry as an independent components impacting supply chain achievement through supply chain planning, supply chain information exchange, adaptability and conveyance items. In addition, the results showed that flexibility affects via delivery the performance of the supply chain. Information sharing affects the performance of the supply chain and also indirectly affects the performance of the supply chain via flexibility. This shows that supply chain architecture has a considerable impact on performance, while taking the influence of information exchange into consideration.

Arawati (2011) examined the relationships between SCM, operational performance and business performance by utilizing lean production, innovation and advancement, key supplier integration and delay concept as SCM measurements and after that the result illustrates that SCM measurements specifically lean production, new innovation and advancement, key supplier

organization and delay concept show up to be of essential significance and show critical impacts on operational performance.

Adebayo & Toyin(2012) recognized the effect of SCM practices on SCM performance in Nigeria. The SCM practices considered within the survey about were key supplier organization, customer relations practices and delay. The result shows that SCM practices have positive impacts on operational performance.

Flynn, Huo, & Zhao(2010) surveyed the effect of supply chain integration on both operational and commercial accomplishment by utilizing supplier integration, customer integration, and inner integration as measurements of supply chain integration. They found that inner integration specifically relates to both trade and operational performance which client integration directly relate to operational performance. The integration of supplier and customer were related to operational performance. Inside and outside integration influence each other together with performance.

2.3. Hypothesis

Via price/cost reduction, efficiency, distribution dependability, time to market, and product innovation, supply chain management practices have an effect on an organization's operational success. Many academics believe that SCM activities have an effect on organizational efficiency. It improves supplier efficiency while reducing time to market (Lambert, 2005). It also increases responsiveness to consumer needs, resulting in increased client satisfaction (Barney, 1991). By encouraging companies to make reliable deliveries and bring goods to the market quickly, information exchange contributes to high levels of supply chain integration, according to Priscila and Luiz (2011). Lean practice is about doing more with less- a philosophy for identifying and removing waste across the whole business activities (Lu, 2011).

Hypothesis 1: Strategic supplier partnership has significant positive effect on operational performance.

According to Balsmeier & Voisin, (2006) Suppliers taking a concern within the product design handle can offer more taken a toll feasible choices, offer assistance to select the best components

and innovations which leads to productive and compelling operational performance. Supply chain management (SCM) recognized best practices that can encourage the supply chain to prepare arrangement and integration, and effectively actualizing the most current shared information systems that drive efficiencies, carrying out, and excellence all through the supply chain (Arawti,2011).

Hypothesis 2: Customer relationship has significant positive effect on operational performance.

Customer relationship covers the comprehensive range of practices that are employed for the rationale of managing customer complaints, building long-standing relationships with customers, and settling customer satisfaction. Customer relationship comprises a major advantage by helping firms to understand the requirements and behavior of their potential and existing customers very well and modify their business operations to form sure that the customers are served within the very best method (Reimann et al., 2010).

Hypothesis 3: Level of information sharing has significant positive effect on operational performance.

The degree to which basic and proprietary information is given to one's supply chain partner is referred to as the level of information sharing (Moberg et al., 2002). According to (Monczka et al., 1998), supply chain partners who exchange information on a regular basis are able to work as a single entity, understand end-customer needs better, and hence react to market change faster.

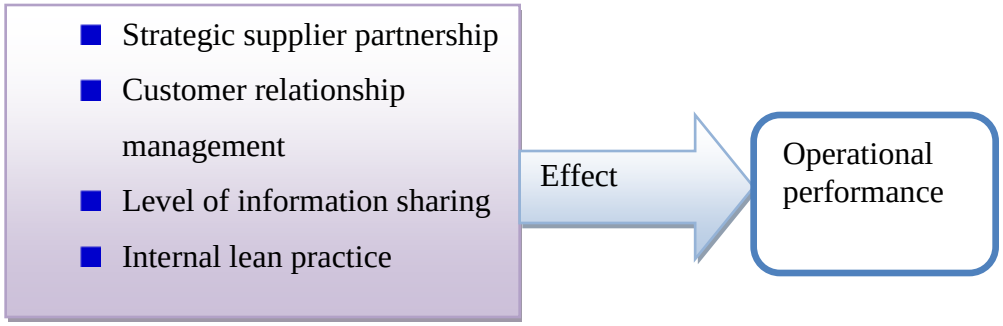
Hypothesis 4: Internal lean practice has significant positive effect on operational performance.

Lean manufacturing emphasizes the optimization across organization and supply bases using two production management systems which are; first, increasing efficiency through declining waste and error; second, reduced the carrying cost of inventories achieved by manufacturing in optimum batches (Lu, 2011).

2.4. Conceptual Framework

The researcher would examine the effect of supplies chain management practices on the operational performance of National Alcohol & Liquor Factory, among the various supplier chain variables found in the reviewed literature, the strategic supplier partnership, customer relationship management, level of information sharing, and lean practice are independent variables in this document, and operational performance as dependent variable. On this basis, between independent and dependent variables the following conceptual framework is displayed.

Figure2.1. conceptual frame work



Source: adopted from Li et al., (2006); and Moslem et al.,(2013).

CHAPTER THREE

METHODOLOGY

INTRODUCTION

The research methodology adopted during this study is discussed on this chapter. In this section, the researcher highlighted the following: for example, description of the study field; research approach; design of the research; population; and hence sampling techniques; data sources and data collection tools; methods of data analyzing; variable measuring; validity and reliability; and ethical considerations.

3.1. Descriptions about Study Area

The National Alcohol and Liquor Factory, Ethiopia's first alcoholic and liquor factory has been in operative for many years. Extra-neutral alcohol and various liquor products were manufactured and distributed for local and international markets. Two of the factory's four branch plants are operational, while the other two offer support.

The branch factories are named as: -

1. Sebeta Branch Factory/ Established in 1906 G.C/
2. Maichew Branch Factory / Established in 1914 G.C/ [production facility moved to Mekanisa and now it serves as sales and distribution]
3. Akaki Branch Factory/ Established in 1938 G.C/ currently Not operational but used as warehouse.
4. Mekanisa Branch Factory /Established in 1957 G.C and used as Now Head Office/

From the above facility locations two of them are operational (Mekanissa and Sebeta) and two of them are not operational (Maichew and Akaki). The distillery plant at Mekanissa has 18,000 liters Extra Neutral Alcohol (ENA) per day production capacity and Sebeta branch with production capacity of 12,000 liters ENA per day; the factory’s overall production capacity is 30,000 liters ENA per day (10,950,000 liter per year design capacity and 9,000,000 liter attainable capacity). Since, the ENA produced is mainly used for the production of different liquor products the above ENA can produce more than 21 million liters per year at its attainable capacity. The Maichew Branch is now used for the purpose of finished goods store and

distribution center for our agents and the Akaki branch is used for the purpose of dumping salvage materials and chemicals until the materials are disposed through bid or other mechanisms. The company accommodates about 1,070 employees in different categories permanent, temporary, contract and in the outsourced activities like loading unloading, cleaning, security, etc. The factory clients are regional agents, foreign agents, Addis Ababa agents, Groceries, Hotels & restaurants and others. Our main distribution center is Maichew branch located at Mexico square near Tegbare ed poly technic college and Sebeta branch.

3.2. Research Design and Approach

Choosing the appropriate research design of study enabled the researcher in designing and implementing the study in a way that permits the researcher to attain the desired goals, thus increasing the possibility of obtaining information related to the important situation (Burns & Grove, 2001). To achieve the aforementioned goals, this study utilized both descriptive and explanatory designs.

To determine the relation between supply chain management practices and the company's operational success, the researcher employed a cross-sectional survey method. The independent and dependent variables are measured at the same time in the cross-sectional survey using the predefined questionnaire. Following data collection, the effect of independent variables on the dependent variable was determined using Pearson's coefficient of correlation and regression analysis techniques.

3.3. Population and Sampling

3.3.1. Population

According to Saunders et al. (2009), a target demographic is a specified category of persons or entity about which questions may be posed or observations made in order to gather the necessary data structures and knowledge. The researcher focused on the 196 Supply Chain related staff of the corporation who have a clear relationship with supply chain management and operation management in order to gather data on supply chain management activities.

Table 3.1: Target Population of the Study

S.N.	Departments/supply chain participants	population
1	Procurement, warehouse and transportation	42
2	Production and packaging	70
3	Marketing	42
4	Quality, research and development	23
5	Planning and monitoring	4
6	Top level managers	11
7	supply chain supervisors	4
	Total	**196**

Source: National Alcohol and Liquor Factory, 2020

3.3.2. Sampling Method

Randomly chosen samples are known to be representative of the population. The researcher used probability sampling, specifically stratified random sampling, to pick a sample from the target population. According to Malhotra and Peterson (2006), there is no single and accurate method for determining sample size; therefore, there are a host of inadequacies for deciding on sample size. The larger the sample size of a study, the more accurate the results generated. The sample size for the analysis was determined using Yamane's (1967) formula based on a 95 percent desired confidence level and a 5 percent desired level of precision. Customers and strategic collaborators are not included in this study's target population because the number of customers is too high (estimated at over 25,000) for supermarkets, bars and restaurants, hotels, and so on; and the strategic suppliers are foreigners. Owing to time and budget constraints, the researcher targeted staffs of the firm who specifically engage in the SCM activities of the organization in various disciplines as the focus group.

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

Where: -

n = Sample size

N = population size =196

e = precision level=0.05 at 95% confidence level

$$n = \frac{196}{1 + 196(0.05^2)}$$

$$n = \frac{196}{1 + 0.49} = \frac{196}{1.49} = 131.54 \approx 132$$

Table 3.2: Sample Size Determination

SN.	Departments/supply chain participants	population	Sample
1	Procurement, warehouse and transportation	42	28
2	Production and packaging	70	45
3	Marketing	42	29
4	Quality, research and development	23	16
5	Planning and monitoring	4	3
6	Top level managers	11	8
7	supply chain supervisors	4	3
	Total	**196**	**132**

Source: National Alcohol and Liquor Factory, 2020 and own computation based on Yamane's (1967) formula

The further sample calculation was done using simple ratio formula as follow:- n/N=132/196= 0.6735; Therefore, to find the number of samples from procurement, warehouse and transportation, Number of sample= 42*0.6735= 28

The remaining calculations were made based on the above one.

The total sample size for the analysis was 132 respondents, according to the equation. The study employed stratified random sampling techniques. Finally, convenience sampling method was employed convenience sampling method to collect the data.

3.4. Data Type and Collection Technique

The data collected from primary sources through questionnaire and interview. The researcher used 5-point likert scale approach (i.e., from "strongly disagree to strongly agree") and ordinal measurement scale with the following ratings; Strongly Disagree (1), Disagree (2), neutral (3), Agree (4) and Strongly Agree (5) to generate data suitable for quantitative

analysis (Joshi,2015). In addition to this qualitative data also collected through interview from managers of procurement marketing managers.

3.5. Method of Data Analysis

In addition, both descriptive and inferential statistical approaches were used to examine data before analysis of the quantitative information obtained through questionnaires were evaluated for its completeness and consistency. The data processed with version 24 of SPSS. On the descriptive analysis phase, which uses statistical methods mainly to sum up the answers with frequencies, percentages, mean and standard deviations. The inferential analyses part also presented using correlation and multiple regression techniques to show the relationship and the significance between dependent and independent variables.

Table 3.3 Comparison bases of mean score of five point likert scale instrument

Mean score	Description
<3.39	Low
3.4-3.79	Moderate
>3.80	High

Source: Zaidatol & Bagheri (2009)

3.6. Model Specification and Description of Study Variables

The regression model used for the analysis presented as follows;

$$Y = B0+B1X1+B2X2+B3X3+B4X4+\varepsilon$$

Adopted from; Bluman(2009)

Where,

***Y*=**Operational Performance of National Alcohol and Liquor Factory /dependent variable/

B0= Constant (value of Y when X1, X2, X3 and X4= 0)

B1, B2, B3 and B4 are coefficients of the regression for strategic supplier partnership, customer relationship management, level of information sharing and internal lean practice respectively.

X1= Strategic supplier partnership

X2= Customer relationship

X3= Level of information sharing

X4= Internal lean practices

ε = the error

3.7. Reliability and Validity Analysis

3.7.1. Validity

A measurement device's validity decides whether or not it is measuring what it is designed to measure. The essential issue of measurement validity is whether or not measurements of ideas truly measure the notion. Material validity, convergent validity concurrent, predictive validity, construct validity, and convergent validity are all approaches to produce validity. By examining the literature and adopting tools used in earlier research by Li et al. (2006), and Priscila & Luiz (2011), this thesis investigated material relevance.

3.7.2. Reliability

Nunnaly (1978) defined dependability as the consistency of a test, survey, observation, or other measuring instrument. As a result, Cronbach's alpha statistics were used to assess the questionnaire's reliability. The instrument's degree of reliability reflects the accuracy of the variables. Cronbach's alpha is a metric of efficiency associated with the variance accounted for in the true score of the underlying construct, and it can only be calculated for variables with several calculation questions. A value of 0.5 is adequate, although a value of 0.7 is more rational. Therefore, the reliability of the questionnaire was analyzed by using Cronbach’s alpha statistics..

3.8. Ethical Consideration

Respondents were informed about the goal and benefit of the study, as well as their complete ability to decline or accept participation, throughout the dissemination of the questionnaire. The respondents were assured that their responses would be kept private and that their identities would not be revealed. Every individual participated in the study had the right to privacy and dignity of treatment, and no one was harmed as a result of the research. The researcher keeps the information gathered strictly secret. All support, collaboration, and sources from which information was obtained were recognized.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter includes an analysis of the findings and a discussion of the implications of supply chain management practice of the National Alcohol and Liquor Factory on its operational performance. 132 questionnaires are distributed to collect the data, and all the questionnaires were completely filled and returned. The closed ended questionnaires that developed in Likert scale ranging from one to five where; 1=strongly disagree, 2=disagree, 3=neutral, 4=agree and 5=strongly agree distributed to those employees who have been working on the chosen a section and three branches under the study in Addis Ababa (Main office/Mekanisa/, Mexico branch and Sebeta branch) and an interview was held with the corresponding managers. The quantitative data were analyzed using SPSS Version 24. Both descriptive and inferential analyses are presented. The quantitative results are presented and discussed using statistical tools such as; a percentage, means, Pearson correlation, and regression so that to draw a conclusion.

4.2 Demographic characteristics of respondents

In this section of the questionnaire the demographic profile of the participant employees of National Alcohol and Liquor Factory three branches under study is presented for analysis. The analysis tries to produce information based on gender, age, educational background, and years of service/work experience/ and current position of respondent employees. Frequencies of occurrences of specific variables are determined, from which the percentage calculated. Frequency and percentage table of demographic variables are presented below.

Table 4.1 Demographic profile of respondents

No.	Profile	Description	Frequency	Percent (%)
1	Gender	Male	106	80.3
		Female	26	19.7

No.	Profile	Description	Frequency	Percent (%)
2	Age	18-30 year	17	12.9
		31-40 year	50	37.9
		41-50 year	32	24.2
		>=51 year	33	25
3	Educational Background	TVET/Diploma	48	36.4
		Bachelor degree	67	50.8
		Masters	17	12.9
4	Service year/work experience	<=5 year	14	10.6
		6-10 year	36	27.3
		11-15 year	27	20.5
		16-20 year	24	18.2
		>=21 year	31	23.5
5	Current position	Procurement, warehouse and transportation	28	21.2
		Production and packaging	45	34.1
		Marketing	29	22
		Quality, research and development	16	12.1
		Planning and monitoring	3	2.3
		Top level managers	8	6.1
		supply chain supervisors	3	2.3

Source: own survey data, 2020

As shown in Table 4.1. About 106 (80.3%) of the respondents were male and the remaining 26 (19.7%) of the respondents were female this implies there an imbalance in gender proportion in the organization. Regarding the age distribution of the respondents as it is indicated in Table, the largest number of the respondents 50 (37.9 %) were in the age group of 31 to 40 years; the

second largest group 33 (25.0) those aged above 51 years, of the total respondents 17 (12.9 %) indicated that they were in the age group of under 30 years, of the total respondents 32 (24.2 %) indicated that they were in the age group of 41 to 50 years.

The educational level of the respondents has exhibited in the table, from the sample taken the majority 67 (50.8%) of the respondents are first degree holders, the second majority 48(36.4%) of respondents are in the category of TVET/College diploma, and 17 (12.9%) are in the category of second-degree holders among the respondents. From this we can infer that about 64% of the respondents have a minimum of first degree, therefore respondents are expected to understand the survey instrument, and then proper data were collected.

As shown in the above table, out of the respondents 36 (27.3%) have worked for less or equal to 5 years and 31 (23.5%) have worked above 21 years 27 (20.5 %) from 11 to 15 years and the rest of employees who are in the category of 16-20 years and less or equal to 5 years were 24 (18.2%) and 14 (10.6%) respectively in National Alcohol and Liquor Factory. Based on the above table, the department of the respondents that engaged were 45(34.1%) of the respondents work in production and packaging 29(22.0%) of respondents work in marketing, 28(21.2%) respondents work procurement, warehouse, and transportation, 16(12.1%) of the respondents work in quality, research & development, 8(6.1%) top-level managers and each 3(2.3%) were planning and supply chain supervisors respectively. The demographic data presented above have also confirmed the possibility of drawing implications for a generalization from the sample characteristics to the target population. This implies that they are capable of intellectualizing and respond confidently the questionnaire.

4.3. Descriptive analysis

The descriptive analysis is carried out in this part to analyze the extent of supply chain management practice on operational performance. The mean and standard deviation scores are used to compare the responses to each given statement in this study. This explains the descriptive statistics on the data analysis and procedures on the state of the various variables included in the extent of supply chain management practice, which is classified as strategic supplier partnership, customer relationship management, level of information sharing, and internal lean.

The survey scale is as follows: 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, and 5=strongly agree.

According to Zaidatol and Bagheri (2009), a mean score of 3.80 and above is regarded high, 3.40-3.79 is considered moderate, and 3.39 and lower is considered low. As a result, the aforementioned technique considers the extent of supply chain management methods inside the research.

The National Alcohol and Liquor Factory's supply chain management practices are shown and reviewed for each parameter using tables with mean and standard deviation.

4.3.1. Strategic supplier partnership

Table 4.2 displays the means and standard deviations of the responses on strategic supplier partnership of the Factory with its suppliers.

Table 4.2 Descriptive statistics on strategic supplier partnership

Variables	Mean	Std. Deviation	Skewness	Kurtosis
Quality is our first criterion in selecting suppliers	3.83	0.527	-.808	1.885
Problems are jointly solved with suppliers	2.93	0.764	.116	-1.268
The company supports suppliers to improve their product quality	3.75	0.658	-1.152	1.564
Key suppliers are included continuous improvement programs	3.61	0.588	-1.025	.402
Key suppliers are included in planning and goal-setting activities	3.01	0.824	-.014	-1.529
Key suppliers involve in new product development processes	3.01	0.715	-.011	-1.023
Strategic supplier partnership	**3.36**	**0.36**		

Source: own survey data, 2020

As it is indicated the table 4.2 based on the mean value, the variables for the strategic partnership of the Factory with its suppliers vary from the highest 3.83, for the criteria for selection of the supplier to the lowest (2.93) for joint involvement in problem solving. The highest respondents' agree on National Alcohol and Liquor Factory suppliers' selection based on quality criteria and National Alcohol and Liquor Factory support to its suppliers to improve their product quality. However, they are neutral on jointly solving problems with suppliers, including suppliers in continuous improvement program, on the new product development process. The skewness and kurtosis of the obtained results based on strategic supplier relationship variables are normally distributed, i.e. they lie between -2 and +2.

The distributive construct has standard deviation 0.36 which is low and that shows that comparatively lower spread in the data and clustering of responses nearby the mean. Based on Zaidatol and Bagheri (2009) mean score explanation, the mean score=3.36 indicate the strategic supplier partnership practice of the factory is low. Therefore, the finding has shown as the Factory has to improve the involvement of its suppliers in planning and goal setting activities, in new product development, and in jointing solving problems to improve its strategic supplier relationship.

4.3.2. Customer relationship management

Table 4.3 displays the means and standard deviations of the responses on customer relationship management of the National Alcohol and Liquor Factory with its customers. As shown in Table 4.3, the questions focused on the frequency of interaction with customers to set standards, measure customer satisfaction, and determine future customer expectations; facilitating customers' ability to seek assistance from the factory and evaluating periodically the importance of relationship with National Alcohol and Liquor Factory.

Table 4.3 Descriptive statistics on Customer relationship management

Variables	Mean	Std. Deviation	Skewness	Kurtosis
There is frequent interaction with customers to set reliability, responsiveness, and other standards	2.79	0.731	.354	-1.059
The company frequently measure and evaluate customer satisfaction	3.28	0.765	-.318	-.860
The Company frequently determines future customer expectations	3.58	0.722	-.640	.031
The company facilitates customers' ability to seek assistance from us	3.74	0.727	-.892	.828
Periodically, the company evaluate the importance of relationship with customers	3.89	0.673	-.626	1.034
Customer relationship management	**3.46**	**0.39**		

Source: own survey data, 2020

As it is indicated in Table 4.3 based on the mean value, the variables for customer relationship management of National Alcohol and Liquor Factory with customers vary from the highest 3.89, for periodically evaluating the importance of the relationship with customers to the lowest (2.79) for frequent interaction with customers. The highest respondents' agree on National Alcohol and Liquor Factory periodically evaluating the importance of the relationship with customers and National Alcohol and Liquor Factory facilitate customers' ability to seek assistance. However, they are neutral on rate of interaction with customers to set standards, measure customer satisfaction. The skewness and kurtosis has showed the collected data based on the variables of strategic supplier partnership is normally distributed i.e. it falls between -2 and +2.

The distributive construct has a standard deviation of 0.39 which is low and that shows that comparatively lower spread in the data and clustering of responses nearby the mean. Based on Zaidatol and Bagheri (2009) mean score explanation, the mean score=3.46 indicate the strategic supplier partnership practice of the factory is moderate. As a result of the findings, National Alcohol and Liquor Factory must enhance the rate of customer engagement in order to establish reliability, responsiveness, and other requirements, as well as monitor customer satisfaction and determine future consumer expectations.

4.3.3. Level of information sharing

The level of information exchange, as seen in table 4.4, applies to the degree to which critical and proprietary information is shared with supply chain partners. Table 4.4 summarizes the responses to the concerns about the Factory's level of information exchange with its supply chain partners.

Table 4.4 Descriptive statistics on Level of information sharing

Variables	Mean	Std. Deviation	Skewness	Kurtosis
The factory informs Supply chain partners in advance of changing needs	3.89	0.621	-.705	1.624
Supply chain partners share proprietary information with the company	3.34	0.76	-.664	-.968
Our Supply chain partners keep us fully informed about issues that affect our business	2.86	0.88	.203	-.591
Our Supply chain partners share business knowledge of core business processes with us	3.35	0.865	-.384	-.994
We and our Supply chain partners exchange information that helps establishment of business planning	3.83	0.559	-.304	.572

Variables	Mean	Std. Deviation	Skewness	Kurtosis
Exchange of information with our partners (formal or informally) is frequent	3.45	0.795	-.914	-.155
We and our Supply chain partners keep each other informed about events or changes that may affect the other partners	2.90	0.837	.188	-1.550
Level of information sharing	**3.37**	**0.32**		

Source: own survey data, 2020

As it is indicated in Table 4.4 based on the mean value, the variables for the level of information sharing of National Alcohol and Liquor Factory with its supply chain partners vary from the highest 3.89, for informing supply chain partners in advance of changing needs to the lowest (2.86) for supply chain partners keep fully informed about the issues that affect the factory. The highest respondents' agree on National Alcohol and Liquor Factory in order to meet change of needs, it informs its supply chain partners and exchange of information that helps establishment of business planning. The skewness and kurtosis have shown the collected data based on the variables of strategic supplier partnership are normally distributed i.e. it falls between -2 and +2.

The distributive construct has a standard deviation of 0.32 which is low and that shows that comparatively lower spread in the data and clustering of responses nearby the mean. Based on Zaidatol and Bagheri (2009) mean score explanation, the mean score=3.37 indicate the level of information sharing practice of the factory is low. Therefore, the finding has shown that National Alcohol and Liquor Factory has to improve on keeping each other fully informed with its supply chain partners on issues that affect the business, about events or changes that affect the other partner, on core business processes, and sharing proprietary information.

4.3.4. Internal lean practice

Table 4.5 displays the means and standard deviations of the responses on the internal lean practice of the National Alcohol and Liquor Factory. As shown in Table 4.3, the questions focused on the reduction of process set-up time, quality improvement programs, and producing to production demanded by customers.

Table 4.5 Descriptive statistics on Internal lean practice

Variables	Mean	Std. Deviation	Skewness	Kurtosis
The factory reduces process set-up time (time required to prepare or refit equipment/workstation for production)	3.27	0.742	-.374	-.896
The factory has continuous quality improvement programs	4.09	0.516	.134	.688
The factory produces only what is demanded by customers when needed	3.07	0.701	-.230	-.490
Internal lean practice	**3.48**	**0.35**		

Source: own survey data, 2020

As indicated in Table 4.5 the internal lean practice of the National Alcohol and Liquor Factory mean value varies from the highest 4.09, for continuous quality improvement programs to the lowest (3.07) for producing only what is demanded. The highest respondents' agree on National Alcohol and Liquor Factory has continuous quality improvement programs. However, they are neutral on the process set up time reduction, and producing only what is demanded.

The distributive construct has a standard deviation of 0.35 which is low and that shows that comparatively lower spread in the data and clustering of responses nearby the mean. Based on Zaidatol and Bagheri (2009) mean score explanation, the mean score=3.48 indicate the strategic supplier partnership practice of the factory is moderate. Therefore, the finding has shown as National Alcohol and Liquor Factory has continuous quality improvement programs but the factory should improve on producing only what is demanded and process set up time reduction.

4.3.5. Operational performance

Table 4.6 displays the means and standard deviations of the dependent variable.

Table4.6 Operational performance

Variables	Mean	Std. Deviation	Skewness	Kurtosis
Supply chain delivers goods and services within the right place that they were needed	3.77	0.661	-.201	.082
Supply chain deliver goods and services within the deadlines that they were needed	3.64	0.667	-.073	-.139
Supply chain is flexible or able to make changes and meet new demands of the operation whenever there was need to	3.67	0.573	-.842	.605
supply chain able to deliver the right quantity of goods and services for the operation	3.67	0.486	-.953	-.594
Operational performance	**3.69**	**0.28**		

Source: own survey data, 2020

As indicated in Table 4.6 based on the mean value, the variables for the operational performance of the National Alcohol and Liquor Factory vary from 3.77 to 3.64. The highest respondents' agree on National Alcohol and Liquor Factory delivering goods and services within the right place needed. The skewness and kurtosis have shown the collected data based on the variables of strategic supplier partnership are normally distributed i.e. it falls between -2 and +2.

The distributive construct has a standard deviation of 0.28 which is low and that shows that comparatively lower spread in the data and clustering of responses nearby the mean. Based on Zaidatol and Bagheri (2009) mean score explanation, the mean score=3.69 indicate the

operational performance of the factory is moderate. Therefore, the finding has shown as National Alcohol and Liquor Factory has to improve its operational performance as indicated by the gap in the above. The prior empirical studies have revealed that to improve the operational performance of any organization, it needs to improve the supply chain practices.

4.4. Inferential Analysis

4.4.1. Correlation Analysis between SCM constructs and Operational performance

The link between supply chain management activities and organizational efficiency was investigated in this section. Correlation is one of the most well-known data analytics because it can provide an interpretation that stands alone, as well as because it encompasses many other analyses and can be used to support hypotheses reached after more simple analyses have been performed. The linear relationship between two variables is measured by correlations. The range of a correlation coefficient is -1 to 1. Closer values to the absolute value of 1 imply a strong relationship between the variables being correlated, while values closer to 0 indicate a weak or non-existent linear relationship. The form of relationship between the variables being correlated is defined by the sign of a correlation. A positive correlation coefficient indicates that the factors have a positive linear relationship and vice versa.

Table4.7 Correlation Analysis between SCM constructs and Operational performance

Correlations						
		SP	CR	LI	IP	OP
OP	Pearson Correlation	.597**	.664**	.647**	.632**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	132	132	132	132	132
**. Correlation is significant at the 0.01 level (2-tailed).						

Source: own survey data, 2020

As shown in Table 4.7. The strategic suppliers partnership (SP), which has a correlating Pearson coefficient of 0.597 (r=0.597) and a value less than 0.05 has a favorable relationship to operating performance. This shows that the strategic provider partnership has a major link with organizational performance.

As seen in table 4.7 above. The customer relationship (CR) and operating performance are positively linked to the coefficient of Pearson (r = 0.664) and their meaning level is less than 0.05. This shows that customer relationship management and operational performance are in important relationships.

Table 4.7 shows the results of the Pearson correlation test that was performed. With a Pearson coefficient (0.647) and a significance level less than 0.05 there is a positive link between levels of information sharing (LI) and operational performance. This suggests that there is a link between the degree of information exchange and operational performance.

As seen in Table 4.7. There is also a positive correlation coefficient (r=0,632), which shows that internal lean practice (IP) has a positive association with operational efficiency of less than 0.05. This means that the internal lean approach is closely related to operational performance.

The Interview questions were structured and the selected respondents replied with their own idea and the result is triangulated with the questioner as follows.

I. Strategic Supplier partnership

All the interview respondents agree on the constructs stated in the questioner and additionally, the company gave a higher score for quality is the first criterion for selecting suppliers and the company helps the key suppliers to improve their product quality. Based on this, the company supports by testing the samples received from the suppliers and giving feedback to improve their product quality; this helps both the company and the suppliers and finally, the bottle and cup supply replaced by local suppliers instead of importing these inputs.

II. Customer Relationship

Regarding the customer relationship, the interview respondents agreed that the company had weak customer relationship management on the frequently measuring and evaluating customer satisfaction and determining future customer expectations but the company evaluates the importance of the relationship with customers at the annual meetings with its agents and selected customers. Based on this the interviewees agreed on the company should improve on the frequency of interaction with its customers and tacking corrective action based on the feedback given by customers to enhance customer satisfaction.

III. Information sharing

The respondents of the interview question agree that the level of information sharing in both directions is not satisfactory. Therefore, the interviewees agree that the company should make frequent interactions with its key suppliers, especially with Ethiopian Sugar Corporation because it is the only single molasses supplier and faces input shortage that leads to down time and low operational performance.

IV. Lean Practice

Finally, almost all of the interviewees agree that the company internal lean practice of the factory is a lower level especially in reducing process set up time or time required to prepare or adjust the especially in liquor production and producing only what is demanded by customers because this one could increase its inventory cost. The interview result also agrees with the questioners result as all interviewees were responded constructs of SCM practices had a strong and direct relation with Competitiveness.

4.4.2. ANOVA Table

Table 4.8 ANOVA Table

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.164	4	1.791	66.063	.000[b]
	Residual	3.443	127	.027		
	Total	10.607	131			

a. Dependent Variable: OP

b. Predictors: (Constant), IP, SP, LI, CR

Source: own survey data, 2020

The F test result is 66.063, which is significant at p 0.001. As a result, we can assume that our regression model produces slightly improved operational performance predictions and that the regression model as a whole accurately forecasts operational performance.

4.4.3. Regression Analysis

The collected data from the employees of the National Alcohol and Liquor Factory on supply chain management practice for the inferential analysis of the study. Multiple regression analysis is conducted to test the relationship among independent and dependent variables.

The predictors for supply chain practice, such as strategic supplier partnerships, customer relationships, information sharing levels, and internal lean practices, were chosen based on the empirical reviews in the model. According to (Field,2009), there are two important questions to ask when analyzing a regression model based on the observation of a sample of data: (1) does the model fit the empirical observations well, or is it biased by a small number of outliers; and (2) can my model generalize to other samples? These problems are essential because they have an impact on the model that has been developed. Therefore, to answer these two basic questions the following multiple regression assumptions have been checked and the test results as follows.

4.4.3.1. Multiple regression Assumptions

In order to get the reliable and dependable result of the analysis, all the assumptions of the multiple regression be fulfilled before making the regression analysis interpretation. Therefore, before going to answer the research questions the researcher have tested the following pre regression assumptions and the assumption results are presented on the following topics of this research paper.

I. Sample size

Sample size is the important factor that should be considered while conducting the regression analysis. According to Field (2009), makes two rules of thumb for the minimum acceptable sample size, the first based on whether you want to test the overall fit of your regression model (i.e. test the R2), and the second based on whether you want to test the individual predictors within the model (i.e. test p-values of the model). To test the model overall, then he recommends a minimum sample size of 50 + 8k, where k is the number of predictors. So, with four predictors,

you'd need a sample size of 50 + 8*4 = 82. To test individual predictors then he also recommends a minimum sample size of 104 + k, so again taking the example of 4 predictors you'd need a sample size of 104 + 5 = 108 (Field, 2009).Therefore, since the samples for this survey is 132 that means it provide enough case for the survey in predicting both the model overall or individual predictors in the model.

II. Reliability test

According to Nunnaly (1978), reliability is the accuracy of a measure, survey, observation, or other measuring instrument. The instrument's degree of reliability reflects the accuracy of the variables. Cronbach's alpha is a metric of efficiency associated with the variance accounted for in the true score of the underlying construct, and it can only be calculated for variables with several calculation questions. A value of 0.5 is adequate, although a value of 0.7 is more rational. As a result, the questionnaire's reliability was assessed using Cronbach's alpha statistics.

Table 4.9 Reliability statistics

Construct	Variables	Number of items	Cronobach's alpha
supply chain management practices	SP	6	0.832
	CR	5	0.803
	LI	7	0.823
	IP	3	0.824
operational performance	OP	4	0.776

Reliability Statistics

Cronbach's Alpha	N of Items
.844	5

Source:own survey data, 2020

As can be seen from SPSS generated data in Table 4.9, the calculated coefficient Cronbach's alpha for this study was found to be greater than 0.7 for all variables and overall, which is confirming the variables to be internally consistent.

III. Multicollinearity

The multi-collinearity test is used to determine if two or more predictors in a regression model have a strong correlation. Tolerance and the variance inflation factor can be used to test this statement (VIF). If the VIF value is less than ten and the tolerance figures are greater than 0.2, there is no collinearity in the data (Field, 2009). A minimal tolerance value means that the variable in question is almost a perfect linear combination of the independent variables already in the equation and need not be used in the regression equation. A proper model of regression should not have a statistically significant correlation between its independent variables or a multi-collinearity issue; and the VIF should be 1 to 10 with a tolerance level larger than 0.2.

Table 4.10 Multi-collinearity test

Model	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
SP	0.685	1.46
CR	0.566	1.768
LI	0.681	1.469
IP	0.67	1.493

a. Dependent Variable: OP

Source: own survey data, 2020

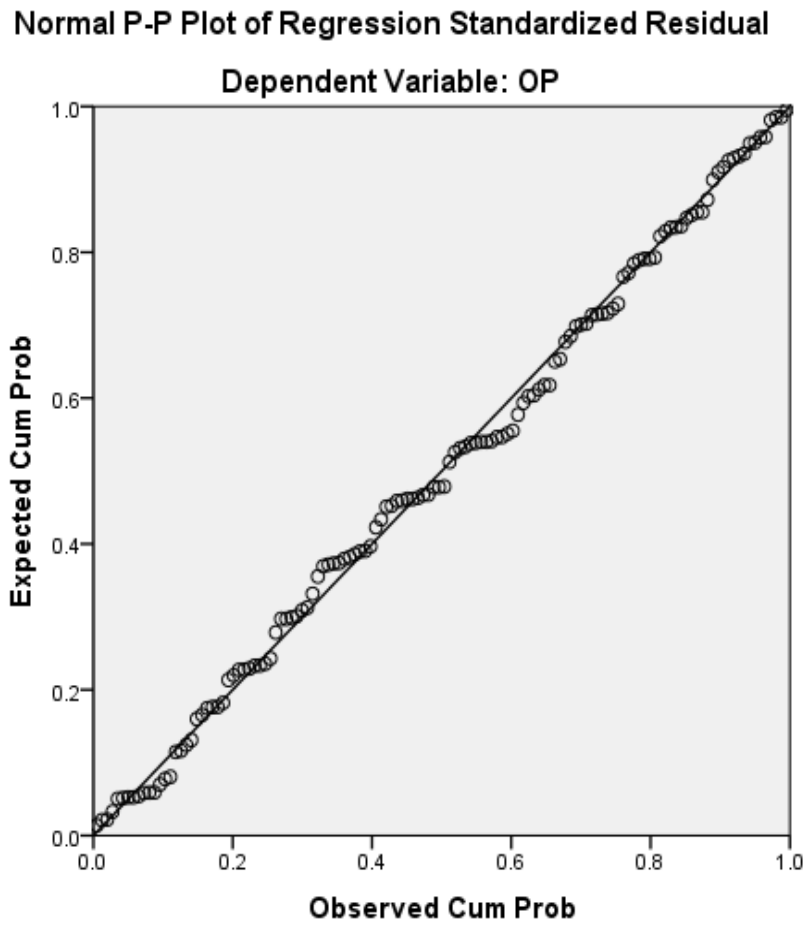
As indicated in table 4.10, the obtained VIF (Variance inflation factor) value is between 1 and 10 and the tolerance level is greater than 0.2. Therefore, there is no Multicollinearity problem in the model.

IV. Normality

The normally distributed error statement states that the model's residuals are random, normally distributed variables with a mean of 0. This assertion clearly states that the variations between the model and, as a result, the observable results are almost always zero or very close to zero, with differences greater than zero occurring only on rare occasions. The regular distribution, in

general, produces a straight diagonal line, so the plotted residuals are relative to the diagonal. The residual line would strongly follow the diagonal if the distribution is normal (Field, 2009).

Figure 4.1 P-P plot of regression standardized residual

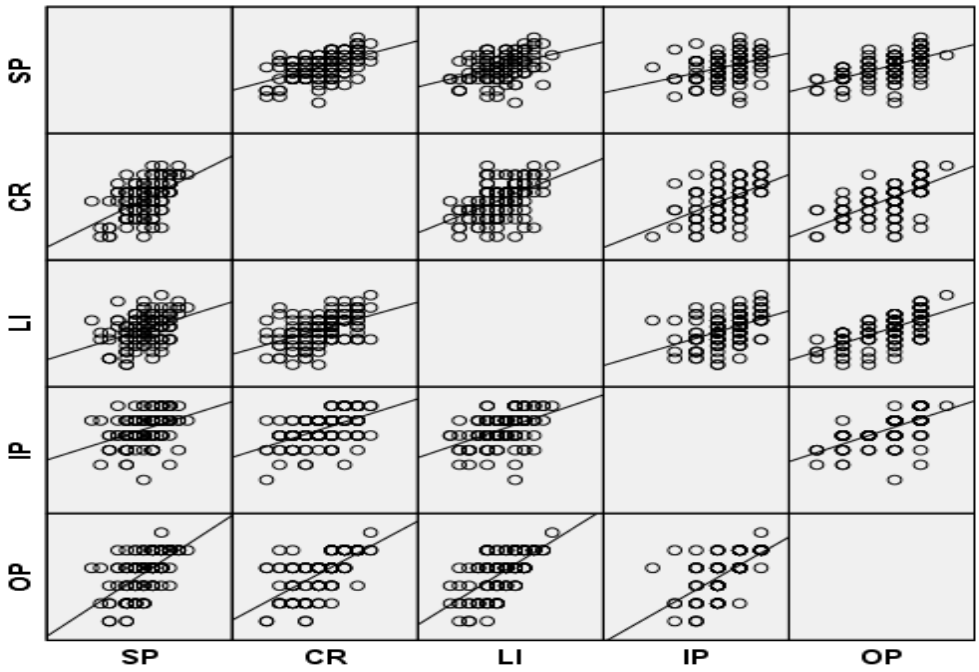


Source: own survey data, 2020

As shown in the above Figure 4.1 the residuals have a sound normal distribution because the plotted residuals are nearby the diagonal straight line.

V. Linearity Matrix Plot

Figure 4.2.Linearity Matrix Plot

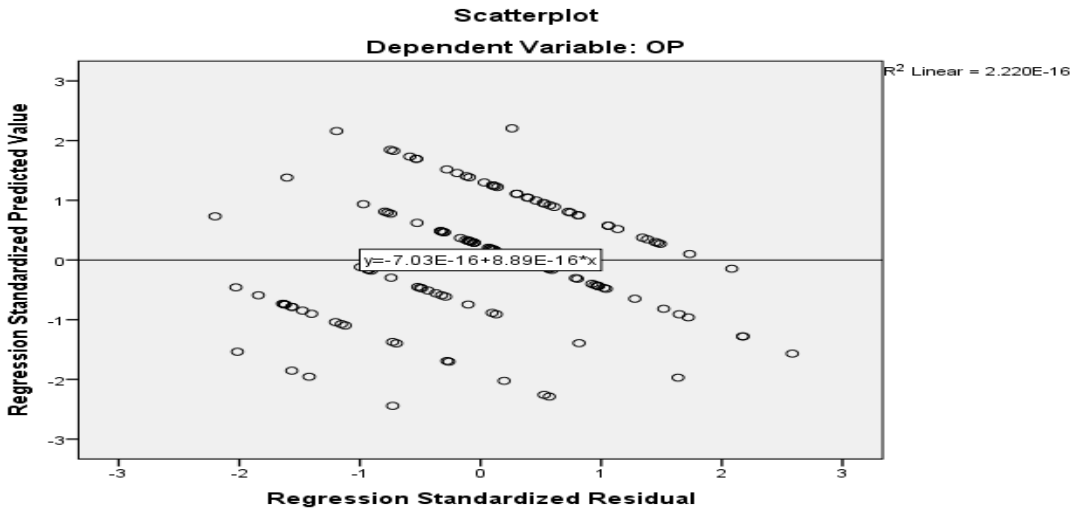


Source: own survey data, 2020

As we can see in figure 4.2 a linearity matrix plot, there is a linear relationship among the predictors and the dependent variable.

VI. Test of Heteroscedasticity

Figure 4.3 Heteroscedasticity



Source: own survey data, 2020

As shown in the above figure, figure 4.3 data were homoscedastic.

VII. Autocorrelation Test

Table 4.11 Test of Autocorrelation (Durbin-Watson)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.822[a]	.675	.665	.16466	.675	66.063	4	127	.000	2.146

a. Predictors: (Constant), IP, SP, LI, CR

b. Dependent Variable: OP

Source: own survey data, 2020

Based on the SPSS result Durbin-Watson = 2.146. According to Karadimitriou & Marshall (2015), Durbin-Watson statistic should fall between 1.5 and 2.5. Therefore, no autocorrelation was found in the model.

4.4.4 Results of Regression Analysis

4.4.4.1 Regression Analysis model summary

The R-squared of a multiple regression model determines comparable correlations between all variables, including correlations between independent variables, between themselves and the dependent variable. The multiple correlation coefficients (R) assess the strength of the Y link with the four predictor variables of the equation, namely the strategic supplier alliances, management of customer interactions, level of information sharing and internal leaning activities of the case firm. Various values R refer to a strong link between the expected and observable values of the results. A multiple R of 1 is a circumstance in which the model predicts the observed data accurately (Field, 2009).

Table 4.12 Model summary table

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.822a	0.675	0.665	0.16466

a. Predictors: (Constant), IP, SP, LI, CR

b. Dependent Variable: OP

Source: own survey data, 2020

According to SPSS derived findings, the adjusted R^2 (coefficient of determination) demonstrated 66.5 percent of the factors affecting operational performance as illustrated by the four independent variables studied. As a result, more research is needed to look at the other 33.5 percent of factors that affect the National Alcohol and Liquor Factory's operational performance.

4.4.4.2 Coefficients of regression Analysis

The following table reveals coefficients when we examine the beta (coefficients) of each predictor and its importance to determine which of these predictors i.e. SP, CR, LI, IP have contributed substantially to our dependent variable Y (operational performance).

Table 4.13 Coefficients of regression analysis

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.740	.185		4.003	.000
	SP	.193	.049	.241	3.947	.000
	CR	.181	.049	.246	3.662	.000
	LI	.265	.054	.301	4.919	.000
	IP	.225	.051	.274	4.434	.000

a. Dependent Variable: OP

Source: own survey data, 2020

The regression model presented as follows;

$$Y = B0+SPX_1+CRX_2+LIX_3+IPX_4+\varepsilon$$

$$Y= 0.740+0.193X_1+0.181X_2+0.265X_3+ 0.225X_4+ 0.164$$

As it is shown in the above table 4.12.all the variables are significant with a 95% confidence interval and the coefficients have a positive sign which indicates the predictors have a direct relationship with the dependent variable.

The intercept often labeled the constant term is the expected mean value of Y when all X=0. If so, and if all X never = 0, there is no interest in the intercept. Therefore, the researcher didn't interpret the constant term.

From the above multiple regression equation, if X1 increased by one unit by holding X2, X3, and X4 equal to zero, the operational performance of the National Alcohol and Liquor Factory increases by B1 units on average. The same explanation holds for the remaining variables. Therefore, if the strategic supplier partnership increases by one unit on average the operational performance of the National Alcohol and Liquor Factory will be increased by 0.193. The same interpretation holds for the remaining, so for one unit increase in customer relationship management operational performance increases by 0.181 keeping other variables constant; one unit increase in the level of information sharing operational performance increases by 0.265 and one percent increase on internal lean practice the operational performance increases by 0.164 holding other variables constant.

4.5. Hypothesis Summary

The researcher answered the following hypothesis on the basis of the results of the investigation.

H1: Strategic supplier partnership has significant positive effect on operational performance.

Based on the findings above, the strategic collaboration with suppliers has a positive and substantial impact on the National Alcohol and Liquor Factory's operational results, which determined that the t-statistic value is 3.947 at a p-value < 0.05. The value of the strategic supplier partnership coefficient was 0.193 as well; therefore maintaining other variables constantly leads to a 19.3% improvement in the company's operational performance per unit change in the strategic supplier relationship.

H2: Customer relationship has significant positive effect on operational performance.

On the basis of the analytical results, customer relations have had a positive and substantial impact on national alcohol and liquor factory operations in which the t- statistics were estimated at a p-value of 3.662 < 0.05. The value of the customer relationship management coefficient was

similarly 0.181, so that, leaving other factors constant, unit change in the customer relationship management leads to an 18.1% increase in the operational performance of the firm.

H3: Level of information sharing has significant positive effect on operational performance.

According to the findings of the analysis, levels of information sharing have a positive and substantial impact on the operational performance of the National Alcohol and Liquor Factory, with the t-statistic value found to be 4.919 at a p-value of 0.05. The coefficient of levels of information sharing was also 0.265, which suggests that a unit change in levels of information sharing results in a 26.5 percent improvement in the company's operational performance while all other factors remain constant.

H4: Internal lean practice has significant positive effect on operational performance.

The results of the analyzes above show that internal magic practice has positive and substantial effects on the operational performance of the National Alcohol and Liquor Factory, which computed that the p-value t-statistic value was 4.434 < 0.05. The value of the internal lean practice coefficient was similarly 0.225, which implies that the unit change in internal lean practice leads to a 22.5% gain in the operational performance of the firm by constant observation of other variables.

In general, the survey result showed that there is a significant and positive relationship between independent variables of supply chain practices and the operational performance of the National Alcohol and Liquor Factory.

As the result is explain, therefore improving National Alcohol and Liquor Factory's operational performance could be improved considerably and positively by improved supply chain practices, i.e. strategic supplier partnership, customer relationship management, information sharing level, and internal lean practices. The results of this survey reflect the findings of the empirical studies conducted in the study area, i.e. Moslem et al., (2013), Alireza et al. (2011), Arawati(2011), Adebayo and Toyin(2012).

Table 4.14 Summary of Hypothesis Test Results

Hypothesis	**Regression Result**	**Decision**
Strategic supplier partnership has significant positive effect on operational performance	*(B*=.193,p<0.05)	Accept
Customer relationship has significant positive effect on operational performance	*(B*=.181,p<0.05)	Accept
Level of information sharing has significant positive effect on operational performance	*(B*=.265,p<0.05)	Accept
Internal lean practice has significant positive effect on operational performance	*(B*=.225,p<0.05)	Accept

Source: own survey data, 2020

CHAPTER FIVE

SUMMARY, CONCLUSIONS & RECOMMENDATIONS

In this chapter, the summary and conclusions of the research findings that are analyzed and explore within the previous chapter are briefly put forward. In addition, supported the findings of this study possible recommendations are made.

5.1 Summary of the findings

The study was concentrated on four specified objectives, that are analyzed the supply chain management practice of the National Alcohol and Liquor Factory, to assess the link between the management of the supply chain and the case company's functioning, to measure the level and direction of influence of SCM practice constructs on operational performance and to identify SCM practice strategies that improve the operational performance of the case company and the following findings obtained from the data analysis. The results show that the supply chain management practices have a significant impact on the operational performance of the National Alcohol and Liquor Factory.

The findings of the survey also show that 66.5% of the corresponding change in determining the operational performance of the National Alcohol and Liquor Factory is the result of a change in supply chain management practices of the four predictor variables. The overall significance of all variables was found to be significant at the 0.05 significance level, indicating that the model used for this survey was also significant. Variables of supply chain management practice have a positive relation with operational performance in the case company based on the correlation coefficient result.

5.2 Conclusions

The findings show that supply chain management practices have a significant and positive effect on the operational performance of the factory, based on the data collected and analyzed using a multiple regression analysis. In particular,

The relationship between strategic supplier partnerships and operational performance is considerable and beneficial. Strategic partnership between suppliers is one of the main predictors of the operational performance of the company. As a strategic supplier partnership, National Alcohol and Liquor Factory considered quality as the number one criteria for supplier selection and the company supports its suppliers to improve their product quality. However, National Alcohol and Liquor Factory is low practice on involving key suppliers in solving problems jointly, on the new product development process, and on planning and goal setting.

Customer relationship management and operational performance are also significantly and positively related. National Alcohol and Liquor Factory evaluate the importance of a relationship with customers periodically and also facilitate the customers to seek assistance from the company. However, the company is poor on frequent interaction with customers to set reliability and responsiveness, measuring and evaluating customer satisfaction.

The level of information sharing has a positive and strong effect on the operational performance of the company. National Alcohol and Liquor Factory inform supply chain partners in advance of changing needs and exchanges information that helps establishment of business planning. However, the supply chain partners do not keep fully informed about issues affecting the company and sharing proprietary information with National Alcohol and Liquor Factory.

Internal lean practice and operational performance relationship are positive and significant in National Alcohol and Liquor Factory. The company has continuous improvement programs. However, the company has problems in providing products and services whenever needed by the customer and process set-up time reduction or time required to get ready and fitting up equipment for production.

Based on the findings of descriptive statistics, National Alcohol and Liquor Factory supply chain practices have more than the mean level of implementation level and the supply chain practice of the company, and its operational performance also shown more than the average level of performance. Yet, due to inefficiencies of the supply chain management practice, the company does not reach at its optimum operational level; still the company has the problem in some regards of supply chain practices in the company. Consequently, based on the empirical findings the researcher has attempted to answer all the research questions of the study.

5.3 Recommendations

Based on the findings and conclusions reached, the following recommendations can be drawn.

- Based on the findings Strategic supplier partnership of the National Alcohol and Liquor Factory should due give attention to the involvement of key suppliers in solving problems jointly, on the new product development process, and on planning and goal setting together.
- Since customer relationship management powerfully affects the operational performance of the factory, the management of the National Alcohol and Liquor Factory should make frequent interactions with customers to set reliability and responsiveness, measuring and evaluating customer satisfaction.
- The level of information sharing of the National Alcohol and Liquor Factory will be improved if keeping fully informed about issues that affects the company and sharing proprietary information with its suppliers improved. Therefore, National Alcohol and Liquor Factory management should work more to improve on sharing proprietary information and issues that affect the company and making frequent discussions with its key suppliers and customers.
- The company has to work more on providing products and services whenever needed by the customer and process set-up time reduction to improve its operational performance.

5.4 Limitations and feature research direction

Since this study is confined to the evaluation and identification of the effect of supply chain management practices on the operational performance of only the National Alcohol and Liquor Factory, it might not be sufficient to infer generalizations based on its findings to other alcohol and liquor factories. Hence, interested researchers in the field could take up this issue and investigate it further in another alcohol and liquor factory/s to see the practices of other companies to reach a general conclusion. Moreover, this study is conducted only from the side of the company; hence, further research recommends including the upstream and downstream participants of the Supply Chain. Moreover, this research was conducted only with a few aspects of supply chain management practices; therefore additional investigation is required by using further characteristics of SCM which is not encompassed in this paper.

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Appendices-1

QUESTIONNAIRE

ADDIS ABABA UNIVERSITY
DEPARTMENT OF BUSINESS ADMINISTRATION

Dear Respondent,

I am a student of Business Administration from Addis Ababa University. I would like to seek your assistance in the completion of my MBA thesis, an essential part of the questionnaire attached. The aim of this thesis is to learn about **"The effect on the operational performance of the supply chain management in the case of National Alcohol and Liquor Factory."** As a result, your sincere and truthful answer is critical to the research's completion, and the researcher appreciates your support in advance. Please be assured that any information you provide will be kept exclusively private and used only for academic purposes.

Thank you in advance for your valuable time and cooperation

General Instruction:

- No need to write your name
- Instruction is given at the beginning of each questionnaire.

Part 1: Demographic and General Information Question

Please put the (√) in the box to your response

1. Gender

☐ Male ☐ Female

2. Age in years

☐ 18-30 ☐ 31-40 ☐ 41-50 ☐ >=51

3. Educational Background

☐ TVET/Diploma ☐ Bachelor degree ☐ Masters ☐ PhD

4. Your service year/work experience/ in National Alcohol and Liquor Factory

☐ <=5 year ☐ 6-10 year ☐ 11-15 year

☐ 16-20 year ☐ >=21 year

5. Your department

	Departments
	Procurement, warehouse and transportation
	Production and packaging
	Marketing
	Quality, research and development
	Planning and monitoring
	Top level managers
	supply chain supervisors

Part 2: Supply chain management practices in the organization

Please put the (√) in the appropriate cell to your response

6. To what extent do you agree about practices of supply chain management which stated in the following statements?

   Where; SD= Strongly disagree, D= Disagree, N= Neutral

   A= Agree, SA= Strongly Agree

S.NO	Strategic supplier partnership	SD	D	N	A	SA
1	Quality is our first criterion in selecting suppliers					
2	Problems are jointly solved with suppliers					
3	The factory supports suppliers to improve their product quality					
4	Key suppliers are included continuous improvement programs					
5	Key suppliers are included in planning and goal-setting activities					
6	Key suppliers involve in new product development processes					

S.NO	Customer relationship	SD	D	N	A	SA
1	There is frequent interaction with customers to set reliability, responsiveness, and other standards					
2	The factory frequently measure and evaluate customer satisfaction					
3	The factory frequently determines future customer expectations					
4	The factory facilitates customers' ability to seek assistance from us					
5	Periodically, the factory evaluate the importance of relationship with customers					

S.N<u>O</u>	Level of information sharing	SD	D	N	A	SA
1	The factory informs Supply chain partners in advance of changing needs					
2	Supply chain partners share proprietary information with the company					
3	Our Supply chain partners keep us fully informed about issues that affect our business					
4	Our Supply chain partners share business knowledge of core business processes with us					
5	We and our Supply chain partners exchange information that helps establishment of business planning					
6	Exchange of information with our partners (formal or informally) is frequent					
7	We and our Supply chain partners keep each other informed about events or changes that may affect the other partners					

S.N<u>O</u>	Internal lean practices	SD	D	N	A	SA
1	The factory reduces process set-up time or time required to prepare or refit equipment on production					
2	The factory has continuous quality improvement programs					
3	The factory produces only what is demanded by customers when needed					

S.N^{o}	Operational Performance	SD	D	N	A	SA
1	Supply chain delivers goods and services within the right place that they were needed					
2	Supply chain deliver goods and services within the deadlines that they were needed					
3	Supply chain is flexible or able to make changes and meet new demands of the operation whenever there was need to					
4	supply chain able to deliver the right quantity of goods and services for the operation					

THANK YOU

Part 3: Interviews

1. What are the practices of strategic supplier partnership and their effect on operational performance of NALF?
2. What are practices of customer relationship management and effect on operational performance of NALF?
3. What is the level of information sharing with Supply chain partners and its effect on operational performance of NALF?
4. What are the internal lean practices and their effect on operational performance of NALF?

THANK YOU

Appendices-2

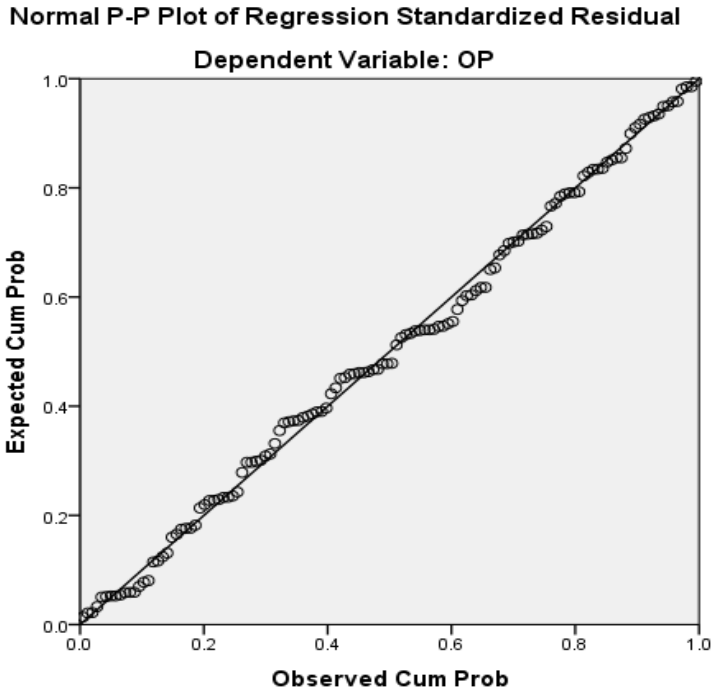
SPSS Results

Reliability Statistics

Cronbach's Alpha	N of Items
.844	5

	Cronbach's Alpha
SP	.832
CR	.803
LI	.823
IP	.824
OP	.776

Charts



Linearity Matrix Plot