

*The Effect of Supply Chain Management Practices on
Operational Performances: The Case of HEINEKEN Kilinto
Brewery*

*A thesis submitted to Jimma University, College of Business, and
Economics in Partial Fulfillment of the Requirements for the Degree of
Master of Business Administration*

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**MAY 6, 2018
ADDIS ABABA, ETHIOPIA**

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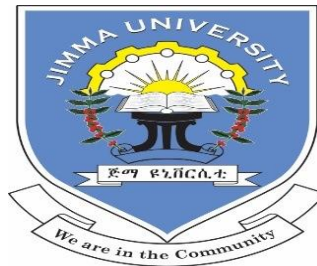
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Ms. Lalise Kumera



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DECLARATION

I hereby declare that this thesis entitled “*The Effect of Supply Chain Management Practices on Operational Performances : A Study on Heineken Kilinto Brewery in Addis Ababa*”, has been carried out by me under the guidance and supervision of Dr. Mekonnen Bogale and Ms. Lalise Kumera.

The thesis is original and has not been submitted for the award of any degree or diploma to any university or institutions.

Researcher’s Name

Date

Signature

Certificate

This is to certify that the thesis entitled “The Effect of Supply Chain Management Practices on Operational Performances: The Case of HEINEKEN Kilinto Brewery, Addis Ababa Ethiopia”, submitted to Jimma University, College of Business and Economics for the award of Degree of Master of Business Administration (MBA) is a record of genuine research work carried out by Kassanesh Ayalew, under our guidance and supervision. Therefore, we hereby declare that no part of this thesis has been submitted to any other university or institution for the award of any degree or diploma.

Main Advisor’s Name

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Co-Advisor’s Name

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Abstract

Now days, Supply Chain and its management practices have become critical for securing competitive advantage and improving organizational performance because, competition is no longer between organizations, but among supply chains. This study is conducted with an objective of identifying effect of supply chain management practices on operational performance of Heineken Kilinto Brewery. Among different supply Chain practices, the study conducted on strategic supplier partnership, customer relationship, level of information sharing, quality of information sharing, and internal lean practices and tests the relationships between supply chain management practices and operational performance. The study used both descriptive and explanatory research designs. The descriptive analysis is conducted by using mean and standard deviation. Whereas, inferential analysis was conducted by using Pearson correlation method and ordinary least square multiple regressions (OLS) method. The result indicated that supply chain management has significant effect on operational performance of HBSC Kilinto Factory. Strategic supplier partnership, customer relationship and internal lean practices have significant positive effect on operational performance of the company. But effects of level of information sharing and information sharing quality have no statistically significant effect on operational performance. Based on the findings the researcher recommends that management of the company has to improve strategic supplier partnership, customer relationship and internal lean practice of the company.

Keyword: Supply chain management practices, Operational performance

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ABBREVIATIONS

ANOVA	Analysis of Variance
ATA	Agricultural Transformation Agency
CC	Contingency Coefficient
CREATE	Community Revenue Enhancement through Agricultural Technology Extension
CRM	Customer Relationship Management
EFA	exploratory factor analysis
EIAR	Ethiopian Institute of Agricultural Research
HBSC	Heineken Brewery Share company
ILP	Internal Lean practice
JIT	Just In Time
LIS	Level of Information Sharing
OLS	Ordinary Least Squares
OMS	outsourcing and multi-suppliers
OP	Operational Performance
QIS	Quality of Information Sharing
RBV	Resource-Based View
RV	Relational View
SC	supply chain
SCLP	strategic collaboration and lean practices
SCM	Supply chain management
SSP	Strategic Supplier Partnership
VIF	Variance inflation factors

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

At present, market competition shifted from providing only lowest priced or highest quality product to the ability of fast and flexible response to customer needs and provide the right product to the right customer at the right time, place, cost and quantity. Focus has been on the creation of an effective supply chain which has been known to be a critical tool in product and service management and improving the competitive advantage for firms (Miyare, 2014). To have effective supply chain, companies have to use effective Supply Chain management practice. Supply chain management practices are a set of activities undertaken by an organization to promote effective management of its supply chain. It is a multi-dimensional construct that includes both upstream and downstream sides (Li et al, 2006). Hence, organizations are pushed to compete using their entire supply chain and began to realize that it is not enough to improve efficiencies within an organization but their whole supply chain has to be made competitive. (Anderson & Gerbing, 2008). Creating long lasting business relationships with customers, suppliers and other strategic partners depend on trust and long term commitment becomes crucial competitive parameter (Lazarevic, 2007). The understanding and efficient management of supply chain practices has become an essential for enhancing profitability and staying competitive in the global market (Storey et al, 2015).

Different researchers use different aspects as a supply chain practice. Donlon, (2006) in his study considered outsourcing, supplier partnership, information sharing, cycle time compression, and continuous process flow as SCM practices. Tan et. al.(2008) in his empirical study used quality, purchasing, and customer relations to represent SCM practices. Alvarado & Kotzab (2011) focused on inter-organizational system use, core competencies, and elimination of excess inventory through postponement, as SCM practices. Using factor analysis, Tan et al. (2008) identified: supply chain integration, information sharing, customer service management, geographic proximity, and Just in time

(JIT) capability, as the key aspects of SCM practice. Li et, al.(2006) in his case study based research identified four practices at the supply chain level that are a key to creating supply chain responsiveness. They include: outsourcing, strategic supplier partnerships, information sharing, and product modularity.

Supply Chain performance is affected by different factors. One of the most important factors influencing the performance of supply chain is strategic supplier alliances (Narasimhan & Jayaram, 2008). Effective partnerships with suppliers can be a critical factor to guide supply chain management (Li *et.al*, 2006). It can improve supplier performance, reduce time to market, and increase the level of customer responsiveness and satisfaction (Frohlich & Westbrook, 2011). The other factor is having good relationships with customers, which are needed for successful implementation of SCM schedules on the downstream side of the chain (Moberg *et al.*, 2002). Close customer relationship allows an organization to differentiate its product from competitors, sustain customer loyalty, and dramatically extend the value it provides to its customers (Magretta 2008). Furthermore, for Supply Chain integration, information sharing is another critical factor. Supply chain partners that exchange information regularly are able to understand the needs of the final consumer and capable of responding fast to ever-changing changing market demand (Li *et al.*, 2006). The failures can occur when there is an information delay, shortage or distortion occurs across the supply chain. Additionally, while information sharing is important, the significance of its impact on SCM depends on the extent of the quality of information shared, when and how it is shared, and with whom (Holmberg, 2015) According to Moslem *et al.* (2013) internal lean practice is the other factor that affects supply chain performance. Lean production is a production system that aims to optimize production process by reducing waste and other inefficient factors.

This study is conducted on Heineken brewery Kilinto Factory. Brewery companies operate their businesses in global platforms which have increasing complexities due to interconnected processes of globalization and internationalization of businesses. The brewery sector in Ethiopia has been growing at promising rate. As a result, the industry is attracting multinational business companies like Heineken with different mode of entry.

Consequently, following the growing demand of beer in the country, the number of brewery companies has been increasing. The competition within the industry also seems tough which supported by aggressive promotional and marketing strategies. Through foreign direct investment, multinational companies are entering this industry via acquisition of state owned breweries and building new ones in the country. Accordingly, Heineken entered in to Ethiopian market by acquiring Harrar and Bedele breweries and built its largest of the three Kilinto factory at Addis Ababa. The Heineken Kilinto brewery is located in the outskirts of Addis Ababa, in Kilinto. It started operations in July 2014 and has an annual technical production of 3,000,000 hectoliters. The company produces different brands of beer namely Heineken, Walia, Walia Radler, Harar, Bedele, Bedele Special and Sofi. To increase its operational efficiency, the company creates strategic partnership with its foreign and local suppliers. The company is marketing its products through geographical segmented distributing Agents. It also outsourced its transportation service to third party logistics service providers to focus on its core business and currently five transporters are providing contractual transportation service. Hence, the researcher empirically identified the effect of supply chain management practices on operational performance in the case of Heineken Kilinto Brewery and recommends the company to effectively involve all parties along the Supply Chain to incorporate their activities to form a seamless and efficient network of processes and functions to meet the needs of its customers.

1.2. Statement of the Problem

According to Li et al. (2006), different organizations have recognized the role of SCM on building sustainable competitiveness of their goods and services and enhancing firm performance and overall supply chain performance. This has resulted in increased attention of managers, consultants and business owners towards efficient supply chain management practices in business organizations (Tan et al, 2008).

Early empirical researches in SCM have been limited at developing instruments capable of measuring SCM practices. Though, some researchers have focused their research efforts into exploring the relationship between SCM practices and organizational performance.

Also, researchers investigated the relationship among SCM practices, operational performance and SCM related organizational performance. These studies and others have produced various results due to operationalizing the performance subjectively and objectively. This has been attributed to the interdisciplinary origin of SCM, conceptual confusion, the evolutionary nature of SCM concepts and environmental difference where organizations operate. According to Mentzer et al (2001), cultural, social and economic aspect of each country and the organizations influence the relationship between supply chain management practices and organization performance.

On the other hand, much of the empirical studies in SCM focused on their either upstream or downstream side of the supply chain or certain aspect of the SCM . On the supplier side; Handfield et al (2012) identified role of relationship with supplier in improving supplier responsiveness and Chen & Paulraj, (2014) analyzed the antecedence and consequences of buyer-supplier relationship. Alvarado & Kotzab (2011), focus on the downstream linkages between manufacturers and retailers. A few studies have considered both the upstream and downstream sides of the supply chain simultaneously and explore the relationships between supplier management practices, customer relations practices and operational performance. Tan et al. (2008) explore the relationships between supplier management practices, customer relations practices and operational performance; Frohlich & Westbrook (2011) investigated the effects of supplier-customer integration on organizational performance and Moslem et al. (2013) analyzed the impact of supply chain management practices on competitive advantage.

Despite the increase of empirical researches, the relationship of SCM with performances could not be regarded as conclusive. Differences in research design undermine comparability: lack of consensus about the definition and dimensionality of the SCM practices, use of different units of analysis, and different approaches to performance measurement. Moreover, some researchers stated that, supply chain management practice of developing countries compared to developed countries practices is still in its infancy stages Shah et al. (2012). Hence, these all raise many questions which remain to be answered theoretically and empirically.

Moreover, the supply chain management practice of brewery industry in Ethiopia has been under searched. 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. As far as the knowledge of the researcher concerned, there are no empirical studies conducted on the effect of Supply Chain Management practices on operational performance from perspectives of strategic supplier partnership, customer relationships, level and quality of information sharing, and internal lean practices on operational performances that incorporated forward and backward integration on brewery industry in Ethiopia. Therefore, for the effort to achieve generalization of the causal relationship between SCM practices and operational performance, this study empirically identified the effect of supply chain management practices on operational performance of Heineken Kilinto Brewery to contribute to the knowledge gap and the debate. In order to do so the research addresses 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?
- How quality of information sharing 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 of Heineken Kilinto brewery.

1.3.2. Specific Objectives

The specific objectives for identifying the effect of supply chain management practices on operational performance in Heineken Kilinto brewery stated here under;

- To examine the effect of 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;
- To find out effect of internal lean practice on operational performance; and
- To identify the effect of quality of information sharing on operational performance.

1.4. Hypotheses of the Study

SCM practices impact an organization's operational performance through price/cost reduction, quality, delivery dependability, time to market, and product innovation.

Different studies indicated that SCM practices have an impact on various aspects of operational performance. It improves supplier performance and reduces time to market (Lambert, 2005). It also improves responsiveness to the customers' needs which leads to increase customer satisfaction (Barney, 1991). Information sharing leads to high levels of supply chain integration (Priscila & Luiz, 2011) by enabling organizations to make dependable delivery and introduce products to the market quickly. Information sharing and information quality contribute positively to customer satisfaction (Li, et al. 2006) and partnership quality (Christopher, 2003).

Hypothesis 1: Supply chain management practices have significant positive effect on operational performance.

Strategic supplier partnership is the relationship between the organization and its suppliers. Partnership with strategic suppliers enables organizations to work more effectively with a few important suppliers who are important for the success of the products or service. (Stuart, 2007; Balsmeier & Voisin, 2006; Noble, 2007). Suppliers participating in the product design process can offer more cost effective choices, help select the best components and technologies which leads to efficient and effective operational performance (Tan et al, 2008). Strategically aligned organizations can work closely together and eliminate wasteful time and effort (Balsmeier & Voisin, 2006). An effective

supplier partnership can be a critical component of a well functioning supply chain (Noble, 2007).

Hypothesis 2: Strategic supplier partnership has significant positive effect on operational performance.

Customer relationship comprises the entire array of practices that are employed for the purpose of managing customer complaints, building long-term relationships with customers, and improving customer satisfaction (Claycomb, Droge & Germain(2009), Tan et al. 2008). Close customer relationship allows an organization to differentiate its product from competitors, sustain customer loyalty, and dramatically extend the value it provides to its customers (Magretta, 2008).

Hypothesis 3: Customer relationship has significant positive effect on operational performance.

Level of information sharing refers to the extent to which critical and proprietary information is communicated to one's supply chain partner (Moberg, et. al. 2002). According to Monczka, et al., (2009), supply chain partners who exchange information regularly are able to work as a single entity and they can understand the needs of the end customer better and hence can respond to market change quicker.

Hypothesis 4: Level of information sharing has significant positive effect on operational performance.

According to Bhasin& Butcher (2006) Kaizen and Kanban systems which focuses on customer orientation, total quality control/six sigma, quality improvement, zero defect, Just in Time concept & supplier development are some of the common lean practice methodologies. Long term relationships with suppliers are important elements of lean supply (Handfield, 2002). The present competition driven supply chains require lean procurement methods whose goals are eliminating waste in all procurement cycles, prevent

shortages, reduce inventory investment, reduce procurement lead time and cost, increase inventory turnover and ensure customers satisfaction. These methods ensure greater efficiency and standardization of procedures and increase operational performance. Mark et al. (2009).

Hypothesis 5: Internal lean practice has significant positive effect on operational performance.

Quality of information sharing means the information accuracy, timeliness, adequacy, and credibility of information exchanged (Moberg et al, 2002; Monckza et al. 2009). Information sharing is very important, however, its impact on SCM depends on what information is shared, when and how it is shared, and with whom (Holmberg, 2015). Since information disclosure information is perceived as a loss of power, there is a reluctance within organizations to give more than minimal information given these predispositions, ensuring the quality of the shared information becomes a critical aspect for effective SCM and improving operational performance (Feldmann & Muller, 2003).

Hypothesis 6: Quality of information sharing has significant positive effect on operational performance.

1.5. Significance of the study

This study identified the effect of supply chain management practices on operational performance of Heineken Kilinto brewery in Addis Ababa. Hence, the result of this study shows the current supply chain management practices of the brewery which will help the company under study to scrutinize its own supply chain practice and the effect on its operational performance.

Moreover, it provides an insight to any individual or company who has interest on the state of supply chain management practice of the brewery and the different actors' upward and downward stream integration in the supply chain for further research or as reference for decision making.

The information gap on the subject area is one of the major factors that initiated the researcher to conduct this study; hence, this study fills the information gap for the effect of supply chain management practices on operational performance in the brewery industry in Addis Ababa and adds more information on the existing knowledge.

This study have its own scope limitation; hence, other researchers can capitalize on it as starting point or as a base to engage in the different aspects of supply chain management analysis which were not addressed in this study.

1.6. Scope of the Study

The objective of this study is to investigate the effect of supply chain management practice on operational performance in the case of Heineken brewery. Despite the location of the company in different part of world, this study is limited only to Heineken Ethiopia brewery. Irrespective of the three breweries the company has in Ethiopia, this study is conducted only on Heineken Kilinto Brewery in Addis Ababa.

The study used both primary and secondary data sources. For primary data collection, the researcher used questionnaire and semi-structured interview. Although there are different dimensions and practices of supply chain management, the researcher analyzed the effect of strategic supplier partnership, customer relationship, information sharing, internal lean practice and quality of information sharing on operational performance. Moreover, the study analyzed operational performance using right place, right time, right quantity delivery and flexibility to meet customer's requirements. Time wise, the study covered from the opening of Kilinto factory, which is July, 2014 to date.

1.7. Organization of the paper

This paper is organized into five chapters. While the first chapter highlights the introduction section, the second chapter presents the review of related literatures that includes theoretical review, empirical reviews and conceptual framework. Chapter three is about methodology of the study that includes research design, population and sampling, data type and method of collection, methods of data analysis. Chapter four presents results and discussion. Finally chapter five presents conclusion and recommendations based on the findings.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

Introduction

This chapter presents review of related literatures about effect of supply chain management practice on operational performance of an organization. The researcher will present theoretical, empirical and conceptual reviews.

2.1. Theoretical Review

This section presents theoretical overview of related literatures. It briefly presents about Resource-Based View theory, Relational View Theory, Porter's Value Chain Theory, Supply Chain Management, Supply Chain Management versus Logistics, Drivers of Supply Chain Development and Main Initiatives, Supply chain integration, Dimensions of Supply Chain Management and Operational Performance.

2.1.1. Resource-Based View

According to Barney (1991) and Peteraf, (1993) the Resource-Based View (RBV) theory states that firms are heterogeneous and achieve competitive advantage due to rare, valuable, inimitable and not substitutable resources and capabilities. The original approach of the RBV, focused on the internal resources owned by a firm, was broadened to consider the relationship as a source of competitive advantage and improvement of performance. This gave rise to the Relational View (RV) theory.

2.1.2. Relational View Theory

According to Dyer & Singh(1998) and Holcomb & Hitt(2007) RV considers relationships as potential sources of superior performance. It identifies four different sources of relational rents: investments in relation specific assets, substantial knowledge exchange, complementary and rare resources, and lower transaction costs. All these sources are influenced by more effective governance mechanisms based on informal safeguards, such as trust and reputation. As in the RBV perspective, the relational resources and capabilities

should be rare, valuable, and hard to imitate or to substitute in order to provide sustainable competitive advantage.

Generally, the relation and impact of SCM on operational performance can be better understood if it is interpreted by using the relational view. Information sharing maps directly into accurate and timeliness knowledge exchange. Long-term relationships with suppliers and customers can help to reduce transaction costs through the development of trust and reputation (Cooper, et.al., 2007); (Mentzer, 2001) and Li *et al.*, 2006). It also can contribute to developing knowledge exchange and assure investments in specific assets. Therefore, the researcher will conduct the study based on relational view theory.

2.1.3. Porter's Value Chain Theory

Porter (1985) advocates the identification and strategic exploitation of horizontal and vertical linkages. Vertical integration defined as the process in which several steps in the production and/or distribution of a product or service are controlled by a single company or entity, in order to increase that company's or entity's power in the marketplace. And Horizontal integration is a strategy to increase market share by taking over a similar company (Chircu et al. 2001). Optimizing the vertical linkages with suppliers is the core of supply chain management.

Value chain analysis describes the activities within and around an organization, and relates them to an analysis of the competitive strength of the organization. Therefore, it evaluates which value each particular activity adds to the organizations products or services. This idea was built upon the insight that an organization is more than a random compilation of machinery, equipment, people and money. Only if these things are arranged into systems and systematic activates it will become possible to produce something for which customers are willing to pay a price. Porter argues that the ability to perform particular activities and to manage the linkages between these activities is a source of competitive advantage (Gurría, 2012).

Most organizations engage in hundreds, even thousands, of activities in the process of converting inputs to outputs. Porter (1985) classified these activities generally as either primary or support activities that all businesses must undertake in some form.

The primary activities are:

1. *Inbound Logistics*: It involves relationship with suppliers and includes all the activities required to receive, store and disseminate inputs.
2. *Operations*: They are all the activities required to transform inputs into outputs (products and services).
3. *Outbound Logistics*: It involves relationships with customers and includes all the activities required to collect, store and distribute the output.
4. *Marketing and Sales*: they are activities that inform buyers about products and services induce buyers to purchase them and facilitate their purchase.
5. *Service*: it includes all the activities required to keep the product or service working effectively for the buyer after it is sold and delivered.

The support activities are procurement, human resource management (HRM), technological development and infrastructure.

2.1.4. Supply Chain Management

Christopher (2003) supply Chain is a network of various organizations involved both through upstream and downstream linkages in different kinds of activities and processes. It is the task of integrating organizational units along a supply Chain and coordinating materials, information and financial flows in order to fulfill customer demands with the aim of improving competitiveness of the supply chain as a whole. The key elements of supply Chain and its management from these definitions are therefore the upstream parties,

the downstream parties and the integration of all the organizations involved, together with the internal function of an organization itself.

According to Handfield (2002) the upstream parties consists of an organization's functions, processes and network of suppliers while the downstream function on the other hand concerns the distribution channels, processes and functions where the product passes through to the end customer. Where external downstream and upstream functions are concerned, the managers involved in each upstream and downstream supplier and functions are responsible in making sure that the deliveries of products and services are done as scheduled to their destinations. If there are cases where delays are inevitable, the managers are to ensure that the impact of the delays to the SC and the value it carries will be minimal.

While managers in a supply Chain involving external organizations have to deal with the people outside of its own company, in this situation mutual understanding have to be reached between the managers of departments inside the company itself. However, the term supply Chain Management has been used to describe the planning and control of materials and information flows as well as logistics activities not only internally within a company, but also externally between companies. Due to the increasing number of players and forces, a supply Chain may develop into a supply network which will require a more complex and complicated management system (Cooper, Lambert, & Janus, 2007).

Mentzer (2001) defined Supply chain management as the systemic, strategic coordination of the traditional business functions and the tactics across these business functions within a particular company and across businesses within the supply chain, for the purposes of improving the long-term performance of the individual companies and the supply chain as a whole. SCM focuses on how firms utilize their suppliers' processes, technology, and capability to enhance competitive advantage. Supply chain management (SCM) enhances competitive performance by closely integrating the internal cross-functions within a company and effectively extending them to the external operations of external partners to be successful (Kim, 2006). Supply chain is a set of three or more entities directly involve

in the upstream and downstream flows of products services, finances and information from a source to a customer (Handfield, 2002).

The idea of improving products and services through Supply chain management; including to reduce the production time and cost without compromising the product quality, is that the managers have to work cooperatively with other organizations in the Supply chain (Handfield, 2002). Eventually, through mutual understanding between them and ability to reduce the risks of uncertainties in production processes, higher degree of efficiency can be achieved. Though originally it was used mainly in manufacturing industry to improve responsiveness and flexibility, and has been found to also improve organizational competitiveness (Gunasekaran, Patel, & McGaughey, 2003), Supply chain management has now been recognized by many to be an important strategic tool for organization's efficiency and to gain competitive advantage.

Supply chain management encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities that include coordinating and collaborating with channel partners, including suppliers, intermediaries, third parties, and customers. Each firm in the supply chain directly or indirectly affects the performance of other supply chain members, as well as the overall performance of the supply chain (Cooper, *et al*, 2007).

2.1.5. Supply Chain Management versus Logistics

Halldorsson & Larson (2004) stated that supply chain management relative to logistics can be viewed in four different ways: Traditionalist, Re-Labeling, Unionist and Inter-sectionist. Some authors do not distinguish between supply chain management and logistics, they just interchange the names. Christopher, (2003) defines supply chain management as an extension of logistics. Logistics is essentially a planning orientation and framework that seeks to create a single plan for the flow of products and information through a business. Supply chain management builds upon this framework and seeks to achieve linkage and coordination between processes of the entities in the pipeline. Schary & Skjott-Larsen (2008) also see supply chain as more than logistics. It includes the flow of material and products to customer and more than that, it includes also the organizations that are part of

these processes crossing organizational boundaries to link their internal operations as part of this system. The scope of supply chain spans the entire set of organizations from procurement of material and product components to delivery of completed product to the first customer (Schary & Skjott-Larsen, 2008).

2.1.6. Drivers of Supply Chain Development and Main Initiatives

In today's global economy, companies face increasing pressure to reduce cost while maintaining production and quality levels to deliver results. In order to achieve these goals, companies must successfully overcome a number of challenges. As Meakem(2003), points out, free market economies and new technologies are creating new supply and demand markets around the world. Many organizations, for instance, are looking for supply from China. But good numbers of these organizations lack the information and knowledge necessary to drive more supply and production offshore. The rules of free market global competition dictate that only the strong survive. As a result, industries around the world are consolidating at a rapid rate. This in turn requires organizations to select the best suppliers and pull them into core enterprise activities. Organizations across geographies and industries are scrutinizing make-versus-buy options. And many are finding increased value in outsourcing production of goods and services.

Handfield (2002) summarizes drivers into:

1. Ever-increasing customer demand in terms of product and services cost, quality, delivery and technology as well as cycle time brought about by global competition.
2. The emergence and greater acceptance of higher order cooperative inter-organizational relationships.
3. The information revolution.

The consequence of this development is that companies are putting more and more efforts into developing new way to increase competitiveness on the market in terms of more efficient and effective supply chain management.

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

- articulate exactly what a company's supply chain looks like and what it encompasses.

- identify specific bottlenecks that are slowing down the movement of information, goods, and services.
- put the right processes in place, right products delivered to the right place at the right time.
- empower the right people so they can accomplish all of the above.

2.1.7. Supply chain integration

The integration of supply chains has been described as attempting to elevate the linkages within each component of the chain, (to facilitate) better decision making and to get all the pieces of the chain to interact in a more efficient way and create supply chain visibility and identify bottlenecks. Supply chain integration is a close alignment and coordination within a supply chain, often with the use of shared management information systems. The close interrelationship between the level of supply chain management practices and competition capability may have a more significant effect on performance improvement. The information revolution increased levels of global competition creating a more demanding customer and demand driven markets and the emergence of new types of inter-organizational relationships force companies to strengthen their supply chain integration (Kim, 2006).

Operating an integrated SC requires continuous information flow. However, in many companies, management has reached the conclusion that optimizing the product flows cannot be accomplished without implementing a process approach to the business. The Supply chain integration include customer integration, internal integration, material and service supplier integration, technology and planning integration, measurement integration and Relationship integration. Supply chain integration involves collaborative work between buyers and suppliers, joint product development, common systems and shared information. A number of researchers have also found that higher levels of integration generally lead to better performance (Gimenez & Ventura, 2005 and Stock & Boyer, 2005).

Different authors describe the three principal elements of an integrated supply chain model as being information systems (management of information and financial flows), inventory management (management of product and material flows), and supply chain relationships

(management of relationships between Supply chain partners). The basis of integration can, therefore, be characterized by cooperation, collaboration, information sharing, trust, partnerships, shared technology, and a fundamental shift away from managing individual functional processes, to managing integrated chains of processes. The extent of integration can begin with product design and incorporate all steps leading to the ultimate sale of the item. Some authors also include all activities throughout the useful life of the product including service, reverse logistics, and recycling (Ballou H. Ronald, 2000).

2.1.8. Dimensions of Supply Chain Management

Tan, Kannan, & Handfield (2008) defined Supply Chain Management practices as a set of activities undertaken in an organization to promote effective management of its supply chain. They identified six aspects of SCM practice through factor analysis: supply chain integration, information sharing, supply chain characteristics, customer service management, geographical proximity and JIT capability.

According to Muhammad (2004) supply chain management practices refer to several activities that are related to operational function of firms. It is used to measure the SCM adoption and its level practices. He divided these practices into six dimensions namely strategic supplier partnership, customer relations practices, information sharing, information quality, lean system and postponement. In reviewing and consolidating the literature, five distinctive dimensions are selected for measuring SCM practice. The five constructs cover upstream (strategic supplier partnership) and downstream (customer relationship) sides of a supply chain, information flow across a supply chain (level of information sharing and quality of information sharing), and internal supply chain process (postponement).

David, et al, (2014) identified seven principles (Practices) of supply chain management that applied together can enhance revenue, assets utilization as well as customer satisfaction. These principles include, the 5 rights; where the buyer ensures that materials or goods are of the right quality, right quantity are delivered to the right place at the right time for the right price; Cost management which ensure that purchasing efficiency and

effectiveness contribute to organization's cost saving and hence bottom line profit by considering total cost of ownership and by putting in place an efficient and effective delivery system and inventory management. Another principle is supplier management, which means building a cordial working relationship between the purchasing organization and the supplier.

Yet another principle is quality control which is an approach to performance improvement that integrates supply chain parties and boosts advantages created by upstream and downstream linkages with emphasis on creating value and achieving satisfaction for intermediate and final consumer (David, et al. 2014).

The specification principle serves two purposes; to communicate the buyer's need and to establish the criteria by which to judge what is eventually delivered. Next is Price negotiation where a professional purchaser goes into price negotiation having undertaken a purchasing research on demand analysis, vendor analysis and supply market analysis. This provides information so that the firm can adapt to changes in supply environment and ensure competitive advantage on opportunities (CIPS). Lastly use of technology whereby the buyer uses electronic methods to undertake sourcing and procurement of goods and services. The use of technology integrates chain members, the supplier, the buyer, and the customer for efficient and effective supply chain management (David, et al. 2014).

Koplin et.al. (2007) tested various SCM practices and how these practices related with the organizational performance. Twelve SCM practices identified included supplier partnerships, customer relationship, benchmarking; Just in time processes and e-procurement, few suppliers; many suppliers; strategic planning; outsourcing; sub-contracting of activities; holding buffer stock and third party logistics (3PL).

2.1.8.1. Customer Relationship

Customer relationship comprises the entire array of practices that are employed for the purpose of managing customer complaints, building long-term relationships with customers, and improving customer satisfaction (Tan et al., 2008). Close customer relationship allows an organization to differentiate its product from competitors, sustain customer loyalty, and dramatically extend the value it provides to its customers. According

to Lambert (2005) the management of customer relationships is widely recognized as an essential component of an organization because of the expected benefits likely to occur if done well and the likely detriments to arise if neglected, the determination of what exactly constitutes CRM and its implementation remains to be a prominent point of contention in CRM literature and in practice has proven to be nothing short of extreme. He further suggests that technology is a tool and to be successful, management must place its primary focus on the CRM process, the people and the procedures that make the technology effective. This is not to say that technology doesn't play a role in CRM or can't assist in its success. Actually, it had been observed that all customers do not contribute equally to the firm's success; hence the goal of every firm is to identify those customers who desire and deserve special treatment so that offerings can be tailored to meet their needs while achieving the firm's profit goals for the customer.

2.1.8.2. Strategic Supplier Partnership

Strategic supplier partnership: is defined as the long term relationship between the organization and its suppliers. It is designed to leverage the strategic and operational capabilities of individual participating organizations to help them achieve significant ongoing benefits (Stuart, 2007). Strategic partnerships with suppliers enable organizations to work more effectively with a few important suppliers who are willing to share responsibility for the success of the products. Suppliers participating early in the product design process can offer more cost effective design choices, help select the best components and technologies, and help in design assessment (Tan et al, 2008). Strategically aligned organizations can work closely together and eliminate wasteful time and effort (Balsmeier & Voisin, 2006). An effective supplier partnership can be a critical component of a leading edge supply chain (Noble, 2007). Raps (2005), claims that the key to success is an integrative view of the implementation process of strategy. Researchers have emphasized the strategic importance of integrating suppliers, manufacturers, and Customers. Christopher, (2003) stresses the importance of linking an innovative strategy to the company's vision and overall business strategy. Clients are shown to be key drivers of performance improvement and innovation and are the most significant factor in achieving integration in the supply chain.

2.1.8.3. Level of Information Sharing

Level of information sharing: information sharing has two aspects: quantity and quality. Both aspects are important for the practices of SCM and have been treated as independent constructs in the past supply chain management (Moberg, et.al, 2012). Level of quantity aspect of information sharing refers to the extent to which critical and proprietary information is communicated to one's supply chain partner. Supply chain partners who exchange information regularly are able to work as a single entity. Together, they can understand the needs of the end customer better and hence can respond to market change quicker.

2.1.8.4. Quality of Information Sharing

Quality of information sharing includes such aspects as the accuracy, timeliness, adequacy, and credibility of information exchanged. While information sharing is important, the significance of its impact on SCM depends on what information is shared, when and how it is shared, and with whom. It appears that there is a built in reluctance within organizations to give away more than minimal information since information disclosure is perceived as a loss of power. Given these predispositions, ensuring the quality of the shared information becomes a critical aspect of effective SCM (Feldmann and Muller, 2003). Organizations need to view their information as a strategic asset and ensure that it flows with minimum delay and distortion.

2.1.8.5. Lean practices

To precisely define lean is hard and it is likely that every company exercising lean will follow their own unique course. It is the process of removing all of the wasted time and resources in the production process. Lean can be considered a philosophy, a work culture, a technique, a management concept, a value, a methodology or an ethos. Today, lean is evolving into a management approach that improves all the processes at each level of an organization (Mark et al, 2009).

According to Tan et al (2008) some of the common lean procurement methodologies are; Kaizen, Kanban systems and Supplier development. A long term philosophy, processes,

people and right culture are essential to convert an organization into a lean enterprise. Long term relationships with suppliers are important elements of lean supply Handfield, R., & Pannesi, R. (2005). According to Mark, et als (2009), today`s demand driven supply chains require lean procurement methods whose goals are: to eliminate waste in all procurement cycles, prevent shortages, reduce inventory investment, reduce procurement lead time and cost, increase inventory turnover and ensure customers satisfaction. These methods ensure greater efficiency and standardization of procedures.

2.1.9. Operational Performance

Christopher (2003) and (Li *et al*, 2006) define operational performance as a firm`s performance which is measured against standard on prescribed of effectiveness, efficiency and environment responsibility such as cycle time, productivity, waste reduction, and regulatory compliance. Operational performance is a source of competitive advantage for the enterprise to differentiate itself in the eyes of the customers from its competitors by operating at a lower cost and hence at a greater profit. Competitive priorities, which are realized by operational performances, are the extent that an organization is able to create a state of defense against competitors and includes a feature that allows an organization to distinguish itself from its competitors.

According to Mehri, Khodadad, & Hosseini(2015) and Barney (1991) the concept of competitive advantage is directly related to desired value of the customer. Competitive advantage includes set of capabilities and factors that always demonstrated better performance of company than competitors. In other words, competitive advantage is factors or a combination of factors that led to very successful organization than other organizations in a competitive environment and competitors cannot easily imitate it. Therefore, to achieve a competitive advantage, an organization must also pay attention to their external position and internal capabilities.

The competitive priorities can also be thought as a way to conceptualize and measure operational performance. Improvements in performance can manifest themselves in different aspects like inventory reduction, lead time reduction or quality improvement.

Grouping these types of improvements under the broader classes of competitive priorities as cost, quality, delivery and time can be a useful measurement approach allowing comparability, comprehensiveness and theoretical underpinning (Priscila & Luiz, 2011).

If an organization performs well at either one or more of these operations performance objectives, the organization will be able to work towards a business strategy based on a competitive factor. However, it is important to know that the success of any business strategy is not dependent on only the capability of operations to achieve the appropriate performance objectives, but also on the fact that whether customers value the chosen competitive factors on the basis the business strategy is based. Certain operational capabilities improve one another, allowing operations excellence to be built in a progressive way. In addition, they stated that there is a sequence in which operational capabilities should be evolved. The starting point, the base is achieving excellence in quality and then excellence in dependability (Ferdows& Meyer, 2010).

Many empirical literatures have been quite consistent in identifying price/cost, quality, delivery, and flexibility as important competitive priorities which can be conceptualized as measures of operational performance (Roth & Miller, 2000; and (Tracey, Vonderembse, & Lim, 2009). In addition, recent studies have included time-based competition as an important competitive priority.(Stalk, 2008), (Vesey, 2001), (Handfield & Pannesi, 2005), (Kessler & Chakrabarti, 2006), and (Zhang, 2011) identified time as the next source of competitive advantage. On the basis of prior literature, (Koufteros et al., 2007) describe a research framework for competitive capabilities and define the following five dimensions: competitive pricing, premium pricing, value-to-customer quality, dependable delivery, and production innovation. Li *et al.* (2006) also describes the dimensions of the competitive advantage constructs are price/cost, quality, delivery dependability, product innovation, and time to market. Based on the above used in different studies, the researcher adopted price/ cost, quality, delivery and time to market as dimensions of competitive advantage to measure operational performance in this study.

2.2. Empirical Review

Alireza et al. (2011) conducted study on Malaysia Electronic Industry to present a model for supply chain performance by employing supply chain design, supply chain information sharing, and flexibility and delivery components as independent variables influencing supply chain performance. The results from this study depicted that supply chain design influences supply chain performance through delivery and information sharing. Furthermore, information sharing and delivery have a direct influence on supply chain performance. The findings also showed that flexibility influences supply chain performance through delivery. Information sharing affects supply chain performance directly and has also an indirect impact on supply chain performance through flexibility. This study elaborates the significant effect of the design of the supply chain on its performance while considering the impact of information sharing.

Moslem et al. (2013), identified impact of supply chain management practices on operational performance in manufacturing companies of Khuzestan province (Iran) by using strategic partnerships with supplier, customer relationship, outsourcing, Quality of information sharing and internal lean practices as independent variables affecting the operational performance. The result from the study indicated that there is a positive and significant relationship between SCM practices and performance.

Lenny et al. (2007) conducted study on the impact of supply chain management practices on performance of SMEs in Turkey. Based on exploratory factor analysis (EFA), researchers grouped SCM practices in two factors: outsourcing and multi-suppliers (OMS), and strategic collaboration and lean practices (SCLP). The results indicate that both factors of SCLP and OMS have direct positive and significant impact on operational performance. Also, as the direct relationship between the two performance-constructs was found significant, both factors of SCM practices have an indirect and significant positive effect on organizational performance through operational performance.

Priscila & Luiz (2011) examined the influence of supply Chain Management measurement on Operational Performance by using information sharing, long term relations, cooperation

and process integration as SCM measurements influencing operational performance in case of Brazilian companies. The empirical results of this study provided evidence of a positive impact of SCM measurements on operational performance.

Arawati (2011) investigated relationships between SCM, operational performance and business performance by using lean production, new technology and innovation, strategic supplier partnership and postponement concept as SCM dimensions and then the result demonstrates that SCM dimensions namely lean production, new technology and innovation, strategic supplier partnership and postponement concept appear to be of primary importance and exhibit significant effects on operational performance and business performance.

Adebayo & Toyin(2012) identified impact of SCM Practices on SCM Performance in Nigeria Today. The SCM practices considered in the study were strategic supplier partnership, customer relations practices and postponement. The study thus identified that SCM practices has significant and positive impacts on SCM performance.

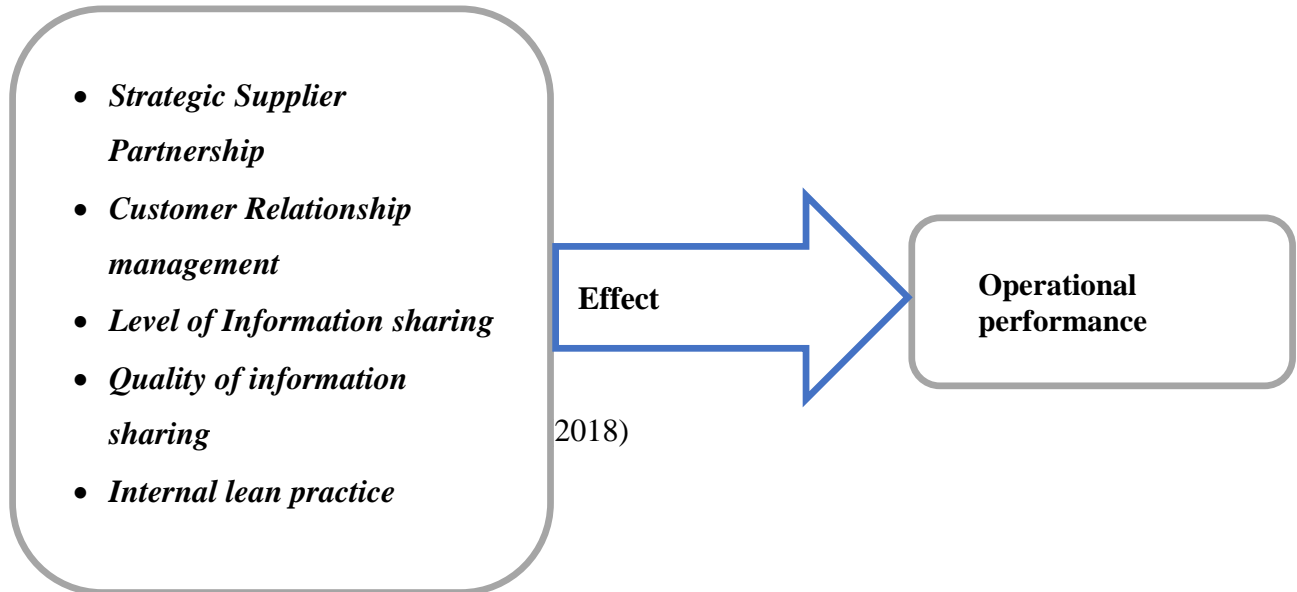
Flynn, Huo, & Zhao(2010) assessed the impact of supply chain integration on both operational and business performance by using supplier integration, customer integration, and internal integration as dimensions of supply chain integration. They found that internal integration directly relates to both business and operational performance and that customer integration directly relate to operational performance. The integration of supplier and customer were related to operational performance. Internal and external integration influence each other along with performance.

2.3. Conceptual Framework

Among different Supply Chain variables stated in the literatures reviewed, the researcher selected Strategic Supplier Partnership, Customer Relationship Management, Level of Information Sharing, Quality of Information and Lean practice and analyzed the effect of supply chain management practice on the operational performance of Heineken Kilinto Brewery. In this study Strategic Supplier Partnership, Customer Relationship Management, Level of Information Sharing, Quality of Information and Lean practice are Independent

variables and Operational Performance is the Dependent variable. Accordingly, the researcher developed the following conceptual framework and indicated the relationship between the independent and dependent variables

Figure 2. 1. Conceptual Framework



CHAPTER THREE

METHODOLOGY

Introduction

This chapter presents the methodology of the research. It discusses the research design, target population, sampling design and sample size, data collection procedures and instruments as well as data analysis techniques.

3.1. Descriptions about Study Area

Heineken Breweries S. C is one of the largest beer company based in Ethiopia. The privatization of state owned breweries has attracted giant brewing companies such as Heineken, Diageo and Bavaria to invest and participate in the local market. Heineken built its own factory on the Outskirt of Addis at a place called Kilinto. Heineken Breweries S.C belongs to the Heineken International B.V. Heineken Breweries S.C acquired Bedele and Harar Brewery S.C on open tender from Ethiopian government in the year 2011 G.C. Bedele brewery currently has an annual production of 550,000 hector liters whereas, Harar brewery has current annual production of 500,000 hectoliters.

Heineken's Kilinto brewery is located in the outskirts of Addis Ababa, in Kilinto. It started operations in July 2014 and has an annual technical production of 3,000,000 hectoliters with more than 200 employees. It is a state of the art and technologically advanced brewery. The brewery is home to the Walia brand but also produces other brands like Heineken, WaliaRadler, Harar, Bedele, Bedele Special and Sofi. The production capacity of Harar Brewery S.C and Bedele Brewery S.C combined together is 1.05 million hectoliters. However, along with its home brands, the Kilinto Brewery which is located at Kilinto brewery produces all products produce in Harer and Bedele breweries and has a production capacity of 3 million hectoliters. Moreover, as per the company's records, by the end of 2018 G.C the company will increase its production capacity at Kilinto to 6 million Hectoliters and by 2030 Heineken Breweries S.C envisions also to increase its capacity to 14 million hector liters.

3.2. Research Design and Approach

Designing a study helps the researcher to plan and implement the study in a way that help the researcher to obtain intended results, thus increasing the chances of obtaining information that could be associated with the real situation (Burns & Grove, 2001). This study used both descriptive and explanatory designs for the aforementioned objectives. Kothari (2004) explains descriptive research as a situation or condition at hand, it is one in which information is collected without changing operating environment. This design helps to identify the practices of supply chain management in the company. On the other hand, the researcher used explanatory design to analyze the effect of supply chain management on operational performance.

The researcher used both quantitative and qualitative research approach and collected data from primary sources through questionnaire and semi-structured interview respectively. Hence, this study used mixed approach. The researcher used the Cross-sectional field survey method to identify the relationship between supply chain management practice and operational performance of the company. In the cross-sectional field survey, independent and dependent variables are measured at the same point in time.

3.3. Population and Sampling

3.3.1. Population

Hair et al., (2010) states target population as a specified group of people or object for which questions can be asked or observed to collect required data structures and information. To collect data about the practices of supply chain management the researcher targeted the 200 Supply Chain related employees of the company that have direct relationship with supply chain management and operation management.

Table 3.1: Target Population of the Study

Departments	Population
Sales & Marketing	12
Brewing/Production	38
Packaging	33
Procurement	32

Quality, Research & Development	10
Warehouse & Transport	68
Planning	2
SC top level Managers	5
Total Heineken SC positions	200

Source: Heineken, 2018

3.3.2. Sampling Method

Alreck & Settle (2005) noted that the choice of sample size is made after considering statistical precision, practical issues and availability of resources. Samples that are selected on a random basis are considered as a representative of the population. The researcher selected the sample from the target population by using probability sampling particularly stratified random sampling technique. According to Malhotra & Peterson (2006) there is no a single and precise way to determine the size of sample; hence there are a number of inadequacy for deciding on sample size. The larger the sampling size of a research, the more accurate the data generated. The researcher used Yamane's (1967) formula to determine the sample size for the study based on a 95% desired confidence level and a 5% desired level of precision.

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

Where: - n = Sample size

N = population size

e = level of precision

Table 3.2: Sample Size Determination

Departments	Population	Sample
Sales & Marketing	12	8
Brewing/Production	38	25
Packaging	33	22
Procurement	32	21
Quality, Research & Development	10	7
Warehouse & Transport	68	44
Planning	2	2
SC top level Managers	5	4
Total Heineken SC positions	200	133

Source: Heineken, 2018 and own computation based on Yamane’s (1967) formula

According to the formula the sample size for the study was 133 respondents. The researcher used stratified random sampling methods. From these samples, 4 top managers of supply chain departments were selected for interview and 129 employees were selected for questionnaire.

3.4. Data type and Collection Techniques

The researcher analyzed the study based on the data collected from primary sources through questionnaire and interview. Although this study is supported by both theoretical and empirical literatures and secondary data from the organization, the researcher used primary data to achieve aforementioned objectives and to answer research questions. Primary data were collected from selected respondents in the company and secondary data were collected from published journals, reports of the company and websites.

The researcher used both quantitative and qualitative research methods. The study used questionnaire as a quantitative data collection instrument that helps to cover larger target groups than the interview given the quality and chance of no response. The questionnaire was prepared using 5-point Likert-Scale approach (i.e., from “Strongly Disagree to Strongly Agree”). A pilot survey was conducted in order to ascertain if the questionnaire adequately addressed the critical aspects of the research objective. Accordingly, respondents

were asked to indicate their level of agreement on 5 point Likert scale with the following ratings; Strongly Disagree (1), Disagree (2), neutral (3), Agree (4) and Strongly Agree (5) for ordinal scale measurement and to generate data suitable for quantitative analysis. In addition to quantitative data collection, the researcher used qualitative approach. Qualitative data were gathered through interview from managers of procurement and planning departments.

3.5. Methods of Data Analysis

After the data collected, both descriptive and inferential statistical techniques were employed to analyze the data. The data were analyzed using computer software. The researcher used Statistical Package for Social Sciences (SPSS) version 20. The statistical tools were aligned with the objectives of the study. Descriptive analysis were presented by using statistical tools mainly frequencies, percentages, mean and standard deviation to summarize the responses. Inferential analyses were conducted by using correlation and multiple regression techniques to show the relationship and the significance between dependent and independent variables. The correlation analysis has been computed by using Pearson correlation method and the regression analysis has been estimated by using the Ordinary Least Square (OLS) methods. Thus, after testing its significance statistically, the researcher identified effect of supply chain management on operational performance in the selected company.

3.6. Model Specification and Description of Study Variables

The regression model used for the analysis presented as follows;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + \varepsilon_i$$

Where s

Y is dependent variable which is explained by the independent variables

β_0 is constant

$\beta_1 \dots \beta_n$ are the coefficient of the independent variables X_1 to X_n .

ε is an error term

Specifically, the model used for this study expressed as follows;

$$OP = \beta_0 + \beta_1 SSP + \beta_2 CRS + \beta_3 LIS + \beta_4 QIS + \beta_5 ILP + \varepsilon_i$$

Where,

OPP=Operational Performance

SSP= Strategic Supplier Partnership

CRM= Customer Relationship Management

LIS= Level of Information Sharing

QIS=Quality of Information Sharing

ILP= Internal Lean practice

Strategic Supplier Partnership, Customer Relationship Management, Level of Information Sharing, Quality of Information and Lean practice are Independent variables whereas, Operational Performance is the Dependent variable.

3.7. Reliability and Validity analysis

3.7.1. Validity

Bryman & Bell (2007) defined validity as how much any measuring instrument measures what it is intended to measure. They also suggest that the important issue of measurement validity relates to whether measures of concepts really measure the concept or not. There are several ways of establishing validity such as content validity; convergent validity concurrent; predictive validity; construct validity; and convergent validity. This study addressed content validity through the review of literature and adapted instruments used in previous studies of Li et al.(2006), Lenny et al.(2007) and Priscila & Luiz(2011).

3.7.2. Reliability Test

Nunnaly (1978) stated that reliability is the consistency of a test, survey, observation, or another measuring device. The level of reliability of the instrument indicates the consistency of the variables. Cronbach's alpha is an index of reliability associated with the variation accounted for the true score of the underlying construct and it can only be measured for variables which have more than one measurement question. 0.5 is a sufficient value, while 0.7 is a more reasonable value. Therefore, the reliability of the questionnaire is analyzed by using Cronbach's alpha statistics. As it is indicated in the table 3.3 below, all Cronbach's alpha indexes are above 0.7 suggesting that the variables are consistent to measure supply chain management practices in the company.

Table 1.3: Reliability Test

<i>Construct</i>	<i>Number of Item</i>	<i>Cronbach's alpha</i>
<i>Strategic supplier partnership</i>	6	0.745
<i>Customer relationship</i>	5	0.877
<i>Level of information sharing</i>	7	0.815
<i>Quality of Information Sharing</i>	5	0.902
<i>Operational Performance</i>	4	0.739

Source: Own Survey, 2018

3.8. Ethical Considerations

Ethical clearance and permission is obtained from the College of Business and Economics, Jimma University. Before the data collection, permission from the brewery companies was requested. During the distribution of the questionnaire, respondents were informed about the purpose and the benefit of the study along with their full right to refuse or accept the participation. The respondents` were told their response would be kept confidential and their identity shall not be exposed. Every person involved in the study was entitled to the right of privacy and dignity of treatment, and no personal harm were caused to subjects in the research. Information obtained is held in strict confidentiality by the researcher. All assistance, collaboration of others and sources from which information was drawn were acknowledged.

CHAPTER FOUR

RESULT AND DISCUSSION

4.1. Introduction

This chapter presents the result of data analysis and discusses about results of supply chain management practices and their effect on operation performance of Heineken S.C Kilinto Factory. In total, 129 questionnaires were distributed to collect data on the effect of the supply chain management practices of the brewery on its operational performance but only 108 questionnaires were returned that are completely filled with response rate of 83.7%. These responses were interred in to SPSS version 20 and analyzed. Both descriptive and inferential analyses are presented. The researcher planned to interview Managers of Sales & Marketing, Warehouse & transport, procurement and planning departments. However, only managers of procurement and planning departments have been interviewed. Since the homogeneity of the managers' responses, the two managers' responses are sufficient to support the qualitative data. The results are supported with relevant literatures.

4.2 Demographic Analysis

Table 4.1 presents demographic analysis of the respondents. This analysis includes gender of respondents, their age, department they work, their experience in the company, and their educational level. As it is shown in the table 4.1 below 71.3% of the respondents are males but remaining 28.7% of the respondents are females. This suggests that supply chain management departments in the company are dominated by the male employees.

About 54.6% of the respondents are in the age range of 31-40 and 31.5% of the age of respondents is less than less than 30 years. These two categories comprise 86.1% of the respondents. But only 13.9% of the respondents are at age category of above 41 year. These suggest that supply chain management departments of the company are comprised of younger work force.

Department wise, about 39.8% of the respondents work in warehouse and transport department. 19.4% of respondents work in brewing/production department. 14.8%

respondents work procurement department. 13% of the respondents work in packaging department. These 4 departments comprise 87% of the respondents. But remaining 3 departments comprise only 13% of the respondents. This implies that, departments the company have different work force requirements based on their work load.

Table 2.1: Demographic Information

Variable	Category	Frequency	Percent
Gender	Male	77	71.3
	Female	31	28.7
Age	Less than 30	34	31.5
	31-40	59	54.6
	41 – 50	14	13.0
	above 50	1	.9
Department	Sales & Marketing	7	6.5
	Brewing/Production	21	19.4
	Packaging	14	13.0
	Procurement	16	14.8
	Quality, Research & Development	6	5.6
	Warehouse & Transport	43	39.8
	Planning	1	.9
Experience	Less than 2	39	36.1
	2-5	63	58.3
	6-10	6	5.6
Education	Diploma/TVET	17	15.7
	Bachelor Degree	71	65.7
	Masters	20	18.5

Source: Own Survey result, 2018

Among the respondents, about 58.3% have 2 to 5 years work experiences. The respondents which comprises least share (5.6%) have work experience between 5 and 10 years. Additionally, about 36.1% of the respondents have an experience of less than 2 years. Working experience of 94.4% of respondents is less than 5 years in the factory. The factory

has been in operation since 2014. However, the remaining 5.6% of the respondents have working experience higher than operational experience of the factory. Although during the interview, managers stated that, the respondents are transferred from existing factories of the company.

Educational level of respondents comprises 65.7% of the respondents have completed bachelors' degree and 18.5% of respondents have masters' degree. This suggests that the company has well educated work force.

Therefore, the demographic analyses indicate that there is higher male ratio, young work force, low work experience and very good educational level.

4.3. Descriptive Analysis

Supply Chain Management Practices of Heineken S.C Kilinto Factory is presented and discussed for each parameter of supply chain management with respective tables through mean and standard deviation.

4.3.1. Strategic Supplier Partnership

Table 4.2: Strategic Supplier Partnership Practices

<i>Statements</i>	<i>Mean</i>	<i>Std. Deviation</i>
Quality is our first criterion in selecting suppliers	3.98	0.41
Problems are jointly solved with suppliers	3.89	0.54
The company supports suppliers to improve their product quality	3.89	0.60
Key suppliers are included continuous improvement programs	3.86	0.44
Key suppliers are included in planning and goal-setting activities.	3.84	0.50
Key suppliers involve in new product development processes	3.71	0.49
<i>Strategic Supplier Partnership</i>	<i>3.86</i>	<i>0.33</i>

Source: Own Survey, 2018

Practices of Strategic Supplier Partnership are presented in the table 4.2 above. The level of practice is presented by using mean and standard deviation. Based on previous literatures the researcher developed 6 questions to identify practices of the strategic supplier partnership.

To identify the criteria for selection of strategic supplier the researcher asked the respondents whether quality is an issue or not. The responses with mean value of 3.98 indicated that, the company uses supply quality as criteria of supplier selection. Standard deviation of 0.41 indicates that there is a slight variation from the mean that the respondents have common agreement on quality is important criteria in supplier selection.

Strategic partnership helped the company to solve problems jointly with suppliers. Responses with mean value of 3.89 indicated that the company is jointly solving problems with suppliers. Commonly solving problems is another benefit of strategic partnership. Since strategic partners work as a single company, the problems are solved jointly. Standard deviation of 0.54 indicates that the respondents have similar outlook about solving problem jointly with strategic partners. This implies that the HBSC and strategic partners have a good coordination in solving problems.

In addition to selecting supplier based on quality, the company provides support to suppliers to improve quality of supplies. According to the interview response, the company is providing supports to farmers who supply barley by providing fertilizer, seed and advisory service. The mean value for responses is 3.89 indicating that HBSC is providing support to local suppliers. In addition to farmers, as an international company, HBSC provides support to both international and local strategic suppliers. The standard deviation of 0.6 indicates that there is low variation from mean.

The mean value of 3.86 indicates that the key suppliers are involved in continuous improvement programs. As strategic partners, key suppliers have role in changes in the company because changes in the company are based on performance of suppliers. This implies that HBSC is participating key suppliers in improvement programs. The standard

deviation of responses for involvement of key suppliers in continuous improvement program is 0.44 suggesting that there is slight variation in agreement of respondents.

The mean value of responses for key suppliers' inclusion in planning and goal setting activities is 3.84 suggesting that the respondents are agreed on involvement of key suppliers. The standard deviation of this response is 0.5 suggesting that there is little variation from mean response. The interview also supports that, during the planning activity the company assesses the performance and willingness of key suppliers to set goals. In addition, new product development is highly dependent on performance of strategic suppliers. When the company plans to develop new product, it identifies the ability of suppliers to provide supplies for new products. Mean value of 3.71 indicates that key suppliers participate in new product development. This implies that the HBSC provides priority to key suppliers before looking another supplier.

Generally, strategic supplier partnership with mean value of 3.86 suggests the respondents agree that there is strategic partnership with suppliers. Standard deviation of 0.33 suggests that there is slight variation in agreement from common mean. This implies that the strategic supplier partnership is well practiced in HBSC.

4.3.2. Customer Relationship Management

Table 4.3: Customer Relationship Practices

<i>Statements</i>	<i>Mean</i>	<i>Std. Deviation</i>
The company frequently determines future customer expectations	3.93	0.58
Periodically, the company evaluate the importance of relationship with customers	3.87	0.68
The company facilitates customers' ability to seek assistance from us.	3.75	0.58
The company frequently measure and evaluate customers' satisfaction	3.74	0.60

There is frequent interaction with customers to set reliability, responsiveness, and other standards	3.74	0.75
<i>Customer Relationship</i>	<i>3.81</i>	<i>0.53</i>

Source: Own Survey result, 2018

Table 4.3 above presents the practices of customer relationship in the company. The researcher used 5 sub-variables to identify practices of customer relationship and sorted with descending mean value. Overall all practice of customer relationship is computed by transforming sub-variables by using mean.

The respondents were asked to give their responses for practice in the company in determining future expectation of the customers. Responses with mean value of 3.93 suggest that there is practice of determining future customer expectation. This implies that the HBSC focuses on demand based selling. The interview response find out that, the company does not directly sell to customers but there are agents and retailers that distribute the products. The targeted customers are not distributors and retailers but end users. The company focuses on expectations of end users by analyzing their needs using market intelligence.

Mean value for ‘the company periodically evaluates the importance of relationship with customers’ is 3.87 suggesting that the respondents agreed that the company evaluates relationship with customers based on the sales. The standard deviation for this statement is 0.68 suggesting that there is little variation of agreement on the statement. The company provides assistance to distributors. Mean response for providing assistance to customers is 3.75 suggesting that the company is providing the assistance to customers when they need. According to the interview response, this assistance includes both financial and advisory support. The company is providing credit service for the distributors. The standard deviation of 0.58 suggests the there is little variation in from common mean.

The mean value for statement ‘the company frequently measure and evaluate customer’ satisfaction is 3.74 suggesting that the respondents agree that the company is evaluating the customers’ satisfaction based on the amount they buy. This helps the company to

evaluate amount of the sales in the distributor’s area. The standard deviation for this statement is 0.6 suggesting that there is slight variation in responses. Evaluating the customers helps to access the acceptance of the product and existence of the competitors. This implies that HBSC is evaluating the market based on the customers’ satisfaction using market intelligence and sales volume.

The responses with mean value of 3.75 and standard deviation of 0.75 suggest that there is frequent interaction with customers to set reliability, responsiveness, and other standards. Communication with customers enables to identify satisfaction of the customers for the products. According to the interview, the company identifies expectation of customers through market intelligence and demand assessment. The company is identifying and assuring reliability of products. This implies that HSBC reliable and responsible and it confirms to different standards.

Generally, practices of customer relationship management implemented in the company. This is indicated by overall mean of 3.81 and standard deviation of 0.53. This implies that HBSC is customer focused organization.

4.3.3. Level of Information Sharing

Table 4.4: Level of Information Sharing practices

Statements	Mean	Std. Deviation
We and our supply chain partners keep each other informed about events or changes that may affect the other partners	3.78	0.55
We and our supply chain partners exchange information that helps establishment of business planning.	3.72	0.62
Exchange of information with our supply chain partners (formal or informally) is frequent.	3.70	0.58
The company informs Supply chain partners in advance of changing needs.	3.69	0.70

Our Supply chain partners keep us fully informed about issues that affect our business	3.66	0.73
Our Supply chain partners share business knowledge of core business processes with us	3.65	0.66
Supply chain partners share proprietary information with the company	3.47	0.57
<i>Level of Information Sharing</i>	<i>3.67</i>	<i>0.44</i>

Source: Own Survey, 2018

The level of information sharing with the Supply chain partners is presented in the table 4.4 above. To identify the practices of information sharing, 7 sub-variables were used.

Responses with mean value of 3.78 and standard deviation of 0.55 indicate that the company and its Supply chain partners keep each other informed about events or changes that may affect the other partners. Suppliers of the company are strategic that require frequent information sharing. In addition, the customers of the company are distributors that need information about any decision that affects end user's preference. This implies that HBSC is responsible for decisions that affect Supply chain partners.

The company exchange information that is important for business planning with Supply chain partners. This is indicated by mean of 3.72 and standard deviation of 0.62. This implies that the strategic partnership with suppliers and customers made information sharing easy for any change in the company. The exchange of information between the company and its Supply chain partners is frequent. This is indicated by mean value of 3.70. Strategic partnership with the Supply chain partners made information flow frequent. As depicted by mean value of 3.69 and standard deviation of 0.7, the company informs the Supply chain partners for changes in need. The company has practice of changing production level based on demand analysis. During this period there is change in supplies need and products. As a result there has to be appropriate information sharing. This implies that the HBSC is providing information important for Supply chain partners.

Mean value of responses for information from Supply chain partners about issues that affect business of the company is 3.66 suggesting that Supply chain partners moderately

informs the company about issues affecting the business of the company. HBSC is better in informing Supply chain partners than the Supply chain partners inform the company. Supply chain partners share business knowledge of core business processes with the company. This is indicated by mean of 3.65 and standard deviation of 0.66. This implies that the Supply chain partners are not significantly sharing core business knowledge with company. The mean of responses that Supply chain partners share proprietary information with the company is 3.47 suggesting that there is relatively low practice of sharing proprietary information.

Overall mean for practice of level of information sharing is 3.67 and the standard deviation is 0.44 suggesting that there is moderate information sharing in the company. This implies that information sharing is not core strategy in the company.

4.3.4. Quality of Information Sharing

Table 4.5: Quality of Information Sharing

<i>Statements</i>	<i>Mean</i>	<i>Std. Deviation</i>
Information exchange between our supply chain partners and us is accurate	3.90	0.84
Information exchange between our supply chain partners and us is adequate	3.83	0.76
Information exchange between our supply chain partners and us is complete	3.81	0.74
Information exchange between our supply chain partners and us is reliable	3.74	0.65
Information exchange between our Supply chain partners and us is timely	3.67	0.55
<i>Level of Information Quality</i>	<i>3.79</i>	<i>0.60</i>

Source: Own Survey, 2018

Based on the previous literatures, practices of information sharing quality is indicated by dimensions of accurate, adequate, complete, reliable, timely, information. Table 4.5 above presents the practice of quality of information sharing in the company.

The responses indicate that the company and supply chain partners are exchanging accurate, adequate, complete, reliable and timely information. All dimensions of information quality are well practiced in the company. This implies that HBSC gives attention for quality of information shared with Supply chain partners.

Overall mean for quality of information sharing is 3.79 and 0.6 implying that there HBSC is sharing quality information with Supply chain partners. Ensuring the quality of the shared information becomes a critical aspect of effective supply chain management. Organizations need to view their information as a strategic asset and ensure that it flows with minimum delay and distortion (Feldmann & Muller, 2003). According to the interview, most of the information shared is outgoing from the company to its supply chain partners. But the information shared is of high quality.

4.3.5. Internal Lean Practice

Table 4.6: Internal Lean Practice

<i>Statements</i>	<i>Mean</i>	<i>Std. Deviation</i>
The company has continuous quality improvement programs	4.30	0.63
The company reduces process set-up time (time required to prepare or refit equipment/workstation for production)	3.94	0.74
The company produces only what is demanded by customers when needed	3.65	0.96
<i>Internal Lean Practice</i>	<i>3.96</i>	<i>0.65</i>

Source: Own Survey, 2018

Table 4.6s above presents internal lean practice identified through questionnaire. The responses with mean value of 4.3 and standard deviation of 0.63 indicated that the company

has continues quality improvement programs. Interview response also supports that, to increase market share, the company uses quality improvement as a strategy. The quality focus will result on competitive advantage. This implies the HBSC is using quality improvement as value adding activity. The mean value for company practice of reducing process set-up time is 3.94 suggesting that the company has efficient production process. The standard deviation is 0.74 suggesting that there is slight variation in agreement of the respondents. The mean value for production based on demand is 3.65 and the interview response suggested that, besides producing on demand the company also develop new products and present to the market.

The value of overall mean for internal lean practice 3.96 suggesting that there is very good internal lean practice in the company. The standard deviation of 0.65 suggests that the agreement of the respondents is similar with little variation. Interview also support that, HBSC is reducing non-value adding tasks through demand focus, quality improvement, production efficiency and outsourcing strategies.

4.3.6. Operational Performance

Table 4.7: Operational Performance

<i>Statement</i>	<i>Mean</i>	<i>Std. Deviation</i>
Supply chain able to deliver the right quantity of goods and services for the operation	4.00	0.36
Supply chain delivers goods and services within the right place that they were needed.	3.99	0.37
Supply chain deliver goods and services within the deadlines that they were needed.	3.91	0.48
Supply chain is flexible or able to make changes and meet new demands of the operation whenever there is need to.	3.86	0.50
<i>Operational Performance</i>	<i>3.94</i>	<i>0.33</i>

Source: Own Survey, 2018

Mean value for responses of statement 'supply chain able to deliver the right quantity of goods and services for the operation' is 4.0 suggesting that the company satisfies the customers' demand. The standard deviation for this statement is 0.36 indicating that there is very little variation from mean response. This is an implication of HBSC is efficient in providing demanded quantity. The company provides different brands and right quantity of products to the market.

Responses with mean value of 3.99 indicate that the company delivers goods and services within the right place that they were needed. The standard deviation is 0.37 indicate that there is very low variation from mean responses. According to the interview response, the company uses geographically segmented the distribution channel to five geographic areas; north, south, east, and west and central Ethiopia to manage the distribution. In addition, all plants produce all products of Heineken that are produced in the country with an objective of delivering what is demanded (HBSC, 2017). This implies that the HBSC is producing according to demand.

Mean of responses for statement that supply chain delivers goods and services within the deadlines that they were needed is 3.91 suggesting that the company is providing within requested time. Responses for flexibility of delivery have mean value of 3.86 suggesting that the respondents agree that the operation is flexible. Interview response also supported that, the flexibility of operation is indicated through providing different brands, focusing on demand of customers, seasonal fluctuation of production and producing different brands in a single plant.

Overall mean for operation performance is 3.94 suggesting that the respondents agree that the company is efficient in all parameters of operational performance. The standard deviation of 0.33 indicates that there is no significant variation from mean about the agreement of efficient operational performance of the company.

4.4. Inferential Analysis

4.4.1. Correlation Analyses

Table 4.8: Correlation Analyses

	<i>OPP</i>	<i>SSP</i>	<i>CRM</i>	<i>LIS</i>	<i>LIQ</i>	<i>ILP</i>
<i>OPP</i>	1					
<i>SSP</i>	.204*	1				
	.034					
<i>CRM</i>	.430**	.012	1			
	.000	.906				
<i>LIS</i>	-.139	.166	-.014	1		
	.151	.086	.886			
<i>LIQ</i>	.016	.081	.151	.178	1	
	.873	.405	.120	.065		
<i>ILP</i>	.269**	-.019	-.094	-.062	.215*	1
	.005	.848	.331	.526	.025	

*. Correlation is significant at the 0.05 level (2-tailed).

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

Source: Own Survey, 2018

This study used both descriptive and explanatory designs to reach at aforementioned objectives. Correlation analysis is one of explanatory design that is intended to identify the relationship between independent variables, supply chain management practice, and dependent variable, operational performance. Based on assumption of linear relationship between the variables, Pearson correlation method is used to identify the correlation.

Table 4.8 above presents the correlation coefficients and respective significance of the correlation. The strategic supplier partnership and operational performance have positive and significant correlation with significance level of 0.05 suggesting that increase in strategic supplier partnership increases operational performance significantly and vice versa. This implies that strategic supplier relationship of HBSC is has positively and significantly importance in improving the operational performance of the company. Result of this study is similar to findings of (Stuart, 2007; Balsmeier&Voisin, 2006; Noble, 2007) that strategic supplier partnership and operational performance are positively and significantly correlated.

The correlation between customer relationship and operational performance is positive and significant at significance level of 0.01. This implies that customer relationship management of HBSC is efficient that supports the operational performance of the company. This study's finding is similar to the findings of the (Claycomb et al. (2009), Tan et al. 2008) this study has identified positive correlation between customer relationship and operational performance.

The correlation between the level of information sharing and operational performance is negative and insignificant. Similar to this the correlation between information quality and operational performance is positive but insignificant.

The correlation between internal lean practice and operational performance is positive and significant at 0.01 suggesting that improving internal lean practice improves operational performance and vice versa. This implies that internal lean practices of HBSC are improving operational performance of HBSC. This study has identified similar results with findings Mark, et al., (2009), Bhasin & Butcher (2006) and Handfield, et al. (2012) that internal lean practices and operational performance are positively correlated.

4.4.2. Diagnostic Tests

i. Multicollinearity Test

Gujarati (2004) states that multicollinearity problem arises when there is a linear relationship among explanatory variables that the result could not obtain estimates of all parameters. This causes large variance and standard error with a very low t- ratio and wide confidence interval. Different methods are often suggested to detect the existence of multicollinearity problem. Variance inflation factors (VIF) technique used for continuous explanatory variable and contingency coefficient (CC) method is used for dummy variables. For continuous variables, if the value of VIF is 10 and above, the variables are said to be collinear. Similarly, if the value of CC greater than 0.75, the variables said to be collinear.

Table 4.9: Multicollinearity Test

	<i>Collinearity Statistics</i>	
	<i>Tolerance</i>	<i>VIF</i>
<i>Strategic Supplier Partnership</i>	.969	1.032
<i>Customer Relationship Management</i>	.957	1.045
<i>Level of Information Sharing</i>	.933	1.072
<i>Quality of Information Sharing</i>	.883	1.132
<i>Internal Lean practice</i>	.925	1.081

Source: Own survey, 2018

To detect the problem of multicollinearity the VIF technique is used prior to executing the regression analysis. As presented in the table 4.9 above, the values of VIF are well below 10 and suggesting that there is no problem of multicollinearity among the study independent variables.

ii. Normality Test

This study used both Pearson correlation and OLS regression method to identify the effect of supply chain management on operational performance. These two methods assume normal distribution of data of both dependent and independent variables. Before analyzing the data in these methods the researcher conducted normality test by using Shapiro-Wilk test because the observations are only 108. The null hypothesis for this test is that, data is normally distributed.

Table 4.10: Normality test

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
OPP	.297	108	.091	.795	108	.102
CRM	.152	108	.156	.951	108	.231
SSP	.198	108	.161	.887	108	.184
LIS	.168	108	.122	.939	108	.171
LIQ	.154	108	.231	.935	108	.185
ILP	.198	108	.101	.882	108	.144

Source: Own survey, 2018

The result of normality tested in the table 4.10 above. Results are insignificant at significance level of both 0.05 and 0.01. The researcher cannot reject the null hypothesis of data is normally distributed instead the researcher accepts the null hypothesis for all study variables.

iii. Heteroscedasticity Test

Brooks (2014) expressed homoscedasticity assumes that the variance of the errors is constant. If the errors do not have a constant variance heteroskedastic problem is detected (White (1980) as cited by (Brooks, 2014).

Table 4.11: Heteroscedasticity Test

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-.426	.284		-1.497	.138
SSP	-.075	.049	-.130	-1.521	.131
CRM	-.049	.035	-.412	-4.293	.193
LIS	.055	.037	.127	1.496	.138
LIQ	-.016	.027	-.052	-.596	.553
ILP	-.069	.027	-.235	-2.588	.111
OPP	.044	.059	.692	6.828	.190

Source: Own Survey, 2018

Since result for all variables is insignificant at significance level of 0.05 and 0.01, the researcher cannot reject null hypothesis of residuals are homoskedastic instead accepts that residuals are homoskedastic suggesting that variance of the error term is constant.

iv. Linearity Test

This test is conducted to identify linear relationship between dependent variable and independent variables with null hypothesis of linear relationship.

Table 4.12: Linearity Test

Independent Variables	Sum of Squares	Df	Mean Square	F	Sig.
SSP	1.072	8	.134	1.338	.234
CR	1.405	12	.117	1.401	.179
LIS	1.890	13	.145	1.462	.147
LIQ	1.347	10	.135	1.292	.246

ILP	1.562	4	.390	1.438	.102
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Source: Own Survey, 2018

The result of the linearity test is presented in the table 7 above. All variables are insignificant at both significance level of 0.05 and 0.01. Since the linearity between study variables is insignificant, the researcher cannot reject null hypothesis instead accepts null hypothesis.

4.4.3. Multiple Linear Regression Analysis

Another explanatory method used is regression analysis. This analysis is used to identify effect of supply chain management practices on operational performance. Hypotheses are tested by using this method. The researcher identified both general and specific objects by using regression method. Ordinary Least Square regression method is used to run the regression analysis. All decisions are made at significance level of 0.05. The model is summarized by using R squared. ANOVA analysis is conducted by F-statistics. Significance of independent variables in explaining the dependent variable is decided by using both p-value and t-statistics at significance level of 0.05 and 1 respectively.

4.4.3.1. Model Summary

Table 4.13: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.600 ^a	0.360	0.328	0.26706

Source: Own Survey, 2018

The study model summary is presented in table 4.13 above. This summary is used to identify role of dimensions of supply chain management in explaining operational performance. As it is shown in the table, R squared is 0.36 and adjusted R squared is 0.328 that 32.8% variation in dependent variable is explained by independent variables used in the model. This implies that 32.8% variation in operational performance of HBSC is affected by supply chain management practices.

4.4.3.2. ANOVA

Table 4.14: ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	4.084	5	.817	11.45 3	.000 ^b
Residual	7.275	102	.071		
Total	11.359	107			

Source: Own Survey, 2018

ANOVA is presented in table 4.14 above. This analysis is used to identify effect of supply chain management on operational performance which is general objective of the study. In addition, this analysis is used to identify appropriateness of the model in estimating effect of supply chain management on operational performance. The researcher used OLS method to run regression analysis. F-statistic value of the model is 11.45 and it is significant at 0.01 indicating that the model used is appropriate to explain effect of supply chain management on operational performance. This implies that supply chain management of HBSC significantly affects operational performance of the company. Finding of this study is similar to findings of (Adebayo & Toyin, 2012), (Lenny, et. al., 2007) and (Muhammad, 2004) that supply chain management has significant positive effect on operational performance of companies through price/cost, quality, delivery dependability, time to market, and product innovation.

4.4.3.3. Coefficients

Table 4.15: Coefficients

Variables	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	1.857	.439		4.230	.000
SSP	.232	.079	.236	2.934	.004
CRM	.295	.050	.476	5.878	.000

LIS	-.096	.061	-.129	-1.570	.120
LIQ	-.067	.045	-.125	-1.483	.141
ILP	.170	.041	.337	4.096	.000

Source: Own Survey, 2018

The effect of individual dimension of supply chain management is presented in table 4.15 above. The researcher used unstandardized coefficients and their sign to analyze the effect on operational performance. The specific objectives are addressed based on this analysis. Coefficient of strategic supplier partnership is positive and significant at 0.01. The positive coefficient indicates improving strategic supplier partnership improves operational performance and vice versa holding other factors constant. This implies that strategic supplier partnership practices of HBSC have significant positive effect on operational performance of the company. Finding of this study is similar to results of (Stuart, 2007; Balsmeier & Voisin, 2006; Noble, 2007) that strategic supplier partnership has significant positive effect on operational performance. Coefficient of customer relationship management is positive and significant at 0.01 indicating that customer relationship management has positive effect on operational performance. Positive sign of the coefficient of the customer relationship indicates that increasing customer relationship increases operational performance and vice versa holding other things constant. This implies that HBSC has customer relationship management that positively contributes operational performance of the company. The finding of this study is similar to the findings of (Claycomb, Droge & Germain (2009), Tan et al. 2008) that customer relationship has significant positive effect on operational performance.

Coefficients of level of information sharing and information sharing quality are negative and insignificant suggesting that they have negative but insignificant effect on operational performance.

Coefficient of internal lean practice is positive and significant at 0.01. Positive sign of the coefficient suggests that when internal lean practice increases operational performance of the company increases and vice versa holding other things constant. This implies that internal lean practice is positively affecting operational performance of HBSC. Results of the study similar to findings of Mark, et al., (2009), Bhasin & Butcher (2006) and

Handfield, et al. (2012) that internal lean practice positively affects operational performance.

This study has identified relative effects of supply chain management practices on operational performance based on t-statistics. Customer relationship management has high positive effect with t-value of 5.878. Next to customer relationship, internal lean practices have highest effect with t-value of 4.096. Among the three significant factors of supply chain management, strategic supplier partnership has the lowest effect on operational performance with t-value of 2.934. This implies that supply chain management practice of the company is targeted to improve sales performance.

4.5. Results of Interviews

The study uses interviews to support data collected through questionnaire. This section presents results of interview conducted with managers of procurement and planning departments. The interviews are consisted of 6 structured questions that were prepared based on the questionnaire components and the literature review. This section presents the results of each interview questions. The researcher interviewed only two managers from sampled 4 managers. Managers of warehouse and transport, and sales and marketing could not be communicated. Table 4.17 below presents general information about interviewees that helps to analyze appropriateness of the interviewees for the study.

Table 4.16: General Information about Interviewees

Variables	Interviewee 1	Interviewee 2
Position	Manager	Manager
Department	Procurement	Planning
Experience	4 years	5 Years
Education	Masters	Masters

Source: Own Survey, 2018

Both interviewees are managers of the departments suggesting that they have good knowledge about the issues of supply chain management. They are managers of procurement and planning departments. These two departments are core departments of the Supply Chain. In addition, these interviewees have 4 and 5 years experience in

managerial position and in the departments. Educationally, the interviewees have masters’ degree. Therefore, the researcher used appropriate respondents to assess practices of supply chain management and its effect on operational performance.

Interview Item 1: What are the practices of strategic supplier partnership and their effect on operational performance of HBSC?

Table 4.17: Responses of both interviewees for interview item 1

<i>Interviewee 1</i>	<i>Interviewee 2</i>
<p><i>According to the interview with one of the top Manager of the company, Heineken has both local and global strategic suppliers. The local raw material supply comprises only 33%. The remaining 67% is imported. The main local raw material suppliers are barely farmers. These are small holder farmers in Arsi Zone. The company has a backward integration strategy and creates CREATE¹ farmers’ Association. It provides technical and financial supports to the project. Since local suppliers cannot provide all supplies, the company also uses global sourcing to fill the raw material shortage. According to the manager, the company imports handled through HEINEKEN Global Procurement which has strategic supplier, called Ibecor a Brussels company which handle all Heineken imports in Africa. All imported material</i></p>	<p><i>The other top Manager of the company stated that, HBSC uses strategic partnership with few suppliers. The company provides material and advisory support to farmers in Ethiopia, Arsi area. This partnership is intended to source barley from farmers at intended quality and amount.</i></p> <p><i>HBSC provides also provides full support to suppliers of packaging materials and other strategic supplies. The strategic suppliers are selected based on supplies’ quality, delivery, flexibility and the cost.</i></p> <p><i>The company frequently intends to develop new products for the expectation of the customers and competitiveness of the industry. New product development planning considers capacity and willingness to supply inputs. Before looking another supplier the company</i></p>

¹Community Revenue Enhancement Through Agricultural Technology Extension (CREATE) is four year (2013-2017) project initiated by HBSC, Walia in Arsi zone in partnership with small scale farmers, Agricultural Transformation Agency (ATA) and Ethiopian Institute of Agricultural Research (EIAR) to source quality malt barley locally and improve access of farmers to markets by modernizing agricultural activities through trainings, credit facilities, modern agricultural inputs (selected seed, fertilizers, pesticides, herbicides) and strict follow up.

<p><i>suppliers are exclusively handled and sourced through Ibecor.</i></p> <p><i>The manager also stated that, during strategic supplier development, Heineken Global procurement makes Ibecor select suppliers based on quality and company performance. Moreover, the company is working to increase the local raw material supply by expanding its support to local farmers; it prefers the local ones because it makes the company cost effective and promotes local investment and corporate social responsibility as well. This local strategy helps reduce risks of supply fluctuation and sustainable price fixing.</i></p> <p><i>He further stated that, the new product development and planning of the company is highly dependent on performance of the strategic supplier because the company is highly dependent on performance of the suppliers. The company provides support to strategic supplier to improve quality of input and then operational performance of the company. The partnership with Key suppliers make the company efficient in production, delivery and flexibility.</i></p> <p><i>The operation performance of the company and performance of the strategic suppliers are highly interconnected. Based on the company's principle of strategic supplier partnership, the suppliers are closely working with company</i></p>	<p><i>provides priority to existing strategic suppliers.</i></p> <p><i>Strategic supplier partnership has enabled to work as a single company. This partnership has created an opportunity to work with credit facility. The company is not expected to pay for the supplies when there is finance shortage. The company easily can get information about the performance of supplier through Ibecor. The company easily gets about the quality of the supplies and delivery flexibility.</i></p> <p><i>Therefore, the operational performance of the company is improved through dependable delivery, quality supplies and with minimum cost.</i></p> <p><i>The company procures malt, malt barley, hops, sugar, adjuncts, and compounds both from local and international suppliers</i></p>
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<i>because the company processes what they supply.</i>	
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Source: Own Survey, 2018

Interview item 2: What are practices of customer relationship management and their effect on operational performance of HBSC?

Table 4.18: Responses of both interviewees for interview item 2

<i>Interviewee 1</i>	<i>Interviewee 2</i>
<p><i>The company uses distributors as first tier customers to distribute its products. The distributors should comply with the company's rules and regulations. The company also indirectly assesses the customers/end users' needs. It focuses on end customers because the major mission of the company is all about to sell the products. In addition, there is strong competition within the industry. The company gets information regarding demand, customer satisfaction and industry assessment through market intelligence. The company has strong customer assessment intelligence that enables better performance. To prevent price discrimination, the retail price is determined by the company and the distributor cannot set price.</i></p> <p><i>The company names brands by associating it with the value of the community. For example Waliya is so precious in any Ethiopian mind. Harar and Bedele brands also create feeling of ownership on customers. The customer relationship is improving the market share of</i></p>	<p><i>The company does not give special attention to distributing customers because the product is produced with excellent quality and based on demand end users. It uses geographically selected and segmented distributors. The distributors have to comply with the company's regulation. The company considers going further to this is cost for the company. The company has minimum requirement the distributors has to distribute. Demand of the end customers' gets special attention through market intelligence. Product and quantity distribute will be adjust accordingly.</i></p> <p><i>The company produces what customers want but there is no frequent and direct interaction and relationship with the customers. Producing according to customer expectation helped the company to increase market share from 21% three years ago to 33% at present.</i></p> <p><i>The company provides support to distributors both with financial assistance and advisory support. There is credit facility for the agents.</i></p>

<p><i>the company. Currently the company has 33% of market share second in the market next to BGI Ethiopia which is growing from year to year.</i></p>	<p><i>This helped the agents to increase their performance in turn this affect performance of the company.</i></p> <p><i>Customer relationship through product quality created customers loyalty.</i></p>
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Source: Own Survey, 2018

Interview item 3: What is the level of information sharing with Supply chain partners and its effect on operational performance of HBSC?

Table 4.19: Responses of both interviewees for interview item 3

<i>Interviewee 1</i>	<i>Interviewee 2</i>
<p><i>There is quality information sharing with strategic suppliers regarding quality of material and new products development. Information sharing with distributors is low. There is information sharing gap between senior management and distributors. Distributors communicate with sales executives in the geographically segmented offices. But agents cannot directly communicate with top management and they cannot complain about the mistreatment they get from sales executives. The communication is through executives that the original information cannot reach to the top.</i></p>	<p><i>The company has single procurement company for imported items and there is strong and frequent information sharing and regular reporting system with this company and better information sharing with local suppliers but weak information sharing with customers. However, the company disseminates information that is necessary for production planning, distribution, logistics management and demand analysis.</i></p>

Source: Own Survey, 2018

Interview item 4: How do you rate the quality of information with regard to accuracy, completeness, adequacy, timeliness and reliability and what are its effects on operational performance of HBSC?

Table 4.20: Responses of both interviewees for interview item 4

<i>Interviewee 1</i>	<i>Interviewee 2</i>
<i>Although the information sharing is rare and mostly outgoing strategically information, the shared information is quality because it is very important for decision making. The company sends accurate, timely, adequate and reliable information. However, the quality of incoming information from the customer side is weakness in quality and exposed for distortion by area sales managers.</i>	<i>Incoming information quality is low with respect to accuracy, completeness, adequacy, and reliability but very high with respect to timeliness. But outgoing information is quality with all dimensions except lower quality of completeness. Information in the company is shared through email.</i>

Source: Own Survey, 2018

Interview item5: What are the internal lean practices and their effect on operational performance of HBSC?

Table 4.21: Responses of both interviewees for interview item 5

<i>Distribution is undertaken by agents. The company identified that distributing is non-value adding activity and requires additional management. This improves efficiency giving this activity to professional distributors.</i>	<i>There is very high internal lean practice in the company in the area of waste reduction and disposal, safety in production process, resource utilization and keeping the production machinery always intact to manufacturing the product with zero defects and zero accidents. The main advantages of this process are reducing unnecessary costs and improving</i>
<i>Production is according to market demand to reduce inventory in the company. Peak seasons of the company are Holydays and</i>	

<p><i>dry seasons and the company increase production during these seasons.</i></p> <p><i>Mainly each factory specializes in some brands, however, when there is shortage on other brand the company is flexible to produces other brand more to meet demand. For example, Since Harer and Bedele are not highly demanded in Addis Ababa, Kilinto factory mainly produces Waliya Beer, Waliyaradler and Heineken but when there is demand increase demand for Harer and Bedele Beer in Addis Ababa, the company produces these products more.</i></p>	<p><i>efficiency of company in focusing on core areas.</i></p> <p><i>This practice is improving operational efficiency through unnecessary processes avoiding in the production process and improving inventory turnover and proper utilization of production materials.</i></p> <p><i>The company uses the latest technology and machineries for production that reduces production process. Moreover, the company has educated and skilled work force. About 10% of the workforce retained from existing the company's factories, but all the rest hired during the erecting of the Kilinto factory .</i></p>
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Source: Own Survey, 2018

Interview item 6: Is (are) there any supply chain practice(s) which is (are) unique or special for your company?

Table 4.22: Responses of both interviewees for interview item 6

<i>Interviewee 1</i>	<i>Interviewee 2</i>
<p><i>The managers stated the company as organized in modern management philosophy. The company highly concerns about process improvement and corporate social responsibility. To this end, beyond the business orientation, the company supports farmers through CREATE project. The company is working with</i></p>	<p><i>CREATE project is initiated to source quality malt barley locally and improve access of farmers to markets by modernizing agricultural activities through trainings, credit facilities, modern agricultural inputs (selected seed, fertilizers, pesticides, herbicides) and strict follow up. The project has minimized</i></p>

<i>other stakeholders to transform and modernize the traditional agriculture of the farmers. This project has an excellent performance in improving quality and quantity of supply. Therefore, generally CREATE project makes the supply chain of the company unique.</i>	<i>dependency on imported supply, barley supply shortage, foreign currency costs, and import duties, enhanced quality of the product through quality supply and modernized and transformed assistance for agricultural activities of the farmers are unique to the company.</i>
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Source: Own Survey, 2018

4.6. Hypotheses Summary

Based on the regression results, the researcher summarized alternative hypotheses in table 4.16 below. The researcher tested hypotheses by using p-value. Since the effect of supply chain management is significant at 0.01, the researcher cannot be able to accept null hypothesis; supply chain management has no effect on operational performance. Instead, the researcher accepts alternative hypotheses which stated that, supply chain management has positive effect on operational performance. Similarly, since the effect of strategic supplier relationship is significant at 0.01, the researcher accepted alternative hypothesis; Strategic Supplier Partnership has positive effect on operational performance and reject the null hypothesis. Since their effects are significant at 0.01, alternative hypotheses for customer relationship and internal lean practices are also accepted and the null hypotheses of the same are rejected. On the other hand, the researcher accepted the null hypotheses for level of information sharing and quality of information sharing due to their effects statistically insignificance on operational performance and have rejected the alternative hypothesis of the same.

Table 4.23: Hypotheses Summary

No	Hypotheses	Sig	Decision
Hypothesis 1	Supply chain management has positive significant effect of operational performance.	0.000	Accepted

Hypothesis 2	Strategic Supplier Partnership has positive significance on operational performance	0.004	Accepted
Hypothesis 3	Customer relationship has positive significance on operational performance	0.000	Accepted
Hypothesis 4	Level of information sharing has positive significance on operational performance	0.12	Rejected
Hypothesis 5	Quality information sharing has positive significance on operational performance	0.14	Rejected
Hypothesis 6	Internal lean practice has positive significance on operational performance	0.000	Accepted

Source: Own Survey, 2018

4.7. Discussion (Triangulation of Data)

The researcher used primary data to identify the effect of Supply Chain Management practices on operational performance of Heineken Brewery S.C Kilinto Factory. The data is collected through structured questionnaire from management and other employees of the company's supply chain and semi structured interview from heads of procurement and planning departments. The researcher triangulated data collected through these two instruments.

This study has identified positive and significant effect of supply chain management on operational performance. Stronger partnership with strategic suppliers, efficient customer relationship and internal lean practice made supply chain management stronger that significantly affects operational performance. Finding of this study is similar to results of Otchere et al., (2013) and Adebayo (2012) that identified positive and significant effect of supply chain management on operational performance. Higher level of both backward and forward integration improves operational performance by improving quality of the product, supporting production flexibility, and delivering according to the demand.

HBSC uses strategic suppliers partnership strategy to source supplies. The company uses both local and global sourcing strategies. Globally the company has single supplier and locally it uses multiple sourcing strategy for different supplies such as malt, malt barley,

hops, sugar, adjuncts, and compounds. Strategic supplier partnership has positive effect on operational performance of HBSC that strategic supplier partnership enables organizations to work more effectively with a few important suppliers who are willing to share responsibility for the success of its brands and strategically aligned organizations can work closely and eliminate wasteful time and effort. By focusing on quality during selecting and supporting the strategic supplier, jointly solving the problems with suppliers' involvement of key suppliers in goal setting and new product development the company improved operational performance. This study is in line with finding of (Stuart, 2007; Balsmeier & Voisin, 2006; Noble, 2007). Peter et al(2005) which states that strategic partnership enables the buyer to get quality product based on long term relationship between the companies. Similar to this study the HBSC focusing on quality issue in selecting the supplier that have both long term and short term implication on operational performance of the company.

Likewise, focusing on customer relationship creates loyal customers and results on better sales (Adebayo & Toyin, 2012). Customer relationship management has positive effect on operational performance of HBSC. By segmenting and differentiating its product from competitors, sustaining customer loyalty, and dramatically extending the value it provides to its customers. There is efficient customer relationship management in the company through improved distribution management and market intelligence end customers' expectation assessment. The company provides assistance to distributors through credit financing and sales strategy. This improved performance of the distributors, when they sale the produced products, the company uses its resources efficiently to production, which reduces idle time or holding excess inventory that improve operational performance of the company. Production plan of the company is based on seasonal fluctuation of demand for the products. Assessing and associating the demand of the customers helped to improve operational performance. Finding of this study has similar result with finding of (Magretta, 2008) that, efficient customer relationship gives improves operational performance, competitive advantage over competitors and improves economies of scale.

Even though, the company mainly focuses on the supply side of the chain, its production uses demand as important criteria for quantity produced, there is seasonal variation of

production based on demand. In addition, the company produces what is needed by the customers at different plants where the product is demanded. This will avoid waste of resources and holding huge inventory and increased flexibility which indicates that, internal lean practice is among the important factors of the efficient supply chain of the company. This study has identified positive effect of internal lean practice on operational performance that, the demand driven supply chains management, lean procurement methods of eliminating waste in all procurement cycles, preventing shortages, reducing inventory investment, reducing procurement lead time and cost, increasing inventory turnover and ensuring customers relationship of the company are positively affecting operational performance of the company. Finding of this study is similar to the finding of Handfield, et al. (2012) that efficient lean practice improves operational performance by reducing non-value adding activities and minimizing the production process.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1. Summary of Major Findings

This study is conducted with an objective of identifying the effect of Supply Chain Management practice on operational performance of Heineken Brewery S.C Kilinto Factory. Based on different literatures and implementations in the company, to measure supply chain management practices, strategic supplier partnership, customer relationship, level of information sharing, quality of information sharing and internal lean practice are used as dimensions of supply chain management. Data regarding Supply Chain Management Practices and its effect on operational performance were gathered through questionnaire and interview. The Supply Chain Management practices of the company were identified by using mean of agreement of respondents and the effect of these practices on operational performance is identified by correlating and regressing the practices on operational performance with the assumption of linear relationship. Accordingly, strategic supplier partnership, customer relationship and internal lean practice have positive and significant effect on operational performance at significance level of 0.01, which implies that, there is higher significance of these practices on operational performance in the company with customer relationship having the highest effect on one hand. On the other, level of information sharing and information quality of SCM practice, have weak negative and insignificant effects on operational performance. Generally, the overall supply chain management practices have significant effect on operational performance at significance level of 0.01 suggesting that supply chain management affects operational performance significantly.

5.2. Conclusions

Based on the findings of this study, the effect of Supply Chain Management Practices on operational performance, the researcher draws the following conclusions.

The Supply Chain Management Practices of HBSC Kilinto Factory strongly and positively affects its operational performance. By developing strong partnership with strategic supplier, efficient customer relationship, productive internal lean practices, relevant information sharing and quality information, the factory could further improve its operational performance.

This study has identified positive effect of strategic supplier partnership on operational performance of HBSC. Strategic supplier partnership practices positively affect operational performance of the company because of involvement of strategic suppliers in process improvement, new product development, planning and goal setting, focusing on quality of products during selecting supplier, and supporting suppliers to improve product quality and solving problems jointly.

The company has customer relationship that positively affects operational performance. The market intelligence based customer need assessment enables the company, increase product flexibility, improve time to market, and determine quality and quantity demand. Contact with customers, assessment of customer expectation and supporting distributors have positively contributed to operational efficiency of the company.

Level of information sharing has weak negative and insignificant effect on operational performance of HBSC that, it has no role on improving the factory's operational performance.

Similar to level of information sharing, quality of information sharing has weak negative and insignificant role on operational performance of the factory.

Internal lean practices have positive and strong effect on operational performance of the company that, non-value adding activities in the supply chain are minimized, outsourcing non value adding works and focus on the core competencies of the company and there is shorter production process. Therefore, internal lean practice improves operational performance of the company's Kilinto factory.

5.3. Recommendations

Based on the findings and conclusions, the researcher forwards following recommendations.

- Since supply chain management has significant effect on operational performance of the company, the management of the company shall increase the efficiency of its supply chain practices through efficient backward and forward integrations, selecting strategic suppliers, further focusing on quality of supply and performance of the supplier, increase the level support and the number of farmers for local malt barely supply, creating better relationship with distributors, retailers and end users and involve in process improvement to win the high competition which exist in the industry.
- Strategic supplier relationship has significant effect on operational performance of the company, hence, the management of the company shall create stronger relationship with local suppliers that makes the company cost effective and reduces supply delivery time. Currently the company satisfies the majority of its raw material requirement via import, hence, considering the company stronger financial performance and good practice through CREATE, besides strengthening the existing project, the company shall engage in similar projects in other parts of the country to increase its local supply as well as benefit the local community.
- Based on the findings, customer relationship strongly affects the operational performance of the company. Thus, the management of the company shall improve its customer relationship by further strengthen its ties with customer through the establishment of downstream integration up to the end user. The company's production depend on demand, hence, instead of laying minimum requirement obligation for distribution on its distributors, the company shall give priority to the actual situation its customers are facing and add their inputs in to its production schedule so that it will have flexible supply of outputs following the actual demand.
- Since internal lean practice is significantly affecting operational performance of the company, hence, SC management of the company shall further improve the internal

lean practices through further decreasing non-value adding activities and establishing its value chain. Although the company outsourced transport service, it is recommended to analyze and outsource other non-value adding and non-core activities and focus on the activities which the company is excellent in all aspects at that makes it effective and efficient.

5.4. Limitations and Further Studies

Since this study is confined to the evaluation and identification of the effect of supply chain management practices on operational performance of only in one of the brewery companies of the country, it might not be sufficient to infer generalizations based on its findings. Hence, interested researchers in the field could take up this issue and investigate it further in another beer factory/s to see the practices of other companies to reach at general conclusion. Furthermore, though HBSC has three plants in different parts of the country, this study is restricted to Kilinto factory which is located in Addis Ababa. Thus, the researcher recommends further studies to include remaining plants. Moreover, this study is conducted only from the side of the company; hence, further research recommends by include the up-stream and down -stream participants of the Supply Chain. Moreover, this research was conducted only with a few aspects of supply chain, hence further research is needed by using other aspects of SCM which is not included in this study.

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Appendices :

I. Questionnaire

Subject: Request for Participation in a Research Study

Dear Sir/Madam;

I am a Postgraduate student at Jumma University in ABH campus. As partial fulfillment for the Masters of Business Administration, I am conducting a research study on “The effects of Supply Chain Management Practices on Operational Performance in the case of Heineken Brewery in Kilinto Factory”

Therefore, I would appreciate if you could spare a few minutes of your time to answer the following questions in regard to practices in your organization. All the information provided will be purely used for academic purposes and your identity will be treated with utmost confidentiality.

Your assistance will be highly appreciated and thank you in advance.

Yours faithfully,

Kassanesh Ayalew

Part I: Demographic Information

Please mark (√) in appropriate box to your response.

1. Gender:

- Male
- Female

2. Age in years:

- Less than 30
- 31-40
- 41 – 50
- above 50

3. Your Department

- Sales & Marketing
- Brewing/Production
- Packaging
- Procurement
- Quality, Research & Development
- Warehouse & Transport
- Planning

4. For how long have you held the position (in years)

- Less than 2
- 2-5
- 6-10
- Above 10

5. Level of Education

- Diploma
- Bachelor Degree
- Masters
- PhD

Part two: Supply chain management practices in the Organization

Instruction: Please mark (√) in the appropriate cell to your response

6. To what extent do you agree about practices of strategic supplier partnership which stated in following statements? (Please mark √ in appropriate box to your opinion)

Where; SD = strongly disagree, D = disagree, N = neutral A=agree and SA = strongly agree

Strategic supplier partnership:	SD	D	N	A	SA
Quality is our first criterion in selecting suppliers.					
Problems are jointly solved with suppliers.					
The company supports suppliers to improve their product quality.					
Key suppliers are included continuous improvement programs.					
Key suppliers are included in planning and goal-setting activities.					
Key suppliers involve in new product development processes.					

Customer relationship:	SD	D	N	A	SA
There is frequent interaction with customers to set reliability, responsiveness, and other standards					
The company frequently measure and evaluate customer satisfaction.					
The Company frequently determines future customer expectations					
The company facilitates customers' ability to seek assistance from us.					
Periodically, the company evaluate the importance of relationship with customers					

Level of information sharing:	SD	D	N	A	SA
The company informs Supply chain partners in advance of changing needs.					
Supply chain partners share proprietary information with the company					
Our Supply chain partners keep us fully informed about issues that affect our business					
Our Supply chain partners share business knowledge of core business processes with us					
We and our Supply chain partners exchange information that helps establishment of business planning.					
Exchange of information with our partners (formal or informally) is frequent.					
We and our Supply chain partners keep each other informed about events or changes that may affect the other partners					

Level of information quality	SD	D	N	A	SA
Information exchange between our Supply chain partners and us is timely					
Information exchange between our Supply chain partners and us is accurate					
Information exchange between our Supply chain partners and us is complete					
Information exchange between our Supply chain partners and us is adequate					
Information exchange between our Supply chain partners and us is reliable					

Internal lean practices:	SD	D	N	A	SA
The company reduces process set-up time (time required to prepare or refit equipment/workstation for production)					
The company has continuous quality improvement programs					
The company produces only what is demanded by customers when needed					

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

Source: Adopted from Li et al.(2006), Lenny et al.(2007) and Priscila & Luiz (2011)

II. Interviews

1. What are the practices of strategic supplier partnership and their effect on operational performance of HBSC?

2. What are practices of customer relationship management and effect on operational performance of HBSC?
3. What is the level of information sharing with Supply chain partners and its effect on operational performance of HBSC?
4. How do you rate the quality of information with regard to accuracy, completeness, adequacy, timeliness and reliability and what are its effects on operational performance of HBSC?
5. What are the internal lean practices and their effect on operational performance of HBSC?
6. Is (are) there any supply chain practice(s) which is (are) unique or special for your company?

III. One-Sample Test

One-Sample Test: Strategic Supplier Partnership

	Test Value = 0
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	T	df	Sig.	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Quality is our first criterion in selecting suppliers	100.986	107	.000	3.98148	3.9033	4.0596
Problems are jointly solved with suppliers	75.491	107	.000	3.88889	3.7868	3.9910
The company supports suppliers to improve their product quality	67.230	107	.000	3.88889	3.7742	4.0036
Key suppliers are included in continuous improvement programs	90.755	107	.000	3.86111	3.7768	3.9455
Key suppliers are included in planning and goal-setting activities.	80.510	107	.000	3.84259	3.7480	3.9372
Key suppliers involve in new product development processes	78.125	107	.000	3.71296	3.6187	3.8072

One-Sample Test: Customer Relationship

	Test Value = 0
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	T	Df	Sig.	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
There is frequent interaction with customers to set reliability, responsiveness, and other standards	51.597	107	.000	3.74074	3.5970	3.8845
The company frequently measure and evaluate customer	64.607	107	.000	3.74074	3.6260	3.8555
The Company frequently determines future customer expectations	70.925	107	.000	3.92593	3.8162	4.0357
The company facilitates customers' ability to seek assistance from us.	66.955	107	.000	3.75000	3.6390	3.8610
Periodically, the company evaluate the importance of relationship with customers	58.731	107	.000	3.87037	3.7397	4.0010

One-Sample Test: Information Sharing

	Test Value = 0
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	t	Df	Sig.	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
The company informs trading partners in advance of changing needs.	54.595	107	.000	3.69444	3.5603	3.8286
Trading partners share proprietary information with the company	63.168	107	.000	3.47222	3.3633	3.5812
Our trading partners keep us fully informed about issues that affect our business	52.388	107	.000	3.65741	3.5190	3.7958
Our trading partners share business knowledge of core business processes with us	57.431	107	.000	3.64815	3.5222	3.7741
We and our trading partners exchange information that helps establishment of business planning.	61.989	107	.000	3.72222	3.6032	3.8413
Exchange of information with our partners (formal or informally) is frequent.	65.885	107	.000	3.70370	3.5923	3.8151
We and our trading partners keep each other informed about events or changes that may affect the other partners	71.054	107	.000	3.77778	3.6724	3.8832

One-Sample Test: Information Quality

	Test Value = 0					
	t	df	Sig.	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Information exchange between our Supply chain partners and us is timely	60.119	107	.000	3.74074	3.6174	3.8641
Information exchange between our Supply chain partners and us is accurate	53.297	107	.000	3.80556	3.6640	3.9471
Information exchange between our Supply chain partners and us is complete	52.761	107	.000	3.83333	3.6893	3.9774
Information exchange between our Supply chain partners and us is adequate	48.106	107	.000	3.89815	3.7375	4.0588
Information exchange between our Supply chain partners and us is reliable	69.679	107	.000	3.66667	3.5623	3.7710

One-Sample Test: Internal Lean practice

	Test Value = 0					
	t	df	Sig.	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
The company reduces process set-up time (time required to prepare or refit equipment/workstation for production)	55.287	107	.000	3.93519	3.7941	4.0763
The company has continuous quality improvement programs	70.829	107	.000	4.29630	4.1760	4.4165
The company produces only what is demanded by customers when needed	39.489	107	.000	3.64815	3.4650	3.8313

One-Sample Test: Operational performance

	Test Value = 0					
	t	df	Sig.	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Supply chain delivers goods and services within the right place that they were needed.	110.802	107	.000	3.99074	3.9193	4.0621
Supply chain deliver goods and services within the deadlines that they were needed.	83.884	107	.000	3.90741	3.8151	3.9997
Supply chain is flexible or able to make changes and meet new demands of the operation whenever there was need to.	80.003	107	.000	3.86111	3.7654	3.9568
supply chain able to deliver the right quantity of goods and services for the operation	114.921	107	.000	4.00000	3.9310	4.0690

IV. Kilinto Supply Chain Positions and number of Employees