Effect of Packaging Material Sourcing on Production Cost of Bottled Water Producing Companies

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A Thesis Submitted to the Addis Ababa University School of Commerce in partial fulfillment for the Requirement of Degree of Masters of Arts in Logistics & Supply Chain Management.

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DECLARATION

I, the undersigned, declare that this research is my original work, prepared under the guidance of Tariku Jebena (PhD). All sources of materials used for this research have been duly acknowledged, the researcher further confirm that the research has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

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CERTIFICATE

This thesis has been submitted to Addis Ababa University, School of Commerce for examination with our approval as university advisors.

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Abstract

Sourcing function became an important factor for cost effectiveness. It is adopted to mitigate supply chain disruptions as well as reduce costs by promoting competition between suppliers. This study was conducted with an objective of identifying effect of sourcing on production cost of bottled water producing companies. It conceptualized and developed five dimensions of sourcing :supplier selection, supplier development, contract management and supplier relationship management and tests the relationships between Bottled water producing companies sourcing practices and organizational performance. This study used both descriptive and explanatory research designs. Convenience, stratified and random sampling methods were used. Data were collected from primary sources through questionnaire and analyzed through both descriptive and inferential methods. The descriptive analysis was conducted by using mean and standard deviation. On the other hand, inferential analysis was conducted by using Pearson correlation method and ordinary least square multiple regressions (OLS) method. The result indicated that sourcing has significant effect on production cost efficiency. Supplier selection, supplier development, and supplier relationship management have significant positive effect on the production cost. Based on the findings the researcher recommends that management of the companies has to improve sourcing strategies of the companies.

Keyword: sourcing strategy, supplier selection, contract management, production cost

CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

Over the last decades the competitive landscape has shifted from lowest priced product, highest quality or best-performing product to the ability to respond quickly to market needs and get the right product to the right customer at the right time by improving operational performance(Arif & Pillania, 2008). This shift toward speed has pushed organizations to improve their entire supply chain. Organizations are to transform their focus area on improvement of operational efficiency with the emphasis on operational cost. Sourcing became an important factor for cost effectiveness. It is adopted to mitigate supply chain disruptions as well as reduce costs by promoting competition between suppliers(Arif & Pillania, 2008).

Van Weele (2010)states sourcing strategy as a long-term strategic part of managing supply chain by focusing on from how many suppliers to buy, what type of relationship to pursue, contract to negotiate for, and whether to source locally, regionally or globally. According to Peter & David (2005) sourcing involves continuing relationships with preferred sources, which are actually supplying the goods and services, and with potential sources, which may have passed over for the present but are still in running. According to Kaufmann, (2012) the most basic questions that need to be addressed in designing a coherent set of sourcing functions are what to source and where to source.

According to Burke, Carrillo, & Vakharia(2014), as far as the approved supply pool is concerned, the decision is about the number of sources to use; namely the choice between single and multiple sourcing strategies. In addition, organizational issues are often said to affect firms' choice among various sourcing strategies. Firm size affects the degree of sophistication of sourcing operations, where large firms are more likely to have implemented advanced global sourcing practices.

Zeng(2010) argues that multiple-sourcing strategy enables different suppliers to responds to the demands and specifications of a particular quotation from the buying company. It

increases the competition and the leverage between suppliers. The buyer will have a large supplier base with very short duration contracts. It enables to bid with lower prices (competitive bidding). On the other hand, according to Faes & Matthyssens (2009), single sourcing creates the good relationship between the buyer and the supplier. It is critical, improved communication, co-op in the design and in the quality process, stability and cost reductions and the order handling. According to Handfield & Pannesi(2005) in this strategy the bargaining power of the buyer is very low because the buyer deals with only one source and it depends very much on the seller performance. When this strategy is deployed the relationship between the two parties must be genuine and a great care during the negotiation of the contract is necessary. Firms select suppliers from either local or international market that best fits for the selected strategy: single or multiple sources. The strategies are built on whether the suppliers for the product are global or locally placed, depending on the requirements of the product and the supply market structure. The decision about what sourcing strategy to choose should be based on considering total cost of ownership (Van Weele, 2010).

Trent & Monczka(2013)global sourcing proactively integrates and coordinates common items and materials, processes, designs, technologies and suppliers across worldwide. According to Murray et al. (2009) this strategy is applicable in both large and small companies. Van Weele(2010) argues that global sourcing strategy is effective when the supplier country is low cost country. According to Kotabe & Murray (2004) the choice of a global sourcing strategy is not only to reduce price but also to enhance quality, reliability and technology of components and products. It could give competitive advantage if sourcing is from suppliers that competitors might not use, domestic could lead to the same supplier and same advantages (Handfield & Pannesi, 2005; Van Weele, 2010). If a company manages to integrate and coordinate their supplier relationships on a global scale they have a chance of enhancing their competitiveness (Murray et al. 2005).Local is often preferred when it comes to high-tech products that might need high flexibility on changes, support and maintenance. The ultimate objective of global sourcing strategy is for the company to exploit both its own and its suppliers' competitive advantages and the comparative locational advantages of various countries in global competition. According to Peter, et al., (2005)a company can encounter problems with

foreign sourcing: communication problems, currency differences, payment, and differing legal systems.

Bruce et al., 2014 states that sourcing function varies from company to company and from product to product based on the strategic points. Based on this material sourcing used for packaging materials varies from other inputs. In addition to this sourcing functions may vary for each packaging materials depending on the product nature. Bottled water producing companies have two strategic packaging materials; CAP and preform. As the preliminary study conducted by the researcher indicates sourcing function used for these two packaging materials were similar as majority of the suppliers produce both items in one factory premises.

According to preliminary study conducted by the researcher, bottled water producing companies in Ethiopia specifically companies in Addis Ababa and 100 Kilo meters around Addis Ababa ,used different sourcing strategies for both packaging materials. Only 12% of the companies use single sources and remaining 88% of the company uses multiple-sourcing strategy. On the other hand, the preliminary study indicated that 23% of the companies use international sourcing but remaining 77% of the companies use local sourcing based on their strategic points.

Therefore, this study intends to identify effect of packaging material sourcing on the production cost of bottled water producing companies in Ethiopia specifically companies in Addis Ababa and 100 Kilo meters around Addis Ababa.

1.2 Statement of the Problem

Different organizations implement different sourcing methods based on different criteria. Material Sourcing functions effect on building sustainable competitiveness of their goods and services in an increasingly crowded market places and enhancing performance of firm and overall supply chain. According to Scott (2011), effective sourcing benefits are improved quality, improved service to end users, cost reduction, cost improvement, cash flow improvement, reduced cycle time, development of process technology, and development of product technology. This has resulted in increased attention of managers,

consultants and business owners towards proper sourcing strategy in business organizations.

Bottled water producing companies in Ethiopia are using different methods to source packaging materials. As the preliminary study conducted by the researcher indicates, few companies use single sourcing strategy but most of the companies are using multiple sources with different partnership level. In addition to this majority of the companies uses local sources and few big companies use global sources.

In other countries and in different industries, different studies have different results for effects of material sourcing on production cost (Cho & Kang, 2011; Lowson, 2013; Teng & Jaramillo, 2015) opines that supplier selection and development has significant effect on production cost. The results of (Trent & Monzcka, 2013; Bruce et al., 2014; Tyler et al., 2016) indicates that contract management and supplier relationship management are important factors. This implies that the effect of material sourcing is inconclusive for all business organizations suggesting further studies in the area.

Different studies indicated that effective sourcing strategies have different benefits to an organization. On the other hand, wrong strategies result on company failure. Zeng(2010), Handfield & Pannesi(2005) advocate multiple-sourcing strategy concluding that it increases the competition and the leverage between suppliers, the buyer will have a large supplier base with very short duration contracts, it enables to bid with lower prices (competitive bidding), and the bargaining power of the buyer is very high because the buyer deals with many sources. On the other hand, according to Faes & Matthyssens (2009) single sourcing is preferable because it creates the good relationship between the buyer and the supplier, improves communication, co-op in the design and in the quality process, stability and cost reductions and the order handling. The result of these studies indicates that both strategies can be designed for cost effective production but they did not identify which one is more effective.

An other issue to the number of supplier is location of the supplier; global or local. According to (Kotabe & Murray, 2004; Handfield & Pannesi, 2005; Van Weele, 2010) global sourcing strategy has low price advantage, enhances quality, reliability and

technology of products, gives competitive advantage if sourcing is from suppliers that competitors might not use, domestic could lead to the same supplier and same advantages. On the other hand, Murray et al. (2005) argues that local is often preferred when it comes to high-tech products that might need high flexibility on changes, support and maintenance. According to Peter, et al., (2005)local sourcing has an advantage of communication, reducing foreign currency costs, lower cost, and supportive legal systems. The literatures are not conclusive about the effective strategy between global and local. In addition, bottled water producing companies in Ethiopia are using different sourcing strategy despite they are working with the same external environment for all companies.

As far as knowledge of the researcher there are no studies conducted to identify effect of packaging material sourcing on total production cost. Therefore, this study intends to identify effects of packaging material souring functions on total cost of production in the case of bottled water producing companies in Addis Ababa and 100 Kilo meters around Addis Ababa.

1.3 Research Questions

This study intends to answer following research questions.

- What is the effect of supplier selection on production cost?
- What is the effect of supplier development on production cost?
- How contract management affects production cost?
- How supplier relationship affects production cost?

1.4 Objectives of the Study

1.4.1 General Objective

General objective of this study is to identify the effect of sourcing functions of packaging materials on production cost of bottled water producing companies in Addis Ababa and 100 KM radius from Addis Ababa, Ethiopia.

1.4.2 Specific objectives

- Identifying effect of supplier selection on production cost;
- Analyzing the effect supplier development on production cost;
- Examining the effect of contract management on production cost; and
- Examining the effect of supplier relationship on cost of production;

1.5 Significance of the Study

This study will help the management of the bottled water producing companies in Ethiopia especially in the case area by identifying the cost effective packaging materials sourcing. Another significance of this study will be opening ground for further studies in this area. This study can be used as source for further studies in factors affecting sourcing strategy selection for packaging materials and the effect of packaging material sourcing on production cost.

1.6 Scope of the Study

Geographically this study was scoped to Addis Ababa and 100 Kilo meters from Addis Ababa. Although bottled water companies use different inputs, this study focuses on only packaging materials sourcing functions. Since the companies have different strategies for sourcing CAP and Label, the researcher analyzed sourcing functions of both packaging materials together. Among different data collecting strategies, this study used only questionnaire. This study used dimension of sourcing strategy of supplier selection, supplier development, contract management and supplier relationship management.

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

LITERATURE REVIEW

2.1 Theoretical Review

2.1.1 Sourcing Strategy

According to Scott (2011) sourcing is one of the components of the supply chain operations reference model, and it is the interface between suppliers and the buying company. It is the most strategic part in the purchasing phase of the supply chain. According to(Van Weele, 2010)sourcing strategy is a strategic part of managing supply chain and it identifies for a certain category from how many suppliers to buy, what type of relationship to pursue, contract to negotiate for, and whether to source locally, regionally or globally. Sourcing strategies are often focused on one category of products or services. The sourcing strategy should be considered as a long-term process and be in line with the overall business strategy, business processes and integrate IT services. Sourcing shifts the focus from only cost-cutting to long-term value creating of the enterprise and it can provide economies of scale and more sustainable and long-term cost savings.

Peter & David(2005) states sourcing involves crucial and strategic decisions because it involves much more than simply picking a supplier or contractor for each requirement in isolation. It involves continuing relationships, both with preferred sources, which are actually supplying the goods and services, and with potential sources, which may have passed over for the present but are still in running. It involves decisions about how to allocate the available business, and what terms to do the business. Sourcing is divided in two main business activities. The first activity is selecting new suppliers that includes finding suppliers that provide products and/or services that best meet the required needs, analyzing them and setting up contracts. The second activity is managing the supplier over a period of time. This could be short, such as a one-off purchase such as a factory buying a new generator.

Kaufmann (2012) sourcing strategies provide a general orientation indicating how a company plans to purchase a particular commodity. The most basic questions that need to be addressed in designing a coherent set of sourcing strategies are what to source and where to source. Sourcing strategies can be understood as comprised of two paramount strategic dimensions: the choice among various supply markets and the choice among various supply channels.

2.1.2 Theories of Sourcing Strategy

2.1.2.1 Resource Dependency Theory

Resource Dependence Theory (RDT) promoted by Pfeffer & Salancikin (1978), is the study of how the exterior resources of organizations affects the performance of the organization. The procurement of exterior resources is a significant tenet of both the strategic and tactical management of any company. A implications in the procurement efficiency of the buying firms especially in tapping into the connection with suppliers as their important and dependable associates. Thus this theory props up the concept of supplier development Resource Based Theory proposes that actors lacking in crucial resources will seek to create relationships with (i.e., be dependent upon) others in order to acquire required resources. Just like sellers on buyers for precious markets and buyer will depend on suppliers for external resources. Also, organizations endeavor to alter their reliance relationships by lessening their own reliance or by increasing the dependence of other organizations on them. Within this viewpoint, organizations are viewed as coalitions alerting their structure and patterns of behavior to acquire and maintain required external resources. Acquiring the external resources required by an organization comes by diminishing the organization's reliance on others and/or by increasing other's reliance on it, that is, modifying an organization's influence with other organizations.

Resource dependence theory takes the view that a business relationship is a social exchange of critical resources with mutual dependency among the exchange partners. Thus, the survival and growth of organizations largely depend on the ability to secure critical resources from the external environment (Emerson, 1962; Casciaro & Piskorski, 2005). But a relationship between organizations is not free.

2.1.2.2 Transaction Cost Theory

Williamson(1996) states that transaction cost theory is modes of exchange should be selected that economize on costs. The theory viewed organizational activities as substitutes for markets. Transactions will be vertically integrated when costs of using market are perceived as being higher than organizing them through internal organizational growth. Thus, in transaction cost theory, cost efficiency should be an important factor to consider in determining alternative forms of exchange. It is necessary to evaluate and to minimize ultimate costs involved in market exchange. If an organization is more efficient to source the components and materials through internal organization rather than through independent outside sourcing, then, this organization should go for internal or intra-firm procurement. The theory framed the decision problem as a choice between a spot-market transaction and complete vertical integration. Vertical integration is viewed a priori as a superior means of dealing with the transaction difficulties posed by uncertainty and specific assets. In purchasing context, one particular source of uncertainty is volume unpredictability that is the buyer's inability to specify in advance the required purchase volumes from suppliers. Resulting in part from volatility in the buyer's downstream market, this form of uncertainty creates an adaptation problem.

According to Williamson (1996) transaction cost analysis (TCA) suggests that every transaction has a cost. These costs are incurred for adaptation, performance evaluation and safeguarding, and are associated with uncertainty, opportunism, and transaction specific assets (TSAs) invested in the relationship. Transaction specific assets refer to the assets specialized to service the particular needs of the exchange parties. Firms invest in TSAs in order to create additional value from an exchange above what standard product and service offerings can do. Examples of TSAs include the development of idiosyncratic knowledge, the provision of dedicated human resources and training, and capital investment in specialized equipment and facility improvement.

Although resource dependence theory and transaction cost analysis depart from different points of view (sociology and new institutional economics, respectively), they have something in common. While resource dependence theory focuses on *ex ante* mutual

dependence between exchange partners due to critical resources, transaction cost analysis assumes that two parties are initially independent but develop bilateral dependence *ex post* due to relationship specific assets invested over the course of the relationship (Heide & Stump, 1994; Casciaro & Piskorski, 2005).

Despite these different views, however, both theories recognize the existence of interdependency between exchange partners and the importance of securing valued resources from environmental and behavioral uncertainty. Specifically, based on utilitarian assumptions of self-interested behaviors of exchange partners, transaction cost analysis argues that TSAs raise the cost of safeguarding against a behavioral uncertainty of an exchange partner such as an opportunistic behavior where one party may exploit the other for unilateral benefits. Being unique to a relationship, and possessing little or no value upon the relationship termination, TSAs are often viewed as valuable but vulnerable investments (Heide & Stump, 1994).

Combining the resource and transaction cost perspectives into a strategic point of view, Ghosh & John(1999) proposed a governance value analysis (GVA) framework that links resources, positioning strategy, TSAs and governance. They argue that a firm creates potential market value through a unique positioning and can claim those values through a competitive advantage based on firm-specific resources. In an effort to achieve competitive advantage in the market, firms align themselves with exchange partners (i.e., customers and suppliers) and create joint values, such as cost reduction and/or value addition, through investments in TSAs.

While creating maximum values from the market, (Ghosh & John, 2005) argue that firms should safeguard their share of values jointly created as well as their investments in TSAs against opportunism through strategic selection of relationship governance. For example, the authors found, in a later study on industrial alliances, that OEMs – given a high level of specific investments – achieve a high level of cost reduction from less flexible contracts with their suppliers while achieving a high level of end-product enhancement from more flexible contracts. Based on these findings, they suggest that OEMs take

different "governance value engineering" approaches to supplier relationship management depending on their primary pursuit of strategic outcomes (i.e., cost reduction vs. product enhancement).

2.1.2.3 Network Theory:

Network theory is the core on the relationships a firm has with other firms, and on how these relationships influence a firm's behavior and outcomes. Network theory inform on choice of which firms an organization chooses to buy from or engage with as alliance partners. Centrality is a key concept within network theory. Centrality refers to how critical a firm is within a network. High supremacy refers to a firm that is always sought out as a partner. Such firms enjoy high regard and status among the network (Thorelli, 1986).

Being central within a network would seem to offer the potential to improve the four key competitive priorities within supply chains: quality, speed, cost, and flexibility. A highly central firm can tap its tight links in order to rush orders when required, make seamless transitions over time and seek out the provider offering the best materials and lowest prices. Therefore, with regard to sourcing, a firm should endeavor to be central to its network and should seek sources that are central to their networks(Gulati, Nohria, & Zaheer, 2010).

2.1.2.4 Systems Theory:

Systems theory views the organization as a system of interconnected parts which interact together to produce products and services. From a systems perspective of sourcing, the assumption is that one or more parts of the system is being externalized, and has an effect on the interconnected parts of the system. The nature and strength of this effect is primarily determined by the nature of interdependence between firm work processes. There are three types of interdependence; pooled interdependence occurs when each part of the system makes a distinct contribution to and is supported by the whole; sequential interdependence exists when one part of a system has to complete its contribution before the next can take action from start to finish in the production process; and reciprocal

interdependence occurs when outputs of one system serve as inputs to the other, and vice versa (Thompson, 1967).

The type of interdependence offers insights into the associated costs of coordination and communication in sourcing relationships. Increases in interdependence, complexity, task variety, or specialization in production processes increase the coordination and communication costs between firm and sourcing partners. Further, coordination and communication costs are lower for outsourced process beginnings (inputs) and endings (outputs) than for dually interconnected outsourced system parts(Combs & Crook, 2007).

Beyond the implications on the coordination and control costs associated with the type of interdependence, systems theory also provides insights on the desirability of multiple and plural sourcing relationships in turbulent environments. Work on requisite variety implies that as firms face and operate in increasing turbulent and complex external environments, that firms must maintain increasingly complex structural connections and mechanisms to survive and prosper in the environment. Thus, one interpretation of requisite variety is that firms maintaining multiple and plural sourcing relationships with external partners have stronger dyadic and network relationships than firms eschewing outsourcing. In such cases, firms in sourcing partnerships and networks have greater requisite variety and an increased ability to navigate complex environments successful (Ashby, 1956).

2.1.2.5 Integration Theory

According to David (1997), forward and backward integration are sometime collectively referred to as vertical integration. Vertical integration allows a firm to gain control over distributors, suppliers and/or competitors. Specifically, through backward integration, manufacturers and retailers who purchase needed materials from suppliers seek ownership or increased control of a firm's suppliers. This is especially appropriate when an organization's present suppliers are expensive, unreliable or incapable of meeting the firms' needs for parts, components, assemblies or raw materials. In addition, backward integration also allows an organization to acquire needed resources quickly. More importantly, it allows an organization the ability to stabilize the cost of its raw materials

and the associated price of its products. Firms can generally negotiate more favorable terms with suppliers when they use backward integration.

This is further supported by(Krajewski & Ritzman, 1996), citing that because a typical firm spends more than60 percent of its total income from sales on purchased items, low price is one key to healthy profit margin. The hidden costs of poor quality can be high, particularly if defects are not detected until after considerable value has been added by subsequent manufacturing operations. Hence, the implementation of backward integration will mean better quality and more timely delivery. It also means taking better advantage of the firm's human resources, equipment and space.

2.1.3 Types of Sourcing Strategies

According to Burke, Carrillo, & Vakharia(2014), the sourcing strategy of a firm is generally characterized by three key decisions: criteria for identifying the pool of suppliers; criteria for choosing the appropriate set of suppliers who receive an order from the firm; and the quantity of goods to order from each selected supplier. As far as the approved supply pool is concerned, the decision is about the number of sources to use; namely the choice between single and multiple sourcing strategies. In addition, organizational issues are often said to affect firms' choice among various sourcing strategies. Firm size affects the degree of sophistication of sourcing operations, where large firms are more likely to have implemented advanced global sourcing practices. Van Weele(2010)categorizes sourcing strategies in to single and multiple sourcing, global and local sourcing, and partnership and competitive bidding.

2.1.3.1 Single sourcing versus Multiple Sourcing

Single sourcing is an extreme form of source loyalty to a single supplier even if there are other possible sources. A positive advantage is that single sourcing has the possibility to cut costs through cost advantages and quality improvements which lead to enhanced global competitive position. Other positive advantages are the various supply base reduction efforts, total cost cutting strategies and reducing through time projects in purchasing (Faes & Matthyssens, 2009). Since the transaction costs are decreasing a greater effort can be made to develop relationships with the supplier generating greater competiveness against other supply chains (Van Weele, 2010). A negative factor when

using single sourcing is dependency on one source, given that it can lead to higher switching costs, potentially less competitive cost structures and is costly if changing suppliers. Using single sourcing means the emphasis is even higher on finding the perfect fit among the alternative supplies. Single sourcing leads to best results in innovative technology circumstance and expertise oriented situations (Faes & Matthyssens, 2009). Another issue is if there is an increased demand that the single supplier can´t meet (Handfield & Pannesi, 2005).

According to Faes & Matthyssens (2009), multiple sourcing is defined as when a buying company has several similar available suppliers for the component orders for the same item. There are two main reasons for using multiple sourcing. It reduces dependency on individual suppliers and other advantages that companies gain by having competing suppliers such as risk reduction of becoming locked into one technical solutions, that later will be outdated or becoming dependent on one supplier (Gadde & Håkansson, 2001). Negative aspects are the loss of not developing a close relationship with suppliers and high transaction costs for the company (Van Weele, 2010). To gain advantages from both multiple and single sourcing companies can apply hybrid strategy by mixing the two. There is also a need to separate two other branches of hybrid sourcing; parallel sourcing and network sourcing (Faes &Matthyssens, 2009). Gadde & Håkansson, (2001) identified that the key with network sourcing is that companies can create an inter-company environment, so the collaboration can exploit the benefits to all supply sources, the customers, and ultimately the end-customer.

Scott (2011) states different benefits organizations can achieve from managing sourcing well. In terms of importance, sourcing is a key driver for bottom line improvement within organizations. Effective sourcing can lead to improved product quality or reduced order cycle times for customers. Effective sourcing benefits are improved quality, improved service to end users, cost reduction, cost improvement, cash flow improvement, reduced cycle time, development of process technology, and development of product technology.

2.1.3.2 Global Sourcing versus Local Sourcing

Trent & Monczka(2013) defines global sourcing as proactively integrating and co-ordination common items and materials, processes, designs, technologies and suppliers across worldwide purchasing, engineering and operating locations. According to Murray et al. (2009) both large and small company's choose to outsource activities that before was performed within the organization and sourced from domestic suppliers. To achieve an effective global sourcing strategy the supplier countries need to be low cost countries only (Van Weele, 2010).

The choice of preceding a global sourcing strategy is not only to reduce price but to enhance quality, reliability and technology of components and products. How to source globally is based on strategic decisions that are effected by a company's capabilities to compete (Kotabe & Murray, 2004). There are both advantages and disadvantages for the company when using global sourcing. Advantages are mostly connected to cost and price benefits such as lower unit cost and different productivity levels. The importance is to also consider the possible advantages beside costs such as access to product and process technology, developing alternative suppliers to stimulate competition, getting access to new markets and enhance quality while lowering costs. It could give an competitive advantage if sourcing from suppliers that competitors might not use, domestic could lead to the same supplier and same advantages (Handfield & Pannesi, 2005; Van Weele, 2010).

The strategies are built on whether the suppliers for the product are global or locally placed, depending on the requirements of the product and the supply market structure. Local is often preferred when it comes to high-tech products that might need high flexibility on changes, support and maintenance. The decision about what sourcing strategy to choose should be based on considering total cost of ownership (Van Weele, 2010). If a company manages to integrate and coordinate their supplier relationships on a global scale they have a chance of enhancing their competitiveness (Murray et al. 2005).

The disadvantages can be a bit more complex since it is often a difference in culture, the distribution and logistics is more complicated leading to increasing handling costs (Van Weele, 2010). When sourcing globally there are some pitfalls to avoid for succeeding with the strategy and especially with low cost countries there are a need for awareness of the fast changing political circumstances that can affect relationship with the suppliers. There are also local environmental effects which makes the need for flexibility greater (Kotabe and Murray, 2004).

Kotabe & Murray, (2004)refer to the global sourcing strategy as to the management of logistics identifying which production units will serve which particular markets and how components will be supplied for production and the interfaces among R&D, manufacturing, and marketing on a global basis. The ultimate objective of global sourcing strategy is for the company to exploit both its own and its suppliers' competitive advantages and the comparative locational advantages of various countries in global competition.

According to Herbig & O'Hara (2006); Laseter, Ramachandran, & Leary(2007) the main reasons and facilitating factors for sourcing globally includes cost reductions through purchasing in low-cost markets, improved quality, as competition overseas might be more severe in specific sectors than in the home market, Superior technology as know-how, experience and innovation might be superior outside the home market in specific sectors, reduction of logistics constraints through improved communication technology and reduction of tariff barriers and customs constraints due to shifting public policy and regulatory attitudes.

Global sourcing is a strategy that became more and more applied due to the globalization of the markets and to the increase competitiveness of the retail business. Information technology helps sourcing managers to reach easily new and emerging markets for various reasons. Usually the price is the factor that pushes companies to adopt this kind of sourcing anyway. Global sourcing is also a new way to consider the world as a single trading area where companies try to find new competitive advantages by increasing their

international operations. To benefit from the advantages of internationalization the procurement managers must define global sourcing as a strategic alternative. International purchasing has to be developed into global sourcing by using a strategic focus. This means creating a competitive edge through global operations (Holger, Philipp, & Bart, 2011).

Trent & Monczka(2013)and Steinle & Schiele(2008) states most companies today engage in international sourcing in some form and to some extent. The motivations for companies to source internationally vary but generally they fall into one of the three categories: Cost savings; the procurement of highly innovative products that would be otherwise unavailable; or sales opportunities in the sourcing region.

It is worth stressing that international sourcing is only one way of achieving cost savings, the ultimate objective. International sourcing is one such tactic that collaborative product improvement with a supplier could be another tactic used to achieve the strategic goal of supply cost reduction(Holger, Philipp, & Bart, 2011).

According to Rajesh, Jean & Klas(2011) despite its cost saving advantage, there are many challenges in global sourcing that companies need to take into account. These considerations are cost calculations are made complex due to fluctuations in exchange, trade-balance and offset agreements lying outside the control of individual firms may have to be considered, difficulties in ensuring integrated development due to long distances and cultural incompatibility, problems in assessing suppliers' capabilities and developing trust, increased transaction costs related to co-ordination, increasing dependency upon agents and brokers, higher logistics risk and costs due to complicated transportation and need for increased inventory buffers and cultural differences that makes the negotiation difficult.

Laseter, Ramachandran, & Leary(2007)found that the cost reduction motive largely dominated a firm's global sourcing strategies. Their study shows that only a small set of truly global companies are focused on building a global supply base. The vast majority

turn to global sourcing because their domestic suppliers are no longer providing world class cost.

According to Peter, et al., (2005)a company can encounter some of following problems with foreign sourcing: Communication problems, Currency differences, Payment, and differing legal systems.

2.1.3.3 Intra-firm versus inter-firm strategy

The dynamic nature of the global market places a premium on a firm's ability to anticipate and respond to both users/customers' needs and changing competitive pressures. The whole field of purchasing and supply has received greater attention by firms as they have realized that the availability of high-quality, low cost materials and components delivered on time are important for their own competitive strategy. Suppliers must be reliable and flexible to respond to the ever demanding customer expectation for high quality products at reasonable price. Present day competitiveness has brought about a marked evolution in supply management, imposing on firms an increasingly close interaction with suppliers. The achievement of high-level performance in terms of cost, quality, flexibility and time to market appears ever more dependent on the quality and effectiveness of the supply network.

2.1.3.4 Environmental-Related Factors

Situational variables may have an impact on the appropriateness of a particular sourcing strategy and the corresponding supplies quality, delivery and cost. This moderating effect may exist because different firms operate in different business environments that may require different sourcing strategies. The decision of sourcing is greatly influenced by factors such as the bargaining power of suppliers (Porter, 1980) and also elements of transaction costs (Williamson, 1979). When bargaining power of suppliers is high, the firm will use internal sourcing as it typically has more control over the, price and the supply of components. This control facilitates managing the costs of production, reduces production disruption and leads to increased market performance. The bargaining power of suppliers is one of Porter's (1980) five competitive forces. The other four are threat of new entrants, bargaining power of buyers, rivalry among existing firms and threat of ·

substitute products or services. These five forces determine the intensity of competition in an industry, which in turn affects the behavior of firms. Bargaining power of suppliers is exercised largely through price, which determines the costs of raw materials and other inputs. The availability of many alternative sources of supply may allow the firm to switch from one supplier to another or use substitute products, without incurring high switching costs. Under these circumstances, the performance, especially the prices of materials of external supplier are very likely to be cheaper than internal supplier.

2.1.4 Sourcing decision making

According to Peter & David (2005) the sourcing process usually starts with a requisition which informs purchasing that needs to be sought. The buyer would check first if there is already some commitment by long-term contract, in which case an order could be placed immediately. In the absence of such agreement, the buyer would ask if there is an existing source of supply whose performance is satisfactory; if so, the usual practice is to reorder from that source unless there is reason to review the position. Reasons for reviewing the position include price increase request, failure to meet specification, unsatisfactory performance as demonstrated by vendor ratings, internal pressure to save money, or simply that some time has elapsed since the position was last reviewed.

Scott et al., (2011) explains that the sourcing process in the company starts when the buying team establishes the commercial objectives. This includes all their specifications from a potential supplier, for example cost, quality, service and lead-time for delivery and then starts looking for potential suppliers.

According to Roger, (2005) with strategic sourcing, organizations analyze and decide on suppliers based on the strategic impact of potential suppliers and commodities on the organization or supply chain, instead of simply awarding supply contracts to suppliers with a narrow focus on lowest bid. Key to strategic sourcing is gaining an understanding regarding the supplier landscape in order to determine who are the suppliers, how are they related, what is the customer buying, who are they buying from, what are the risks, how much is spent with each supplier and what is the quality of goods purchased.

According to (Trent & Monczka, 2013)the sourcing process starts by recognizing the need for supplier selection. Then, the second step is the key sourcing requirements. It is argued that they are important throughout the supplier evaluation and selection process. The third phase is to determine the sourcing strategy: as it is seen before the key decisions are single or multiple sources, short-term or long-term purchase contracts and domestic or foreign suppliers. The fourth step is to identify the potential supply sources. In this phase of the sourcing process is really important to understand the current state of the company. The intensity of the search is influenced by several factors and this should be balanced according to the capability of the current suppliers. The fifth stage is to limit the supplier selection pool and after that, as a sixth step, is to determine method of supplier evaluation and selection. The final step is selecting the supplier and reaching an agreement.

2.1.5 Supplier selection

According to (Khaled, Sanjoy, Ripon, & Salahuddin, 2011), suppliers are considered the best intangible assets of any organization. Suppliers have varied strengths and weaknesses that require careful assessment before order placement. It can be argued that it is extremely difficult for any one supplier to excel in all dimensions of performance. Suppliers have to satisfy minimum overall performance standards, but one of the scheme's objectives is to improve these continually. Selection of suppliers is the most important decision problem in today's competitive business environment. This decision could affect the business of a company in many ways. It is highly strategically and recommended to have a good network of suppliers if the company wants to create a competitive advantage. Selecting a supplier for a particular criterion is the reflection of the company's strategy.

According to Damian (2009) the supplier selection is the process by which the buyer identifies, evaluates, and contracts with suppliers. The supplier selection process deploys a tremendous amount of a firm's financial resources. In return, firms expect significant benefits from contracting with suppliers offering high value.

The turning point about supplier management is the different approach of the company toward the relationship with the suppliers. In today's business environment, there is an emphasis on developing long-term cooperative relationships with critical suppliers. Business managers are reducing their supply base and thereby increasing the buying volume with the remaining suppliers (Prahinski & Benton, 2014).

Supplier Relationship Management (SRM) is the process that looks at proactively managing the link between buyer and supplier. It is a mutually beneficial process that works in two ways and should improve the performance of both. According to Scott et al., (2011), the benefits of the SRM process include breaking down functional barriers and functional mindsets, promoting innovation and joint thinking for doing things better, improving supply chain visibility for buyer and supplier, sharing assets across supply chain, removing duplications and enhancing forward looking visibility giving more reliability to all parties.

Peter, et al., (2005)argues that in order for buyer to be able to make the right source decisions, they must know their markets. Managers need to know the main suppliers well, to visit them and talk to the people who process their orders and make decisions about them, to keep in touch with business plans, product developments, and what is going on inside the key supply organizations. Today, enlightened buyers are seeking suppliers whom they can work to a mutual benefit.

Choosing the right source is the most complicated and delicate work in the purchasing process because many factors must be taking into account before the final buying decision can be made. There are many ways to evaluate a prospect supplier such as quality, quantity, timing, service and price. The final decision between many different possibilities is not made only accordingly to one factor but it is generally seen as a typical multiple criteria decision-making problem with multiple qualitative and quantitative dimensions (Andreas et al,2006).

According to (Khaled, Sanjoy, Ripon, & Salahuddin, 2011) supplier selection is affected by minimum order quantity, supplier capacity, sourcing strategy, type of products, decision makers, decision criteria, manufacturing strategies, and geographical preferences

Damian (2009) argues in his article that there several factors in the supplier screening process, before the final decision concerning the right supplier could be made reference checks, financial status checks, surge capacity availability, indications of supplier quality
5. Buy-in from internal customer(s).
6. Ability to meet specifications.

Beil (2009) makes another list of suggestions and states that nowadays the relationship between supplier and buyer are going toward the direction of synergy (mutual benefits long-term relationships) delivers on time, provides consistent quality, gives a good price, has a stable background, provides a good service back-up, is responsive to our needs, keep promises, provides technical support, and keeps the buyer informed on progress.

2.1.6 Dimensions of Sourcing Strategies

According to Fraering & Prasad (2009) sourcing strategies can be understood as comprised of two paramount strategic dimensions: the choice among various supply markets and the choice among various supply channels. They express these dimensions as national versus international sourcing and as internal versus external sourcing. Levy (2005) distinguishes between what he calls location-specific factors and relational factors that can be used to describe sourcing strategies. The former factors are related to the very location of manufacturing facilities, whereas the latter factors concern the relationships between different involved actors. The strategic choice among various supply markets primarily reflects the availability of the nation specific resource – unskilled cheap labor, and the trade-offs arising due to cultural and geographical distances as well as to obtained quality-price levels. In addition, Lowson (2011; 2013) focuses on how supply market choices affect firms' performance in terms of cost, quality, flexibility, innovation and design.

The second dimension of sourcing strategies, the choice among various supply channels, involves assessing firms' strategic choices in terms of available relational options. Initially, there is a make-or-buy decision which implies sourcing from a firm's internal manufacturing facilities or sourcing from external suppliers. Bolisani & Scarso(2006) distinguish between direct investments and joint ventures as two types of internally controlled manufacturing operations, and subcontracting as sourcing from external suppliers. Further, there is a need to divide external sourcing into direct sourcing from manufacturers and indirect sourcing through agents or intermediaries. Consequently there are three main strategic sourcing options concerning the choice among supply channels: internal sourcing (own manufacturing as partial or whole ownership), direct external sourcing and indirect external sourcing.

In addition to this generally developed model of sourcing strategies, a specific strategic tool is commonly employed – quick response practices. Quick response practices are specifically understood as double sourcing: i.e. use of one close, quick and expensive supplier and of one distant, slow and inexpensive supplier (Forza & Vinelli, 2010; Perry & Sohal, 2010; Christopher & Towill, 2012; Jin, 2014). Double sourcing allows for low-cost sourcing from distant supply markets and, at the same time, for responsiveness. Consequently, double sourcing must be considered as a conscious mixed supply market strategy with specific desired implications in comparison to other mixed sourcing solutions.

Firm characteristics and prerequisites with relevance for explaining the variety of applied sourcing strategies are touched upon in numerous research studies. In particular, two types of firm-related issues are described in conjunction with sourcing and sourcing strategies: product issues and organizational issues(Fraering & Prasad, 2009).

Product issues with impact on sourcing strategies are frequently addressed in the supply chain literature. Fisher (1997) distinguishes between lean and agile supply chains that are suitable for functional and innovative products respectively. He thus foresees that a variety of product-related issues have impact on the appropriateness of various sourcing

strategies. Bruce et al. (2004) apply that conceptual classification and also use the approach of 'leagile' supply chains. Trent & Monczka(2013) show that firms' varying need for innovation capabilities has an influence on applied sourcing strategies; the former authors for instance investigate the impact on sourcing strategies from "me-too" products – relying on well-known design, materials and manufacturing techniques and new innovative products respectively. Bolisani & Scarso(2006) further show that firms with a quality focus have a tendency of choosing close collaboration with suppliers and these firms' suppliers are closely located in terms of both geographical and cultural distances. In opposition, firms with a price focus apply totally reversed sourcing strategies. The two-tailed quality-price issue is also highlighted by Cho & Kang (2011), who claim that finding suppliers who supply quality garments at a low cost is the competitive focus of firms in the apparel industry. Yet another relevant product issue is a firm's sourced volume of a product – where the particularly high number of units kept in stock is an industry-specific feature that makes apparel sourcing complicated (Jin, 2014). Cho & Kang (2011) thus maintain that firms with high product volumes are more suited for global sourcing strategies than those with small product volumes.

According to (Trent & Monczka, 2013; Bolisani & Scarso, 2006;Cho & Kang, 2011;Bruce, Daly, & Towers, 2014)organizational issues are often said to affect choice of firms among various sourcing strategies. Firm size affects the degree of sophistication of sourcing operations, where large firms are more likely to have implemented advanced global sourcing practices. Firm size influences sourcing behavior, where large firms have better possibilities to arrange co-partnerships with suppliers in distant supply markets. Bolisani & Scarso(2006) conclude that this is not necessarily so: instead, small firms sometimes have stronger incentives than large ones to apply low-cost sourcing strategies. According to Bruce & Moger, (2009) both absolute firm size and relative firm size affect the choice of sourcing strategy – where small firms thus need to find supply markets with small suppliers and vice versa. Further, Bolisani & Scarso(2006) as well as Cho & Kang(2011) suggest that firms' experience may influence the chosen sourcing strategy, whereas Bruce & Moger, (2009)note that firms which have their own retail outlets behave differently from firms which do not. The retailers' important roles and strong

positions in apparel supply chains have implications for chosen sourcing strategies, since these firms have access to point-of-sales data that, for instance, are essential for effective demand-responsive sourcing (Tyler, Heeley, & Bhamra, 2016).

It is widely argued that sourcing strategies with high integration between buyer and supplier render high supplier performance (Tan et al., 2008; Bruce & Moger, 2009); Trent & Monczka, 2013); this is in fact the focal argument in the supply chain management literature. Sourcing strategies with close collaboration are, however, difficult to realize when a low-cost focus is applied – due for example to cultural and geographical distances – and such a focus may thus contribute to hidden costs often neglected by firms (Lowson, 2011); Warburton& Stratton, 2012; Lowson, 2013). Several performance indicators must therefore be considered simultaneously to illustrate the performance trade-off experienced by firms choosing between various sourcing strategies.

Price and quality performance is often the focus of previous research (Cho & Kang, 2011; Warburton & Stratton, 2012; Teng & Jaramillo, 2015). Performance issues in terms of deliveries and lead times are also frequently discussed (Cho and Kang, 2001; Lowson, 2013; Bruce et al., 2014; Teng & Jaramillo, 2015). In addition, performance in terms of issues concerning the relationship between buyer and supplier – such as communication, relationship atmosphere or obtained flexibility – is commonly considered in previous research (Trent & Monzcka, 2013; Bruce et al., 2014; Teng & Jaramillo, 2015; Tyler et al., 2016). Finally, supplier performance in terms of working conditions is occasionally considered and notably in relation to manufacturing in low-cost countries).

2.1.7 Production Cost

Most organizations need to decide on the size (in terms of capacity) of each of their facilities. At activity levels below this, the average cost of producing each unit will increase because the fixed costs of the factory are being covered by fewer units produced. The total production costs of the factory have some elements which are fixed – they will be incurred irrespective of how much, or little, the factory produces. Other costs are variable – they are the costs incurred by the factory for each unit it produces. Between

them, the fixed and variable costs comprise the total cost at any output level. Dividing this cost by the output level itself will give the theoretical average cost of producing units at that output rate(Tyler et al., 2006).

To procure goods for world markets, the firm may establish a centralized source or sources. This question is directly related to the fine's desire to rationalize its production and marketing processes. The main advantages of establishing a centralized source (or sources) are: lower production costs through economies of scale, elimination and reduction of costly scheduling problem, rapid start-up on new products and reduction of inventories. The production management function includes several critical decisions, the main ones among them being decision on make or buy, decision on sourcing of raw materials, parts and components or sub-assemblies, decision on location of production facilities, decision on the nature of production facilities i.e. plant technology, plant design, and size, and decision on logistics aspects (Cho and Kang, 2001).

Apart from economic considerations the international production decision is affected by socio-political and cultural factors. In the matter of sourcing of raw materials, components, etc., the firm may follow either a centralized or a decentralized, or a mixed approach. The potential advantages of centralized (or concentrated) approach are scale economies and need far lower inventories. However, in the centralized approach flexibility and adaptability of. Products of local tastes may have to be sacrificed. The firm is likely to incur greater cost on transportation and also runs the risk of becoming vulnerable to unexpected developments in one or two locations. This approach is suitable for low volume high value products of standardized nature. The decentralized approach tasks care of the negative aspects of the centralized approach but carrying costs of inventories may increase, and the overall quality of the product may suffer. It is not necessary for a firm to follow one of the two approaches. Several firms in fact follow both the approaches, one in relation to some other products or regions. The overriding consideration is optimization of benefits for the firm. The Source-Market Matrix can be a helpful tool in relating production from various subsidiaries of the firms to the demand in various markets (Jin, 2004). The make or buy decision in fact is closely related to sourcing decision. Though basically an economic decision, it has to be based on careful assessment of the pros and cons of each, side and subjective judgment of the decision maker. In any case,

considerations of quality' and readability of the supplier weigh a lot. Japanese firms maintain a close liaison with one or two main suppliers (or sub-contracts). A close and consistent watch on the quality of the items sub-contracted at the premises of the vendors is the hallmark of the Japanese sub-contracting.

The concept of comparative costs has dominated the thinking of economists and managers alike in production location decisions. The decision, however, in real life may not be based on comparative cost advantage alone, other factors like new market opportunities, risk diversification, incentives offered by government of other countries, and sociopolitical factors influence the decision on location of production facilities. Besides, any country specific disadvantageous (from the view point of comparative cost advantage principle) may be set off by production efficiency as a result of managerial and entrepreneurial strengths.

2.1.8 Measurements of Production Cost

It is noted that profit will result when the total revenues of a firm exceed the total costs of production. Profit = total revenue - total cost. In symbols this would be Profit= pq - ø(q) - b. This equation suggests that Total Cost in economics consists of two parts. In general, it can be said that total cost consist of both explicit and implicit costs. Explicit Costs is money paid to purchase the goods (raw materials) to produce products. On the other hand, implicit Costs is the opportunity costs associated with a firm's use of resources it owns. These costs do not involve a direct money payment. It can be further identified two types of explicit cost. This observation is based on the fact that explicit costs can be subdivided because they: some vary with the level of output, and some do not vary with the level of output. Costs that vary with the level of output are called Variable Costs (VC). Materials, labor, fuel are all examples of these. Adding up all such costs we come up with a total. Total what? Total Variable Costs (TVC). In total cost equation ø(q) represents TVC. TVC = ø(q). Costs which do not vary with the level of output are called Fixed Costs. Rental payments, interest payments, and, property taxes are all examples. Adding up the value we come-up with a total called Total Fixed Costs (TFC). In equation TFC are represented by "b".

It is now able to calculate the total cost of production. If one can control these costs to allow our total revenues to exceed them then we know that profit will result. Now profit

in the accounting sense is calculated by deducting TC from TR. In the economic use, however, we also include implicit costs and therefore we see profit differently. Tracking production costs helps not only to reveal overall farm profit or loss, but it can also signal which particular enterprise or products are financially viable. The literature contains many studies that look at the specific cost structure and enterprise budgets (DePhelps et al., 2005;Conner&Rangarajan, 2008). Enterprise budgets are used to account farm revenues and expenses related to individual enterprises. DePhelps et al., (2005) states the nature of the production process has long been recognized to determine the amount of direct cost that can be traced to the products, as opposite to allocating them on some criteria: the level of accuracy that can be attained in a job-shop environment with somewhat simple system is not possible in process production, where a larger part of production costs are incurred jointly by arrange of final products and need to be allocated with some criteria if full costing is used. Additionally, Conner & Rangarajan (2008) also exclude the costs of buying and procuring merchandise, material, parts and equipment that are not directly caused by the execution of logistics tasks and services. So, according to their definition, logistics costs do not include procurement costs. The costs for packing sales units are attributed as production costs, whereas the costs for other packing material, pallets, bins etc. are classified as material costs of logistics.

2.1.9Effects of packaging material sourcing on Production Cost

Strategic sourcing construct a competitive advantage by having access to raw materials, suppliers with an effective system for measuring quality of products supplied, develop advantage over competitors in relationship with suppliers, working close together with suppliers on product development efforts and close working relationship with suppliers to improve each other's processes (Brookshaw &Terziovski, 2007). A company can create a wining situation with strategic sourcing for both the buying company and the suppliers, by fostering relational capabilities that creates sustainable competitive advantages. Using strategic sourcing can create and protect the sustainable competitive advantages for both the buying company and the suppliers. It gives maximized transaction value in the long-run (Paulraj, Chen, & Flynn, 2006). A strategic approach helps companies to drive advantages from the capabilities of suppliers to deliver superior value to the buying company and leading to strengthen of buyer's competitive advantage (Pressey, Tzokas,

&Winklhofer, 2007). The initiative of strategic sourcing has been proven to be affective and result in cost reduction, increases in productivity, quality improvement, and return on investment (Rendon, 2005). Considering sourcing as strategic has been considered as a driver for company growth (Van Weele, 2010).

(Brookshaw & Terziovski, 2007) states that sourcing strategy is mainly focused on making the company competitive especially with the regard of cost efficiency and improved delivery. The production cost of the company is highly dependent on supplier performance. The supplier selection of the company considers price of the material, location of the supplier and performance of the supplier. Supplier selection makes the production cost efficient through reducing the idle hour of the machinery.

According to Rendon, (2005), supplier development is making the supplier of the input stronger in proving the input. When the supplier is stronger, the product is quality that reduces the defects of the output. The supplier produces products that meet the requirements. The production cost of the companies is efficient when the supplier is stronger and meets the requirement of the companies.

According to Paulraj, Chen, & Flynn(2006) contract management makes the agreement between the companies stronger. Stronger contract management plays great role in delivery of inputs. Timely delivery of the inputs makes the company operationally efficient. This operational efficiency makes the company cost efficient because of the economies of the scale.

Bruce, Daly, & Towers, (2014) strategically related companies work as a single entity. The performance of the companies is interdependent. Supplier relationship management improves the relationship with the supplier company. Making the supplier responsible for the performance the company makes the production efficient. Involvement of the supplier in new product development and planning and goal setting improves production capacity of the supplier. Efficient supplier relationship management affects the efficiency of production through cost reduction.

2.2 Empirical Studies

Murray, Wildt & Kotabe(2005) argued that when a firm uses internal sourcing, the firm typically has more control over the price and the supply of components. This control facilitates managing the costs of production; reduce production disruption and leads to increased market performance. In addition, the firm has more control as well over the quality and the availability of the needed components. By sourcing internally, it will also permit greater adaptation to changing circumstances. Firms that source internally will become more flexible in adapting to uncertainty and changes in the business environment. Product-level performance was positively related to intra-firm or internal sourcing of major components that sourcing components internally provides a firm with potential price advantages, assurance in quality and delivery, and the ability to keep the unique technology involved in manufacturing components within the corporate system without passing it on to suppliers or competitors.

According to Kotabe & Murray(2010), inter-company sourcing from various vendors external or independents to the firm is growing because it has become easier for any firm to source an increasing portion of its components for manufacturing from outside suppliers as the global marketplace are crowded with a myriad of competitive firms. At the same time, access to technology is an important reason for inter-firm sourcing for the supply of intermediate products because the cost of internalizing the technology may be prohibitive for most manufacturers. Additionally, shorter product life cycle in today's competitive market prevents anyone firm from acquiring all the skills needed to make the end product. In rapidly changing market environments, manufacturers have to depend on inter-firms suppliers for state-of-the-art components to be able to introduce new products frequently. Thus, inter-firm sourcing sometimes is no longer an option but necessity for the success of high technology manufacturers.

Kumpe & Bolwijn(2008) states that sourcing from independent suppliers, whether domestically or from abroad appears to have other long-term consequences. First, a firm tends to assign part of the most important value-creating activities and become dependent on independent operators for assurance of components quality. Second, competition is promoted among independent suppliers to ensure continuing availability of materials and

to exploit the full benefits of changing market conditions. But the suppliers are forced to operate in an uncertain business environment that inherently necessitates shorter planning horizon. The uncertainty about the potential loss of orders to competitors often forces individual suppliers to make operating decisions that will likely increase their own long term production and material costs. In the process, it tends to adversely affect companies sourcing components and/or finished products from those suppliers.

Kotabe(2002) concluded that internal sourcing of non-standardized components is positively related to a product's market performance. This finding on the internal component sourcing is consistent with the prediction of the internalization theory that postulates multinational production is the result of the urge to internalize monopolistic and oligopolistic advantages across nations by multinational firms (Rugman, 1986). The logic of internalization theory encourages internal procurement of major components between the parent company and its affiliates and between its affiliates themselves, locally or abroad to retain a long-term competitive edge built on quality and reliability.

Kotabe (2008) argued that continual sourcing from independent suppliers leads to a long-term loss of the ability to manufacture at competitive cost and, as a result, loss of long-term global competitiveness. Management of the quality of major components is also required to retain the goodwill and confidence of consumers in the quality and reliability of finished goods. As a result, intra-firm sourcing of major components and finished products between the parent company and its affiliates abroad and between its foreign affiliates themselves enables a company to retain a long-term competitive edge built on quality and reliability.

Muhamad, Ramayah & Khaw(2014) identified sourcing strategy, inter-firm or intra-firm, that leads to better supplies' quality, delivery and cost and whether in the process of achieving this outcome, it is moderated by environment-related factors in the organizations that are involved in the manufacturing of electronics and electrical product located in Penang stating that firms, searching for sources of competitive advantage began to look into the potential of sourcing in adding value as purchased inputs account for 60% to 80%of cost of goods sold. The results reveal that in all of the three

performance measures: quality, delivery and cost, intra-firm sourcing is seen to outperform inter-firm sourcing.

Carren, Esther & Antony (2016) investigated the influence of strategic sourcing on organizational performance of state corporations in Kenya by using supplier development, contract management, supplier relationship management and early supplier involvement as independent variables and organizational performance as dependent variable. A descriptive case study design was used. The study revealed that supplier relationship management, early Supplier involvement and contract management followed by supplier development have a great influence on the performance.

Karanja & Juma(2012) determined the effect of Strategic Material Sourcing on operational performance of manufacturing firms, a case of East African Breweries Limited in Nairobi, Kenya. The study adopted descriptive and explanatory research design to generate findings. Stratified sampling technique was adopted besides using closed ended questions to obtain data. Descriptive analysis was presented using mean and standard deviation while inferential analysis utilized Karl Pearson correlation co-efficient to establish the relationships that exist between the independent and dependent variables. The study identified that strategic material sourcing entails developing sourcing strategy and that it involved improving and re-evaluating the purchasing activities. Findings also indicated that effective supplier relationship management helps in reducing monitoring costs and that it helped in conflict resolution and better communication between the company and the supplier thereby promoting operational performance.

2.3 Conceptual Framework

This section of the literature review presents conceptual design for the study variables indicating their relationship and the model used. Based on the literature reviews the researcher has developed following framework. As it is presented in the figure 1, supplier selection, supplier development, contact management and supplier relationship affect production cost of the companies. This concepts are adopted from (Teng

&Jaramillo, 2015), (Carren, Esther, & Antony, 2016), (Fraering &Prasad, 2009), (Karanja & Juma, 2012), (Muhamad, Ramayah, & Khaw, 2014), and (Jin, 2014).

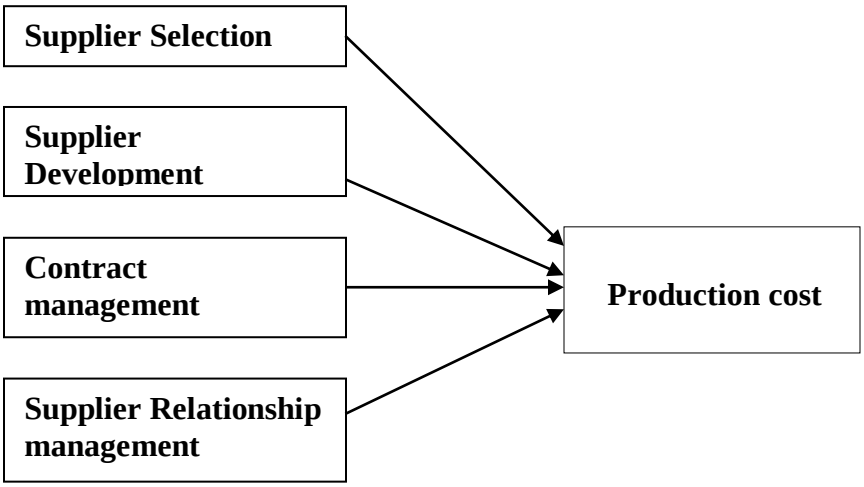


Figure 1: Conceptual Framework

Source: Own Design, 2018

CHAPTER THREE
RESEARCH DESIGN AND METHODOLOGY

3.1Research Approaches

The three methods that are commonly implemented in a research are quantitative, qualitative and mixed, where one of them is not better than the others, all of this depends on how the researcher want to do a research of study (Creswell, 2005). Creswell (2005) asserted that quantitative research is a type of educational research in which the researcher decides what to study, asks specific, narrow questions, collects numeric (numbered) data from participants, analyzes these numbers using statistics, and conducts the inquiry in an unbiased, objective manner. Quantitative approach is one in which the investigator primarily uses postpositive claims for developing knowledge, i.e., cause and effect relationship between known variables of interest or it employs strategies of inquiry such as experiments and surveys, and collect data on predetermined instruments that yield statistics data. To identify the effect of Packaging material sourcing functions on production cost the researcher used questionnaire. The quantitative research approach is utilized to analyze closed ended and scale questions.

3.2 Research Design

According to Burns & Grove(2001)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. The researcher used quantitative data collected from primary sources through questionnaire. The researcher used the Cross-sectional field survey method to identify effect of Packaging materials sourcing on production cost. In the cross-sectional field survey, independent and dependent variables will be measured at the same point in time. 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 is used to identify the practices of sourcing function of packaging materials

in the companies. On the other hand, the researcher used explanatory design to analyze the effect of the dimensions of sourcing functions on production cost. Therefore, this study used quantitative approach.

3.3 Unit of Analysis

The study is interested to explore the effect of different sourcing functions on production cost with the emphasis on bottled water producing manufacturing companies in Addis Ababa. The unit of analysis of this study was organizations (Bottled Water firms in Addis Ababa and its soundings).

3.4. Population and Sampling

3.4.1 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. Based on the preliminary study by the researcher, sourcing function is an issue of departments of finance, procurement, operation and planning. Since this study focuses on strategic concepts, the study used management of bottled water producing companies in Addis Ababa and 100 KM around Addis Ababa related to sourcing functions as a targeted population. There are 28 companies that are producing bottled water in the selected study area. Since there are 4 departments related to the sourcing strategy, total targeted population was 112 managers.

3.4.2 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 randomly selected the companies and then selected the managers of the finance, procurement, planning and operation departments through convenience sampling based on their involvement in sourcing strategy. The companies are randomly selected

and all targeted respondents are selected in the countries. This study used simple random sampling and convenience sampling.

3.4.3 Sample Size determination

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 sample size of this study is determined by using Yamane's (1967) formula. It is a simplified formula to calculate the sample size 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

First the researcher determined the respondents i.e. the managers of the selected departments. From the population of 112 managers, 88 managers were sampled. The researcher determined the number of companies based on the samples drawn. Therefore, 22 companies were computed to get respondents from each department.

3.5 Measurement Instrument

The study used questionnaire that helps to cover larger target groups than the interview, given the quality and chance of no response. The questionnaire was prepared using close ended questions. The questions are presented with 5-point Likert-Scale approach (i.e., from "Strongly Disagree to Strongly Agree"). 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.

3.6Data type and Collection Techniques

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

3.7Reliability and Validity of Measurement Instrument

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; concurrent; predictive validity; construct validity; and convergent validity. This study addressed content validity through the review of literature and adapting instruments used (Bolisani & Scarso, 2006), (Burke, Carrillo, & Vakharia, 2014), (Heide & Stump, 1994), (Kotabe M. , 2008).

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 researcher analyzed the reliability of the questionnaire by using Cronbach’s alpha statistics.

Table 1Reliability Statistics

No	Variables	Cronbach's Alpha	Number of Items
1	Supplier selection	.866	5
2	Supplier development	.816	6
3	Contract management	.885	5
4	Supplier relationship management	.815	5
5	Cost	.859	4

Source: Survey, 2018

3.8Methods of Data Analysis

After the data are collected both descriptive and inferential statistical techniques are employed to analyze the data. The data was analyzed using Statistical Package for Social Sciences (SPSS) version 23. The statistical tools were aligned with the objectives of the study. Descriptive analysis was presented by using statistical tools mainly mean and standard deviation to summarize the responses. Inferential analysis was conducted by using multivariate linear regression to show the relationship and the significance between dependent and independent variables. The correlation analysis was computed by using Pearson correlation method and regression analysis was estimated by using the Ordinary Least Square (OLS). Thus, the researcher identified the effect of packaging material sourcing strategy on production cost in the bottled water producing companies after testing its significance statistically.

3.9 Ethical Considerations

Before the data collection, permission from the 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 accept or reject 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 was 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 was acknowledged.

CHAPTER FOUR

RESULT AND DISCUSSION

This chapter presents result of data collected for the study. In subsequent sections demographic information of respondents, descriptive analysis of the study variables, result of correlation and regression analysis and discussions are presented. To reach at the aforementioned objectives the researcher distributed 88 questionnaires to managers of planning, procurement, finance and operations departments in 22 bottled water producing companies. The researcher collected 77 questionnaires from 20 companies with the response rate of 87.5%.

4.1 Demographic Information about Respondents

Table 2Demographic Information

Factor	Category	Frequency	Percent
Sex	Male	67	87.01
	Female	10	12.99
Age	18 - 30	6	7.8
	31- 40	38	49.4
	41-50	23	29.9
	Above 50	10	12.9
Experience in current position	Less than 2	12	15.58
	2-5	25	32.47
	6-10	30	38.96
	Above 10	10	12.99
Education	Bachelor Degree	65	84.42
	Masters	12	15.58

Source: Survey, 2018

87% of the respondents are males and remaining 13% are females indicating majority of the managers in the selected departments are females. 49.4% of the respondents are at age group of 31 to 40 years and 29.9% of them are at age group of 41-50. These two age groups comprise 79.3% of the respondents. 38.96% of the respondents have work

experience of 6 to 10 years on the position they held. The second highest, 32.47% of the respondents, of the respondents are in a work experience group of 2 to 5 years. But only 12.99% of the respondents have more than 10 years work experience on the position. Educational level of the respondents indicates that 84.42% the respondent have bachelors' degree and only 15.58% of the respondents have masters' degree.

4.2 Descriptive Analysis

This section presents results of data analyzed through descriptive analysis. This analysis used statistical tools such as mean and standard deviation and presented through tabulations.

To that end, the mean is interpreted as follows: the mean result in between *1.00-1.80* was interpreted as *strongly disagree*; the mean result in between *1.81-2.60* was interpreted as *disagree*; the mean result in between *2.61-3.40* was interpreted as *moderate*; the mean result in between *3.41-4.20*wasinterpreted as *agree*; the mean result in between *4.21-5.00* was interpreted as *strongly agree* (Koograbe et al., 2008).

4.2.1 Supplier selection

Result of supplier selection practices are presented in table 4 below by using mean and standard deviation.

Table 3Supplier selection

	N	Mean	Std. Deviation
The company selects supplier based on price of packaging material	77	3.9351	.93665
The company selects supplier based on quality of packing material.	77	4.3506	.48030
The company selects supplier based on its performance of (Financial and non-financial)	77	4.1558	.65020
The company selects supplier based on location of supplier (local or foreign)	77	4.0519	.93042
The company selects supplier based on quantity of packaging material required	77	4.2987	.56347

Source: Survey, 2018

All mean values are above value of 4.00 suggesting the implementation of supplier selection criteria in the companies except the criterion of price. The lower values of criteria of price when compared to other parameters indicate that the companies are giving lower attention to price of the supply. Implication of the results is the companies consider price, quality and quantity of the packaging materials, and performance and location of the supplier.

4.2.2Supplier Development

As shown in the table 5 below, supplier development constructs are well practiced in the companies as indicated by the mean values of greater than 3.00 suggesting the respondents agree with the practice of supplier development in the companies.

Table 4Supplier Development

	N	Mean	Std. Deviation
Company trains key suppliers on best management practices	77	3.4416	1.19751
The company helps suppliers in production process standardization	77	3.7792	.88293
The company extents financial support to suppliers to enhance their production capacity	77	3.4286	.78520
The company communicates to the suppliers about performance and customer feedback	77	3.6753	.99262
The company gives recognition to outstanding supplier performance	77	3.6234	.90378
The company does occasional supplier audits to ensure suppliers maintain expected standards	77	3.2468	.81363

Source: Survey, 2018

The mean value indicates that the companies train the suppliers with the best management but result of standard deviation for this statement indicates that there is high variation from the mean suggesting the existence of high variation with the practice in the companies. Results indicate that the companies support production process standardization, provide financial support to suppliers to enhance their production capacity, communicates to the suppliers about performance and customer feedback, gives recognition to outstanding supplier performance, and do occasional supplier audits to ensure suppliers maintain expected standards.

4.2.3Contract management

Responses shown in table 6 below for contract management practices in the companies indicate that majority of the respondents agree that all contract management practices are implemented in the companies.

Table 5Contract management

	N	Mean	Std. Deviation
Key performance indicators (KPIs) were set to monitor performance of suppliers	77	3.6234	.68899
Contract management has led to delivery of supplies within set budget and period	77	3.7143	.60387
contract management has enabled our organization achieve their competitive advantage	77	3.7662	.48385
Contract management has led to reduction on supply chain cost	77	3.6494	.57961
management of disputes was incorporated on the contract document	77	3.7273	.68126

Source: Survey, 2018

All mean values are well above 3.00 showing the agreement of the majority of the respondents. These suggests that key performance indicators (KPIs) are set to monitor performance of suppliers, the contract management has led to delivery of supplies within set budget and period and it has resulted on competitive advantage for the companies. The contract management of the companies has led to reduction on supply chain cost. The companies incorporated the disputes on the contract document.

4.2.4Supplier Relationship management

As shown in the tables 7 below, all mean values of the responses are above 3.00 indicating that the majority of the respondents agree with the statements that the company has the practice. These responses suggest that the companies have partnership strategic items suppliers and this strategic alliance led to reduction on lead time. Relationship of the company within supply chain enabled to improve customer service.

Table 6Supplier Relationship management

	N	Mean	Std. Deviation
The company has partnered with suppliers who supply strategic items	77	3.5195	.71838
Strategic alliance with our suppliers has led to reduction on lead time	77	3.2468	.86078
Arm's length relationship with our suppliers enables us take advantage of the best available prices	77	3.0909	.72877
Vertical integration with supply chain partners has led to improve customer service	77	3.2987	.97421
Long term relationship has led to supplier complacency	77	3.4935	1.11949

Source: Survey, 2018

4.2.5 Production Cost

This section is about the production cost efficiency of the companies that measured by rating by managers of the companies selected. The result is presented by using mean and standard deviation.

Table 7Production Cost

	N	Mean	Std. Deviation
The company runs operation with less production cost	77	3.9351	.93665
The production capacity utilization of the company is high	77	3.7792	.88293
The inventory turnover of the company is high.	77	3.5325	.71838
The company performs at low or lower cost than competitors	77	3.5195	1.08318

Source: Survey, 2018

Mean values for the responses of cost efficiency of the companies are above the neutral value which indicates that majority of the companies are production cost efficient. These indicate that the companies are with less production cost, production capacity utilization of the companies is high, inventory turnover of the companies is high, and the companies perform at lower cost than competitors. The bigger standard deviation values indicate high variation with the cost efficiency within the companies.

4.3 Correlation analysis

The Pearson Product-Moment Correlation Coefficient is a statistic that indicates the degree to which two variables are related to one another. The sign of a correlation coefficient (+ or -) indicates the direction of the relationship between -1.00 and +1.00. Variables may be positively or negatively correlated. A positive correlation indicates a direct positive relationship between two variables. A negative correlation, on the other hand, indicates an inverse, negative relationship between two variables (Ruud et. al. 2012). The correlation analysis is conducted by using Pearson method because this study used linear model to identify the relationship between independent and dependent variables.

Table 8Pearson Correlation

	PC	SS	SD	CM	SR
PC	1				
SS	.353**	1			
SD	.756**	0.064	1		
CM	-0.031	0.062	-0.085	1	
SR	.712**	-0.082	.781**	-0.19	1

Source: Survey, 2018

Result of correlation analysis shows that supplier development is most correlated dimension with the coefficient of 0.756 suggesting that improving supplier development significantly improves cost efficiency. Supplier relationship management is the second most correlated strategy with the cost efficiency with correlation coefficient of 0.712 suggesting that higher supplier relationship results on higher cost efficiency. Relationship between supplier selection and production cost efficiency is positive and statistically significant at 0.01 and correlation coefficient of 0.353. But contract management is insignificantly related with cost efficiency. These finding are similar to findings of (Burke, Carrillo, & Vakharia, 2014)(Cho & Kang, 2011)(Combs & Crook, 2007).

4.4 Regression Analysis

This section presents result of data analyzed by using regression analysis. Before conducted the regression analysis the researcher computed the model specification tests to check the appropriateness of the model.

4.4.1 Model diagnosis tests

4.4.1.1 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.

Variable	Collinearity Statistics	
	Tolerance	VIF
Supplier selection	.950	1.052
Supplier development	.370	2.704
Contract management	.953	1.050
Supplier relationship management	.359	2.786

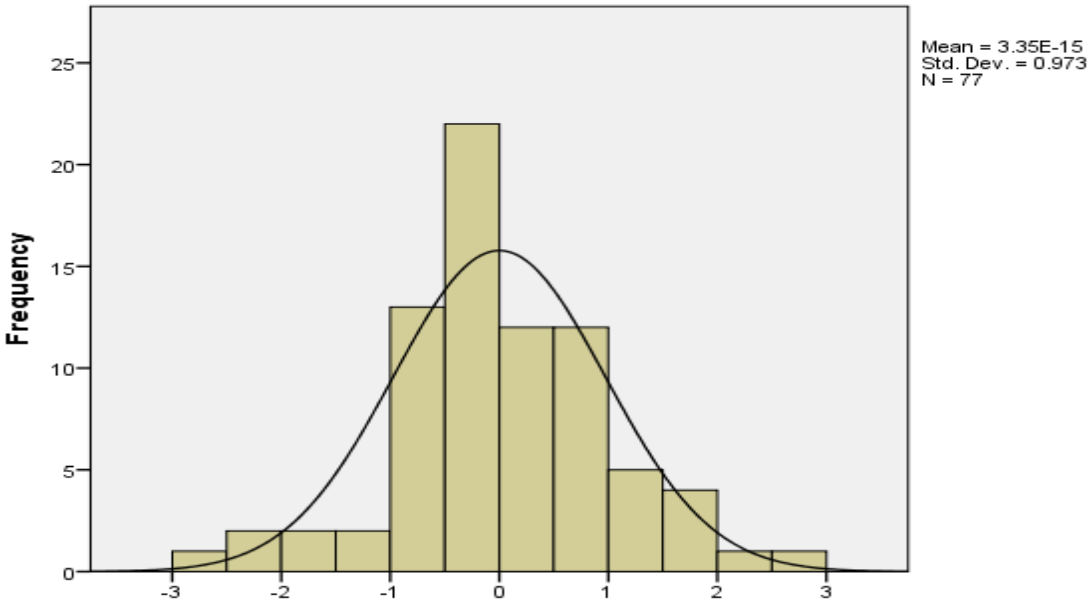
Source: Survey, 2018

To detect the problem of multicollinearity the researcher used VIF technique prior to executing the regression analysis. Since the VIF is lower than 10, the data has no problem of multicollinearity.

4.4.1.2 Normality Test

One of the classical linear regression models assumptions is the error term should be normally distributed or expected value of the error term should be normally distributed or expected value of the errors terms should be zero (E(UT))=0).The researcher used histogram to identify normal distribution of residuals and the result indicates that standard residuals are a little bit far away from the curve, many of the residuals are fairly close more to the curve and the histogram is bell shaped. This implies that the majority of scores lie around the centre of the distribution (so the largest bars on the histogram are all around the central value. Therefore, this indicates that the residuals are normally distributed.

Figure 2Normality Histogram



Source: survey, 2018

To get strong assurance of the residual or errors are normally distributed In addition to the above test for normality, normal distribution is detected based on skewness and kurtosis statistics. Skewness is a measure on the asymmetry of a distribution. Whereas, kurtosis measures the extent to which observations cluster around a central point. The acceptable range for normality for both statistics is between (-1.0 and +1.0). All variables are within the acceptable range for normality (-1.0 to + 1.0). The kurtosis statistics for all independent variables are within the suggested range of normality (-1.0 to + 1.0).

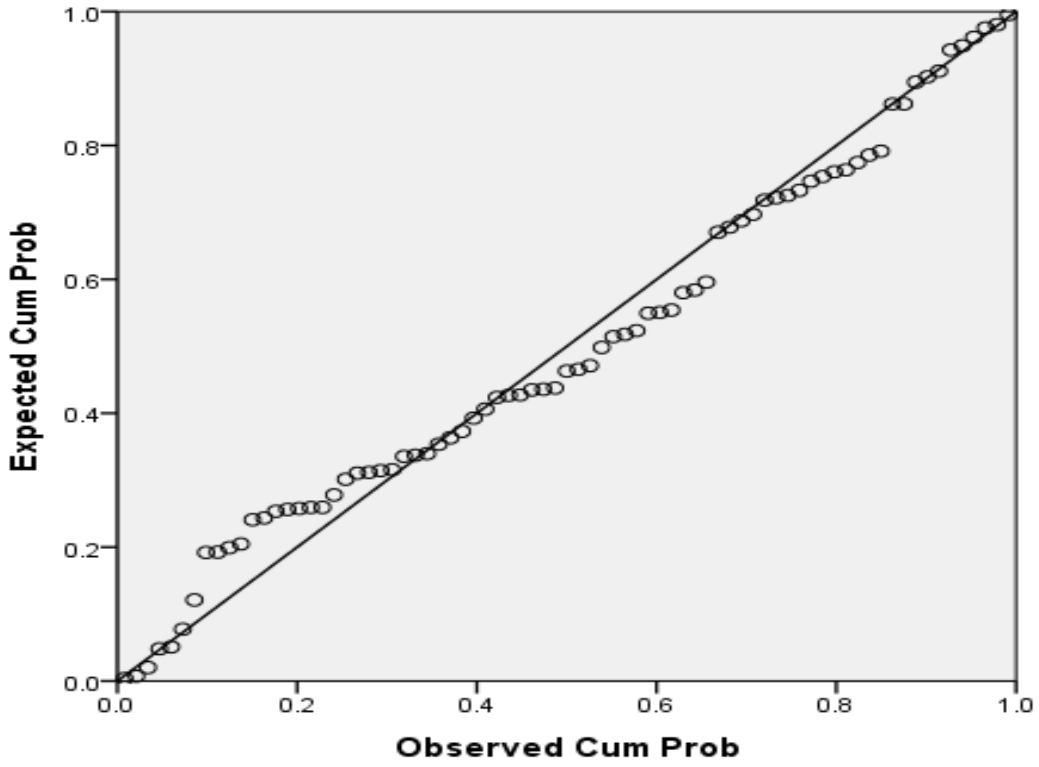
Table 9 Normality Statistics

	N	Mean	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Cost	77	3.6916	-.601	.274	-.103	.541
Supplier selection	77	4.1584	-.154	.274	-.845	.541
Supplier development	77	3.5325	-.948	.274	.429	.541
Contract management	77	3.6961	-.506	.274	.118	.541
Supplier relationship management	77	3.3299	-.597	.274	-.056	.541

Source: survey, 2018

4.4.1.3 Linearity Test

Figure 3: Linearity Test



Source: Survey, 2018

As it is shown in the figure 3, the P-P plot of residuals reveals no large deviation in the spread of the residuals that almost all residuals lay on the linear straight line. Therefore, this indicates that the relationship between the independent variables and the dependent variable is linear.

4.4.2 Regression Result

Table 10 Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.860[a]	.739	.724	.29649

Source: survey, 2018

The study model summary indicates R squared is 0.739 and adjusted R squared is 0.724 suggesting that that 72.4% variation in dependent variable is explained by independent variables used in the model. This implies that 72.4% variation in sourcing production cost is affected by sourcing strategy.

Table 11 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.908	4	4.477	50.927	.000[b]
	Residual	6.329	72	.088		
	Total	24.237	76			

Source: survey, 2018

ANOVA indicates F-statistic is significant at 0.01 indicating that the model appropriateness for the study. This suggests that multivariate linear regression model is appropriate to estimate the effect of sourcing strategy on production cost selected companies. The estimation result suggests that packaging material sourcing significantly affects production cost efficiency.

Table 12Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-.399	.410		-.975	.333
SS	.344	.059	.362	5.858	.000
SD	.319	.083	.383	3.867	.000
CM	.073	.069	.066	1.063	.291
SR	.379	.084	.455	4.521	.000

Source: Survey, 2018

Coefficient of the supplier selection (SS) is positive and statistically significant at significance level of 0.01 suggesting that supplier selection function of the companies is positively affecting production cost effectiveness of the company. This finding is similar to finding of the (Khaled, Sanjoy, Ripon, & Salahuddin, 2011).

Coefficient of supplier development (SD) is positive and significant at significance level of 0.01 indicating stronger supplier development results on production cost efficiency. This is an implication of supplier development function of the companies enabled the company to become production cost efficient. Finding of this study is similar to the finding of Scott et al., (2011) that supplier development has significantly positive effect on production cost improvement.

The effect of contract management (CM) of the companies is statistically insignificant in affecting production cost.

Coefficient of the supplier relationship management (SR) is positive and statistically significant at significance level of 0.01 suggesting that the companies that have stronger supplier relationship management are better in production cost efficiency. This study has identified similar finding to the results of Kotabe (2008) and Kumpe & Bolwijn(2008) supplier relationship management has high effect on production cost improvement.

The values of t-statistics indicate that supplier selection has the highest effect on the production cost efficiency when compared to all variables used in the model with the value of 5.858, and followed by supplier relationship management with value of

4.521.Among the significant factors, supplier development has lowest effect on the cost efficiency.

4.5 Discussion

Supplier selection function of the companies has significant positive effect on production cost effectiveness of the company. Selection of strategic supplier based on price of the packaging managerial, quality of the material, performance of the supplier, location of the supplier, and quantity of the material required makes the company cost efficient. This finding is similar to finding of the (Khaled, Sanjoy, Ripon, & Salahuddin, 2011).

Supplier development function of the companies has resulted on their production cost efficiency. Training the key strategic suppliers, helping suppliers in production process, financial support to the suppliers, recognizing the outstanding suppliers and auditing the supplier for maintaining standards has become the strategies of the supplier development that in overall makes the companies cost efficient. The Finding of this study is similar to the finding of Scott et al., (2011) that supplier development has significantly positive effect on production cost improvement.

The effect of contract management (CM) of the companies is statistically insignificant in affecting production cost.

Strategic supplier relationship management affects production cost efficiency of the companies positively and significantly suggesting that the companies that have stronger supplier relationship management are better in production cost efficiency. Partnership with the strategic supplier, strategic alliance with the suppliers, integration within the supply chain partners, and long term relationship have led to the production cost efficiency of the companies. This study has identified similar finding to the results of Kotabe (2008) and Kumpe & Bolwijn(2008) supplier relationship management has high effect on production cost improvement.

CHAPTER FIVE
SUMMARY OF MAJOR FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Major Findings

This study was conducted with an objective of identifying packaging materials sourcing on production cost in the case of bottled water producing companies in Addis Ababa and 100 KM around Addis Ababa. The study data was collected through questionnaire. The researcher analyzed following major findings though descriptive and explanatory analyses.

- Mean values for the responses of cost efficiency of the companies are above the neutral value which indicates that majority of the companies are production cost efficient. Packaging material sourcing has significant and positive effect on production cost of the companies. The ANOVA analysis proves that it is highly important in affecting the cost efficiency of the companies. The R squared is 0.739 and adjusted R squared is 0.724 suggesting that 72.4% variation in sourcing production cost is affected by sourcing strategy.
- All mean values for supplier selection criteria are above value of 4.00 except the criterion of price. Relationship between supplier selection and production cost efficiency is positive and statistically significant at 0.01 and correlation coefficient of 0.353.Coefficient of strategic supplier selection is positive and statistically significant at significance level of 0.01.
- Supplier development constructs are well practiced in the companies as indicated by the mean values of greater than 3.00. Result of correlation analysis shows that supplier development is most correlated dimension with the coefficient of 0.756 suggesting that improving supplier development significantly improves cost efficiency. Strategic supplier development has positive and significant effect on production cost efficiency at significance level of 0.01.
- All contract management practices are implemented in the companies. All mean values of the supplier relationship management are above 3.00 indicating that the

majority of the respondents agree with the statements that the company has the practice. But contract management is statistically insignificant. But contract management is insignificantly related with cost efficiency. Contract management was insignificantly related with production cost efficiency. This result of contract management reflected that the effect implementation of supplier selection functions. If the supplier selection functions implemented effectively, the contract management functions usually will be less. For instance, probability of dispute occurrence with the right supplier is usually very less and also the companies were already considered supplier performance which is one of contract management element on the process of the supplier selection.

- Supplier relationship management is the second most correlated strategy with the cost efficiency with correlation coefficient of 0.712 suggesting that higher supplier relationship results on higher cost efficiency. Strategic supplier relationship management has positive and significant effect on the cost at significance level of 0.01.

5.2 Conclusions

Based on the findings the researcher reached at following conclusion.

- Sourcing function has positive effect on production cost efficiency of the bottled water producing companies improving production capacity utilization, improving inventory turnover and creating competitive advantage over the competitors.
- Suppliers for packing material are selected based on price, quality and quantity of the materials, and performance and location of the supplier. Selecting supplier based on intended quality of the material, volume of material necessary for production and lower price of the material, performance of the supplier and easily accessibility of the supplier improves production cost efficiency of the companies.
- Supplier development positively affects the production cost efficiency of the companies.

- Supplier relationship management has resulted on production cost efficiency of the companies because of partnership with supplier, advantage of the best available prices, and improved supply chain.
- Contract management function is insignificantly affect companies cost efficiency.

5.3 Recommendations

Based on the conclusions reached the researcher provides following recommendations.

- This study identified that packaging material sourcing has significant effect in improving the production cost efficiency. Therefore, the management of the companies is recommended to source the packaging material through appropriate supplier selection, developing the selected supplier when the support is important, and managing the relationship with the strategic supplier.
- Since supplier selection has significant positive effect on production cost efficiency, management of the companies is recommended to give due emphasis on supplier selection functions to make it their core competency as it is strongly correlated and significant affect production cost.
- Since the supplier development has positive and significant effect on production cost efficiency it is recommended to consider it seriously and support the supplier on their identified need to improve their overall performance.
- Since supplier partnership has significant positive effect on production cost efficiency, the researcher recommends that the companies shall manage their supplier relationship strategically to develop strong partnership in the long run.
- Since the role of contract management is insignificant in affecting the production cost efficiency, the researcher could not infer any implication. Therefore, the management hasn't to worry in managing the contract with the supplier.

References

Arif, J., & Pillania, J. (2008). Benefits and challenges of global sourcing: Perceptions of Beverage industry. *International Marketing Review* .

Bolisani, E., & Scarso, E. (2006). International manufacturing strategies: Experiences from the apparel industry. *International Journal of Operations and Production Management* .

Brookshaw, T., & Terziovski, M. (2007). The relationship between strategic purchasing and customer satisfaction within a total quality management environment. *Benchmarking for Quality, Management and Technology,* .

Bruce, M., & Moger, S. (2009). Dangerous liaisons An application of supply chain modelling for studying innovation within the UK apparel industry. *Technology Analysis and Strategic Management* .

Bruce, M., & Moger, S. (2009). Dangerous liaisons: An application of supply chain modelling for studying innovation within the UK apparel industry. *Technology Analysis and Strategic Management* .

Bruce, M., Daly, L., & Towers, N. (2014). Lean or agile: A solution for supply chain management in the textiles and apparel industry. *International Journal of Operations and Production Management* .

Burke, G., Carrillo, J., & Vakharia, A. (2014). Single versus multiple supplier sourcing strategies. *European Journal of Operational Research* .

Carren, C., Esther, W., & Antony, K. (2016). Influence of strategic sourcing on organizational performance of state corporation in kenya; a case of kenya power. *International Journal of Management and Commerce Innovations* .

Casciaro, T., & Piskorski, M. (2005). Power Imbalance, Mutual Dependence, and Constraint Absorption A Closer Look at Resource Dependence Theory. *Administrative Science Quarterly* .

Casciaro, T., & Piskorski, M. (2005). Power Imbalance, Mutual Dependence, and Constraint Absorption A Closer Look at Resource Dependence Theory. *Administrative Science Quarterly* .

Cho, J., & Kang, J. (2011). Benefits and challenges of global sourcing: Perceptions of US apparel retail firms. *International Marketing Review* .

Christopher, M., & Towill, D. (2012). Supply chain migration from lean and functional to agile and customised. *Supply Chain Management: An International Journal* .

Combs, J., & Crook, T. (2007). Sources and consequences of bargaining power in supply chains. *Journal of Operations Management* .

David, F. (1997). *Strategic management.* . New Jersey: Prentice-Hall.

Emerson, R. (1962). Power-dependence relations. *American sociological review* .

Faes, W., & Matthyssens, P. (2009). Insights into the process of changing sourcing strategies. *Journal of Business and Industrial Marketing* .

Forza, C., & Vinelli, A. (2010). Time compression in production and distribution within the textile apparel chain. *Integrated Manufacturing Systems* .

Fraering, M., & Prasad, S. (2009). International sourcing and logistics: An integrated model. *Logistics Information Management* .

Gadde, L., & Håkansson, H. (2001). *Supply network strategies. 1. ed.* Chichester: Wiley.

Ghosh, M., & John, G. (1999). Governance Value Analysis and Marketing Strategy. *Journal of Marketing* .

Ghosh, M., & John, G. (2005). Strategic Fit in Industrial Alliances An Empirical Test of Governance Value Analysis. *Journal of Marketing Research* .

Gulati, R., Nohria, N., & Zaheer, A. (2010). Strategic networks. *Strategic Management Journal* .

Handfield, R., & Pannesi, R. (2005). Antecedents of lead-time competitiveness in maketo order manufacturing firms. *International Journal of Production Research* , 511-537.

Heide, J., & Stump, R. (1994). Performance Implications of Buyer Supplier Relationships in Industrial Markets. *Journal of Business Research* .

Herbig, P., & O'Hara, B. (2006). International procurement practices: a matter of relationships. *Management Decision* .

Holger, S., Philipp, H., & Bart, V. (2011). Estimating cost-saving potential from international sourcing and other sourcing levers: Relative importance and trade-offs. *International Journal of Physical Distribution & Logistics Management* .

Jin, B. (2014). Achieving an optimal global versus domestic sourcing balance under demand uncertainty. *International Journal of Operations and Production Management* .

Karanja, N., & Juma, W. (2012). Effect of Strategic Material Sourcing on Operational Performance of Manufacturing Firms: A Case of East African Breweries Ltd, Kenya . *International Journal of Science and Research* .

Kaufmann, L. (2012). *Purchasing and supply management: a conceptual framework, (Handbook Industrial Purchasing management),*. Gabler: Wiesbaden.

Khaled, A., Sanjoy, K., Ripon, K., & Salahuddin, A. (2011). Selection of Suppliers through Different Multi-Criteria Decision Making Technique. *Global Journal of Management and Business Research* .

Koobgrabe, C., Abbas, H. R., &Chutima, P., (2008). "Customer satisfaction toward true move customer service", Unpublished Master Thesis, Mälardalen University.

Kotabe, J., & Murray, Y. (2004). *Industrial Marketing Management.*

Kotabe, M. (2008). Efficiency vs effectiveness orientation of global sourcing strategies: A comparison of U.S. and Japanese multinational companies. *The Academy of Management Executive* .

Kotabe, M. (2002). Hollowing-out of U.S. multinationals and their global competitiveness: An Intra-firm Perspective. *Journal of Business Research* .

Kotabe, M., & Murray, J. (2010). Liking product and process innovations and modes of international sourcing in global competition: A case of foreign multinational firms. *Journal of International Business Studies* .

Krajewski, L., & Ritzman, L. (1996). *Operations management strategy and analysis.* London: Addison-Wesley.

Kumpe, T., & Bolwijn, P. (2008). Manufacturing: The new case for vertical integration. *Harvard Business Review* .

Laseter, T., Ramachandran, C., & Leary, T. (2007). Global Sourcing: Another Critical Purchasing Skill. *Strategy and Business* .

Levy, D. (2005). International sourcing and supply chain stability. *Journal of International Business Studies,* .

Lowson, R. (2011). Analysing the effectiveness of European retail sourcing strategies. *European Management Journal* .

Lowson, R. (2013). Apparel sourcing Assessing the true operational cost. *International Journal of Apparel Science and Technology* .

Muhamad, J., Ramayah, T., & Khaw, P. (2014). THE IMPACT OF INTRA AND INTER-FIRM SOURCING STRATEGY ON SUPPLIES' QUALITY, DELIVERY AND COST . *Universiti Sains Malaysia* .

Murray, J., Wildt, A., & Kotabe, M. (2005). Global sourcing strategies of U.S. subsidiaries of foreign multinationals. *Management International Review* .

Paulraj, A., Chen, J., & Flynn, J. (2006). Levels of strategic purchasing: Impact on supply integration, and performance. *Journal of Purchasing and Supply Management* .

Perry, M., & Sohal, A. (2010). Quick response practices and technologies in developing supply chains. *International Journal of Physical Distribution and Logistics Management* .

Peter, B., & David, F. (2005). *Purchasing, Principles and Management.*

Porter, M. (1980). *Competitive strategy.* New York: Free Press.

Pressey, A., Tzokas, N., & Winklhofer, H. (2007). Strategic purchasing and the evaluation of "problem" key supply relationships: what do key suppliers need to know? *Journal of Business and Industrial Marketing* .

Rajesh, N., Jean, J., & Klas, E. (2011). Lean supply and price based global sourcing — the interconnection. *European Journal of Purchasing & Supply Management* .

Rugman, A. (1986). New theories of multinational enterprise: An assessment of internalization theory. *Bulletin of Economics Research* .

Scott, C. (2011). *Guide to Supply Chain Management.* Berlin Heidelberg: Springer-Verlag.

Steinle, C., & Schiele, H. (2008). Limits to global sourcing? Strategic consequences of dependency on international suppliers: cluster theory, resource-based view and case studies . *Journal of Purchasing & Supply Management* .

Tan, K., Kannan, V., & Handfield, R. (2008). Supply chain management: Supplier performance and firm performance. *International Journal of Purchasing and Materials Management* .

Teng, S., & Jaramillo, H. (2015). A model for evaluation and selection of suppliers in global textile and apparel supply chains. *International Journal of Physical Distribution and Logistics Management* .

Thompson, J. (1967). *Organizations in Action. 4th ed.* New York: McGraw-Hill.

Thorelli, H. (1986). Networks: between markets and hierarchies. *Strategic Management Journal* .

Trent, R., & Monczka, R. (2013). International purchasing and global sourcing what are the differences? *Journal of Supply Chain Management* .

Tyler, D., Heeley, J., & Bhamra, T. (2016). Supply chain influences on new product development in fashion apparel. *Journal of Fashion Marketing and Management* .

Van Weele, A. (2010). *Purchasing and supply chain management: analysis, strategy, planning and practice. 5. ed.* . Hampshire: Andover: Cengage Learning.

Warburton, R., & Stratton, R. (2012). Questioning the relentless shift to offshore manufacturing. *International Journal of Supply Chain Management* .

Williamson, E. (1996). *Transaction Cost Economics, Handbook of Industrial Organization,* . New York: Elsevier.

Williamson, O. (1979). Transaction cost economies: The governance of contractual relations. *Journal of Law and Economies* .

Zeng, A. (2010). A synthetic study of sourcing strategies. *Industrial Management & Data Systems,* .

Annex I: Questionnaire

Dear Sir/Madam;

Request for Participation in a Research Study

I am a Postgraduate student at Addis Ababa University. As partial fulfillment for the Masters of Science in supply chain management, I am conducting a research study on "The effects of sourcing strategy on product cost in the case of bottled water sellers in Addis Ababa and 100 KM around Addis Ababa"

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,

Ephrem Adane

Part I: Demographic Information

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

1. **Gender:**

□ Male

□ Female

2. **Age in years:**

□ Less than 30

□ 31-40

□ 41 – 50

□ above 50

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

□ Less than 2

□ 2-5

□ 5-10

□ Above 10

4. **Level of Education**

□ Diploma

□ Bachelor Degree

□ Masters

□ PhD

Part II: Sourcing Strategy Management

5. **Which strategy does your company use for packaging materials (Mark X where appropriate)?**

Strategy		CAP	Label
Location of supplier	Local		
	Foreign		
Number of Supplier	Single		
	Multiple		

6. **To what extent do you agree with following statements about considerations of your company when selecting supplier?**

Supplier Selection	**SD**	**D**	**N**	**A**	**SA**
The company selects supplier based on price of packaging material					
The company selects supplier based on quality of packing material.					
The company selects supplier based onits performance of (Financial and non-financial)					
The company selects supplier based onlocation of supplier (local or foreign)					
The company selects supplier based on quantity of packaging material required					
The company selects supplier based on delivery of packaging material					

7. **To what extent do you agree with following statements about supplier development practices in your company?**

Supplier Development	**SD**	**D**	**N**	**A**	**SA**
Company trains key suppliers onbest management practices					
The company helps suppliers in production process standardization					
The company extents financialsupport to suppliers to enhancetheir production capacity					
The company communicates to thesuppliers about performance andcustomer feedback					
The company gives recognition tooutstanding supplier performance					
The company does occasional supplier audits to ensure suppliersmaintain expected standards					

8. **To what extent do you agree with following statements about contract management practices in your company?**

Contract Management	**SD**	**D**	**N**	**A**	**SA**
Key performance indicators (KPIs) were set to monitor performance of suppliers					
Contract management has led to completion of projects within set budget and period					
contract management has enabled our organizationto achieve competitive advantage					

Contract management has led to reduction on supply chain cost					
management of disputes was incorporated on the contract document					

9. To what extent do you agree with following statements about supplier development practices in your company?

Supplier Relationship Management	**SD**	**D**	**N**	**A**	**SA**
our organization has partnered with suppliers who supply strategic items					
Strategic alliance with our suppliers has led to reduction on lead time					
Arm's length relationship with our suppliers enables us take advantage of the best available prices					
Vertical integration with supply chain partners has led to improve customer service					
Long term relationship has led to supplier complacency					

10. To what extent do you agree with following statements about supplier development practices in your company?

Production Cost	**SD**	**D**	**N**	**A**	**SA**
The company runs operation with less production cost					
The production capacity utilization of the company is high					
The inventory turnover of the company is high.					
The company performs at lower cost than competitors					