

**Determinants of Efficient Supply Chain Management:  
The Case of National Tobacco Enterprise (Ethiopia)**

*A Thesis submitted to the school of Graduate Studies of Jimma University in  
Partial Fulfillment of the Requirements for the Award of the Degree of Master  
Of Business Administration (MBA)*

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## ABSTRACT

*Supply chain management is a backbone of manufacturing companies; it enables them to manage all tasks throughout the business process. Both business strategy and specialized software are used in these endeavors to create a competitive advantage. The main objective of this research is to identify determinants of efficient supply chain management in National Tobacco Enterprise (Ethiopia) Sc (NTE). More specifically to identify determinants from Suppliers, Employees and Cigarette distributors (Wholesalers) perspective. The method employed was Mixed research method where by 154 structured questionnaires were sent to input suppliers, employees and cigarette distributors while semi-structured interview was conducted with two of NTE managers who have proven experience on supply chain roles. Samples were drawn using sampling techniques; random sampling, purposive sampling and census from target population of suppliers, Employees and cigarette distributors respectively. But the data were collected only from suppliers, employees and cigarette distributors located in Addis Ababa. The research framework was tested in SPSS version 20 using both descriptive statistics and linear correlations. The empirical analysis on feedback from the questionnaire results in commonly information sharing with stake holders and supply chain integration are requirements which have significant impact on supply chain management practices .On the other hand from analysis of the interview feedback, mainly regulatory frame work specific to the industry has strong impact on the supply chain management practices of NTE. Furthermore, cultural factors are also one of the determinants of the supply chain management practices. The case company is advised to extensively practice supply chain management requirements mainly Information sharing practices and supply chain integration. Furthermore, the company must work to minimize the impacts of the regulatory framework and Cultural factors which are outputs of the qualitative analysis This study was conducted in one organization with a relatively small sample size of respondents. However, being the first study to assess the impacts of supply chain requirements on supply chain management practices, in tobacco industry in Ethiopia, this research will serve as a spark light for future researches.*

**Keywords:** Determinants, Efficient, Supply Chain, Competitive advantage, Information

## DECLARATION

I declare that the research report entitled:

**“Determinants of Efficient Supply Chain Management:**

**The case of National Tobacco Enterprise (Ethiopia)”**

**submitted** to Research and Postgraduate Studies” Office of Business and Economics college is original and it has not been submitted previously in part or full to any University.

Abinet Alemu Adinew

\_\_\_\_\_  
Date: \_\_\_\_\_

## CERTIFICATE

I certify that the Research Paper Report entitled:

**“Determinants of Efficient Supply Chain Management:**

**The case of National Tobacco Enterprise (Ethiopia)”**

Was done by Mr. Abinet Alemu Adinew for the partial fulfilment of Masters

Degree under my Supervision.

\_\_\_\_\_  
Main Advisor

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

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# **Chapter one**

## **Introduction**

### **1.1. Background of the Study**

Supply Chain is described as a chain linking each element from customer and supplier through manufacturing and services so that the flow of material, money and information can be effectively managed to meet the business requirement (Stevens 1989).

Supply Chain Management encompasses the planning and management of all activities involved in sourcing and procurement. It includes coordination and collaboration with channel partners such as suppliers, intermediaries, third-party service providers and customers (Morgan and Monczka, 2006). SCM integrates supply and demand management within and across companies (Watts and Hahn, 2003). Slack (1995) defines procurement as the acquisition of goods, services or works from an external source at the best possible cost to meet the needs of the intended user in terms of quality and quantity, time and location. Leavy (2001) explains that there are potential risks in procurement especially when sourcing for procurement services. Outsourcing a component or service may leave a company open to opportunism, where a supplier will try to exploit it by increasing prices. Sourcing for procurement services from world class companies with their own reputation may limit this risk or it may be the cost of access to skills (Leavy, 2001). Morgan and Monczka (2006) identifies logistics management as the part of SCM that plans, implements and controls the efficient, effective forward and the reverse flow of goods, services and related information between the point of origin and the point of consumption in order to meet customer requirements.

Concerning the concept of supply chain management and its performance evaluation a lack of knowledge in this field can be identified. The specialty literature includes various studies on



supply chain management, supplier development, supplier performance evaluation, performance management, but does not link these research directions to the supply chain management performance evaluation, so that a certain knowledge gap in the national and international literature is identified.

## **1.2. Background of the Organization**

National Tobacco Enterprise (NTE) was established in 1942 G.C as “Imperial Ethiopian Tobacco Monopoly” at a cost of 50,000 ‘Mariatereza’. Following changes in governmental policy; NTE has moved through re-structural modifications, in 1981 as “National Tobacco and Matches Corporation and in 1992 as “National Tobacco Enterprise” with a monopoly right in the business. In 1999 G.C the Company has been re-organized as a share company pursuant to the Privatization Proclamation Act. No. 146/1998. The company is functioning in two sub-sectors; Tobacco planting and processing and Cigarette manufacturing.

Currently NTE is a member of Japan Tobacco International Group of Companies (JTI) - a leading international tobacco products company Head quartered in Geneva, Switzerland. JTI owns 71% of the share of NTE acquired from the Government of Ethiopia in 2016/2017 for USD 1 billion. This is the largest private sector investment by a Japanese company in Ethiopia to date. The Yemeni based company named Sheba Investment holdings is the owner of the remaining 29% share of NTE. The company provides direct employment to over 1200 Ethiopians, indirect employment to over 10,300 tobacco out growers and over 3000 daily laborers.

## **1.3 Statement of the problem**

Supply chain management (SCM) is now not a new domain having initially come to prominence in the 1980s. Since its inception, supply chain management has continued to evolve, grow, and expand as is evident by the continued number of published research articles and dedicated journals in the discipline. Researchers’ interest has been changing which can indicate future directions of research focus. The emergence of personal computers in the 1980s provided better access to decision making and planning tools for logistics, integration and international supply chain management (Oliver and Weber, 1982; Houlihan, 1985; Stevens, 1989). In the 1990s, interest in supply chain management has increased alongside the continuous evolution of

technology which led to increased interest in interacting and connecting supply chains. Topics in relation to information sharing, connectedness and green supply chain management have come to prominence in the 1990s (Thomas and Griffin, 1996; Lee, Padmanabhan and Whang, 1997; Beamon, 1999a). Globalization and free trade agreements have shifted the research focus in the 2000s to address issues in relation to information technology, collaboration, sustainability and supply chain performance (Bose, Pal and Ye, 2008; Gold, Seuring and Beske, 2010; Vanichchinchai and Igel, 2011).

International trade, and the production of goods and services, has been evolving rapidly over this time, with suppliers, manufacturers, couriers, and customers all gaining competitive advantage from free trade agreements. Because firms continue to seek greater benefits and profit, supply chain management has become an essential part of managing business processes at an international level, through improving different aspects of the supply chain, which can provide increasing levels of competitive advantage (Cheng, Lee and Chen, 2014; Kache and Seuring, 2014).

Despite these important benefits, organizations continue to encounter a barrier which hinders them from efficient implementation of supply chain. Lacking a general understanding of supply chain performance and the associated determinants limits organizations ability to identify the best opportunities for improving supply chain performance.

In the case of National tobacco enterprise (Ethiopia) the supply chain wing is working hard to realize the company objectives. In due course the company faces challenges in managing the supply chain. Due to delay in delivery of the standard items the company is forced to use substandard materials which are the causes for inefficient machine performance and consumer complaints. The company is unable to supply the required volume and quality of products because of limited capacity and long service years of the available manufacturing equipment's. Furthermore, the significant market share of illicit trade (About 40%) is also adversely affecting the distribution of products of the company. On the other hand, from the review of the literature one can conclude that not all sectors of an economy are well addressed in previous studies. Moreover, most of the cited articles are also conducted out of our continent, Africa, within different cultural environment. It is thus critical to assess the supply chain practices and identify determinants of an efficient supply chain management of National Tobacco Enterprise to improve performance of its supply chain management. This research is therefore sought to

investigate determinants of efficient supply chain management in the case of National Tobacco Enterprise of Ethiopia.

In this study, current supply chain practices of National Tobacco Enterprise (Ethiopia) will be assessed and factors that affect the efficiency of the supply chain performance of the factory shall be identified.

### **Research Questions:**

- 1) What looks like the supply chain management practices of National Tobacco Enterprise (Ethiopia)?
- 2) What are the determinants of Supply chain management practices of National Tobacco Enterprise (Ethiopia)?

## **1.4. Objectives of the study**

The main objective of this study will be to examine determinants of efficient supply chain management in National tobacco enterprise (Ethiopia).

### **1.4.1. Specific objectives**

- To describe supply chain management practices in the company.
- To identify Determinants of efficient supply chain management from customers perspective.
- To identify Determinants of efficient supply chain management from supplier's perspective.
- To identify Determinants of efficient supply chain management from manufacturer perspective.

## **1.5. Significance of the study**

The intention of the study is to identify determinants of efficient supply chain management in National Tobacco Enterprise (Ethiopia). The efficient implementation of the SCM in such companies stimulates core competencies so that they can gain additional market share locally and to enter the export market.

Therefore, this study has practical significance to assess the practice of the SCM as well as the challenges faced in it. Furthermore, the study can help the company to make some changes based on the result of this study and to understand how these determinants affect supply chain management performance of the company. It can also serve as a reference for future researchers and the society can benefit from the efficient performance.

### **1.6. Scope of the study**

The scope of the study will focus only on the supply chain management practices of National Tobacco Enterprise (Ethiopia) in the year 2019. The study will identify determinants of efficient supply chain management from cultural, organizational structure, information sharing and supply chain integration perspectives.

### **1.7. Limitation of the study**

This study will not include suppliers and/or agents, employees and wholesalers outside of Ababa Ababa city due to time and financial constraints. Moreover, the study will not include the ultimate consumers of the product and retailers due to time and financial constraints as well.

### **1.8. Organization of the study**

The study shall be organized in to five chapters. Chapter one presents the introductory part of the study that comprises, among others, the background of the study, statement of the problem along with the research questions and objectives of the study.

Chapter two deals with the review of the literature related to the topic of the study: whereas chapter three will provide details of the design and methodological aspects employed.

The analysis of the study data, presentation of the results shall be presented under chapter four while corresponding summary, conclusion and suggestions are presented in chapter five.

# Chapter Two

## Literature Review

### 2.1. Theoretical Literature

#### 2.1.1. Supply Chain Management Defined

The concept of supply chain management can be traced back to (Forrester, 1961), who Suggested that successful industries are dependent on the interaction between flows of Capital equipment, material, manpower and information. Stevens (1989, P3) defines the Supply chain as a connected series of activities which is concerned with planning coordinating and controlling material, parts and finished goods from suppliers to the customer. Supply chain management is traditionally defined as the management of material and information flows both in and between facilities, such as vendors,

Manufacturing and assembly plants and distribution centers' (Thomas and Griffin, 1996). Supply chain management is a function that is mainly responsible for connecting business.

Processes and functions within and across firms, to form an interconnected, highly performing business model. Therefore, Heckman, Comes and Nickel (2015) find that successful management of supply chain relies on three main objectives. Functional supply chain operations, availability of resources, and demand satisfaction.

Since the inception of the supply chain management as a domain in the early 1980's, it has been studied by a wide array of researchers. Research in supply chain management has recently increased faster than ever with a wide range of studies. Covering various aspects of supply chain management practices and processes.

Aitkin (2005) defines SCM as the network of connected and interdependent organizations that work together to enable the flow of products into markets, where as a 'pipeline' is defined as the

specific operational mechanisms and procedures that are employed to service specific product/market contexts.

Simchi-Levi et al (2004) define SCM as a set of approaches used to efficiently integrate Suppliers, manufacturers warehouse and stores so that merchandise is produced and distributed at the right quantity, to the right locations and at the right time to minimize system wide costs while satisfying service-level requirements.

### **2.1.2. Supply Chain Management Practices**

SCM is generally considered to involve integration, coordination and collaboration across organizations and throughout the supply chain (Stank et al, 2001). A supply chain is a System whose constituent parts include material supplies, production facilities, distribution services and customers linked together via a feed forward flow of materials and feedback flow of information (Ben Naylor et al, 1999).

Over the past few years, more emphasis has been placed on gaining competitive advantage by organizations locally and internationally by incorporating supply chain management practices in their operations. Many organizations have realized the importance of creating an integrated relationship with the suppliers & customers. This simultaneous integration of customer requirements, internal processes and upstream supplier performance is referred to as supply chain management (Tan et al, 1999).

It aims at improving value delivery to customers, relying on just-in-time system, eliminating waste, getting the involvement of all stake holders in the value creation process as well as working closely with suppliers. SCM encompasses the integrated planning and execution of processes required to optimize the flow of materials, information and financial capital in the areas that broadly include demand planning, sourcing, production, Inventory management and storage, transportation or logistics and return for excess or defective products. Both business strategy and specialized software are used in these endeavors to create a competitive advantage.

Supply chain management is an expansive complex undertaking that relies on each partner from suppliers to manufacturers and beyond to run well. Because of this, effective supply chain management also requires change management, collaboration and risk management to create alignment and communication between all the entities.

In addition, supply chain sustainability which covers environmental, social and legal issues, in addition to sustainable procurement-and the closely related concept of corporate social responsibility which evaluates a company's effect on the environment and social well-being are areas of major concern for today's companies.

The increasingly global nature of today's supply chains and the rise of e-commerce, with its focus on nearly instant small deliveries straight to consumers, are posing challenges, particularly in the areas of logistics and demand planning. Several strategies-such as lean-and newer approaches –such as demand-driven material requirements planning-may prove helpful.

Technology-especially big data, predictive analytics internet of things (IOT) technology, supply chain analytics, robotics and autonomous vehicles-is also being used to help solve modern challenges, including in the areas of supply chain risk and disruption and supply chain sustainability.

E-collaboration refers to integrating and sharing data, through the internet or extranets. Upstream and downstream value chain process are integrated through cooperation and sharing information, allowing various parties in the supply chain to cooperate with each other in the development and design of products.

The main factors that contributed to the transition from SCM to E-SCM are a response to the business requests set from the new needs of the organizations: need for additional reduction in the costs as well as improvements in the processes through the expansion of the tools for modern management in the organizations from the supplier channels to the customer channels. The introduction of computerization and digitalization of the internal functions of the organizations with new technique, tools, and management methods. The need for efficiency and agility of the organizations in order that they can respond to the higher demands of the customers whose growing demands and bargaining power continually increases.



The effort to optimize the organization by having lower inventory levels both in manufacture and distribution by, in parallel, offering supreme quality and service. The deserting of vertical integration and functional oriented organizations. The tendency for outsourcing of some operational functions that are not the core of the business to other organizations specialized in that field. Finally, the e-business technologies and the internet have enabled organizations of all sizes to have a network and be closely connected, conquer with their partners and compete for market share. In the future supply chain will rely on system integration, data automation and collaboration going forward.

### **2.1.3. Barriers to Supply Chain Management Efficiency**

Supply chains are comprised of suppliers, producers, and customers who have different interests, which can result in negative effects on the supply chain. Although improving the supply chain can give partners a greater competitive advantage, partners often refuse change to avoid cost (Froehlich, 2002). Managing supply chains comes with a cost and before engaging in its practices, there is a demanding need to know about expected barriers and their possible influences on the effectiveness of supply chains (Wagner and Bode, 2008). It is specifically important to act when challenges create barriers to the overall performance of the supply chain.

However, without the identification of challenges, supply chain managers will struggle in their efforts to boost the effectiveness of supply chains. Research has been carried out to study the influence of challenges over effective supply chains. Supply chain issues are connected to differences in relation to languages, practice, beliefs, and the interpretation of delivered data which can affect the effectiveness of the supply chain (Antonio and Borges, 2014). In fact, supply chains operate in areas with dissimilar ways of doing business requiring adaptation changes in order to manage successful supply chains. It is found that the cultural constituent is closely connected to supply chain barriers (Taylor, 2014; Cadden *et al.*, 2015; Wang, 2015; Yan and Nair, 2016). In addition to the cultural barriers, other barriers can be classified under organizational structure, information sharing, connectedness, and purchase and supply policies. These barriers were found to degrade the effectiveness of supply chains at various levels. Therefore, special attention will be paid to explaining these challenges to show how they can influence supply chain performance.

### ***2.2.3.1 Culture***

The cultural influence on supply chain management cannot be ignored because the human participation in supply chain processes is unavoidable. Cultural aspects such as people's behaviors, perceptions, actions, and reactions can affect managing successful supply chains.

Cultural differences can play an important role in obstructing business practices. As part of supply chain managerial complexity, culture may be considered as being a barrier (Fawcett, Magnan and McCarter, 2008). Cultural differences are considered the most significant boundary to building trust in global supply chains relationships. Lack of trust or low levels of trust can bring about disturbance to the supply chain (Ueltschy et al., 2007; Zhao et al., 2008).

In creating long-term relationships with suppliers, from an individualist culture, buyers 'priorities performance over trust, whilst in a collectivist culture it is the opposite. Inter-cultural supply chain managers can encounter less profit from their supply chains by ignoring the relativity of performance and trust across different cultures (Cannon *et al.*, 2010). In addition, power distribution along the supply chain is not the same in all cultures. This may have come from the fact that acceptance of high-power-distance vary from one culture to another (Zhao *et al.*, 2008). Hierarchical differences can determine power distribution in supply chains operating in high-power-distance cultures, while hierarchy can do less in low-power-distance cultures. As compared to the situation in individualist cultures, in collectivist cultures, the way of dealing with problems shows obvious differences.

### ***2.2.3.2 Organizational Structure***

The structure of an organization affects the flow of its supply chain by having a direct influence on the movement of products, information, and services. Having a similar organizational structure to the structure of supply chain partners facilitates arranging processes and operations among organizations . The alignment of processes and building trust between organizations is easier, where such employees share similar cultural backgrounds such as religion, language and

customs (Wang, 2015). According to organizational structure literature, there are valid reasons to believe that the institutional and cultural environment of businesses can affect the effectiveness of organizational structure (Yan and Nair, 2016).

Organization related challenges can come from within the organization or the surrounding environment. Barriers at the organizational level are caused either by the structure of the organization or by the management of the businesses involved (Fawcett, Magnan and McCarter, 2008). Supply chain managers admit that internal planning and external monitoring failure are the two most critical barriers to their supply chains (Jr *et al.*, 2009).

Organizational barriers fall under the umbrella of two categories: inter-firm rivalry and managerial complexity (Fawcett, Magnan and McCarter, 2008). Inter firm rivalry includes barriers of organizational structure such as motives and behaviors misalignment, turf protection, lack of trust, and weakness of collaboration with supply chain partners which are discussed in section 2.5.4. Managerial complexity includes contradictory organizational structures and cultures; incompatible technologies and information systems; and measurement systems inadequacy (Fawcett, Magnan and McCarter, 2008). Additionally, moving towards more effective and strategic supply chain is hindered by ineffective organizational decisions and practices, such as the lack of strategic visibility, leadership and talent management, models of supply chains, trust and relationships, and the structure of the supply chain (Melnik *et al.*, 2009). Power distribution and decision making is influenced by the structure of organizations. Top management takes command on decision making at all levels of the centralized structure, while in less centralized structures the employees follow well defined instructions without the involvement of higher management. It is proposed that the heavy involvement of CEOs in operation decision results in high staff turnover and blurry departmental walls which can act as obstacles to the adoption of advanced supply chain practices (Archer, Wang and Kang, 2008). Some organizations prefer being committed to buying from certain suppliers, which is a behavior that might affect the performance of their supply chain. Difficulties and differences in the structure of each organization are reflected on the supply chain in the form of disturbed supply chain performance.

### **2.2.3.3 Data Availability**

Sharing information among supply chain partners is influenced by organizational or individual traits, with a strong connection to culture. Although trust is an important factor in facilitating the exchange of data with supply chain partners (Kwon and Suh, 2004), it is also important to know that culture can influence the way shared information is read. (Taylor, 2014) stated that culture affects the way useful or valid information is perceived. In addition, supply chain related information is dynamic, asymmetric, and complex, which can make dealing with it hard work, leading to disputes and miscommunication among partners (Hai *et al.*, 2012). Data complexity can explain some of the reluctance to disclose information because complex data can be more vulnerable to misperceptions.

Information inaccessibility is another imperative contributor to supply chain management barriers. R Glenn Richey *et al.* (2010) find unidirectional flow of information as a main barrier to supply chains. An enterprise behaving this way does it to minimize its chances of being exposed to risks through a leakage of critical data. Such practices dissatisfy the necessities of integration with supply chain partners. Although, information sharing unidirectional is typically the norm in the production industry, integrated supply chains encompass bidirectional cooperation and information sharing which can enhance supply chain performance (Sillanpaa, 2015).

Furthermore, a large part of the challenge with information inaccessibility is related to technology difficulties. Shortage in sufficient information systems appears to be the main barrier to better coordination of supply chains (Fawcett and Magnan, 2001). Information systems are important in collecting and sharing data with customers, suppliers, service providers, and government authorities. However, there are technical issues that can challenge optimal utilization of the systems (Speier *et al.*, 2011).

This brings about the problem of systems' compatibility within a given supply chain. Even if companies are willing to coordinate in sharing information, they are likely to face the problem of having different, incompatible information systems, where the coding syntax of items are not necessarily identical or compatible (Bouamrane, Tao and Sarkar, 2015).

Data collection or availability falls under the umbrella of information systems (Harland *et al.*, 2007). Having accessible data on both ends of the supply chain is important. Information on

suppliers' and customers' trends of pricing, rating and assessment of quality of supply are, unfortunately, either unavailable or poorly recorded (Mwirigi, 2010). Managers need to know their partners' trends in all related aspects of interactions so that they can plan, predict and react should any complication occur. Information systems can also help managers watch the surrounding business environment, with regards to competitors, suppliers and customers which is essential to the strategic decision-making processes of the supply chain (Jr *et al.*, 2009). Lack of adequate and reliable information, the movement towards an effective supply chain is not realistic.

Conducting business via electronic media requires extensive information sharing because parties involved do not have physical contact or access to the product. This level of integration is confronted by two main barriers: the absence of knowledge on expected benefits, and the misalignment of information strategies in the supply chain (Harland *et al.*, 2007).

#### ***2.2.3.4 Connectedness and Engagement practices***

Effective supply chain management ensures successful interconnection across both ends of the supply chain. The extension of supply chains beyond national borders with the emergence of globalization and free trade agreements adds more challenges to existing connectedness problems. Successful management of supply chains requires a high level of interdependence and collaboration in achieving tasks which are not equally achieved across the globe (Yan and Nair, 2016). Therefore, the effectiveness in performing tasks that require interdependence can be greater in collectivist societies as opposed to individualistic societies. Knowing these differences can help managers better interconnect with employees and partners within local or international supply chains.

Supply chain managers who are willing to talk and communicate with partners are more likely to achieve higher levels of profitability out of their supply chains. Being ready to coordinate, cooperate, collaborate, and integrate is a positive trait successful supply chain manager should possess. Supply management integration 'refers to the extent to which separate parties work together in a cooperative manner to arrive at mutually acceptable outcomes' (O'Leary-Kelly and Flores, 2002,). This understanding of integration considers the level to which supply chain partners need to reach on cooperation to elevate their supply chain to the next level. The concept

of integration opens windows for supply chain managers to communicate and cooperate, to minimize risk and cost. As it is well known now, supply chains do not work in isolation. Connecting supply chains has become a necessity in the international market. It is also evident that connectedness practices face barriers to supply chain integration because of alignment issues.

Information systems create the highest barrier to supply chains. Misalignment follows immediately in acting as an obstruction (Fawcett and Magnan, 2001). This indicates the big role misalignment plays as a supply chain barrier. In contrast, incentive alignment is identified as being a vital coordination mode that drives forward the supply chain, each of which has its own importance in the practice of integrating supply chains. Indeed, the absence of any of integration component can negatively affect the best fulfillment of a supply chain's objectives (Sitatunga, Wright and Sridhar an, 2002).

## **2.2. Empirical Literature**

### **2.2.1. Determinants of Supply Chain Management Efficiency**

Several scholars have looked at determinants of supply chain performance. Rajib Hasan and Mohammad Abdul Alim (2010) studied on factors affecting supply chain management efficiency in cross border outsourcing. The objective of the thesis was to investigate how inefficiency factors affect the supply chain system of multinational corporations during outsourcing process. The result of the study was concluded by identifying several factors and offering recommendations to minimize the effect of these in efficiency factors.

KarrakotY.Tipayawong, PalchanePatitad, ApichatSopadang, Takao Enkawa(2010) investigated factors affecting efficient supply chain operational performance of high and low technology companies. The objective of this paper was about comparison between two groups of companies with different characteristics of technology. The results of the study revealed that those potential factors which contribute to the efficient supply chain operational performance in both high and low technology intensity groups were different in terms of IT utilization, SCM flexibility and responsiveness.

Backstone O. Angana (2012) studied on determinants of effective supply chain management performance in road construction project. This study aimed to establish the determinants of supply chain management performance in road construction project. The results of the study showed that the key factors affecting supply chain management on road project implementation are material flow and ICT as the key driver.

Grzegorz lichocik, Adam Sadowski (2013) studied on efficiency of supply chain Management. The main objective of the study was to attempt to explain the problem of supply chain efficiency being in the context of general theoretical considerations relating to supply chain management. The study result shows that fundamental improvements in supply chain efficiency may be ensured by analyzing theoretical models on the strategic level and implementing a selected concept. Moreover, correctly planned and fulfilled logistics tasks may result in improving performance of a company as well.

SM Sohel Rana, Abdullah Osman, Azuddin Bin Bahari, Mohammed Solamian(2015) studied on determinants of supply chain performance. A strategic point of view. The study is aimed at empirically analyzing the influence of supply chain strategies as the determinants of retail supply chain performance. The result of the study shows that agile supply chain strategy is the most pivotal factor influencing retail supply chain performance. The lean strategy was also found to be a contributor to the retail supply chain performance while the hybrid strategy was found to exert very weak influence in increasing the performance of retail supply chain.

Lazarus MunyaoMulwa (2015) studied on determinants of supply chain management practices in organizations. This paper advances the view that superior supply chain outcome is achieved through the pursuit of collaboration, human resource practices and organizational culture which aid in strengthening the inter-organizational bonds of the various members. The study result indicated that factors that integrate supply chain members strongly need to be embraced.

Muhammed Ibrahim, Sayed Fayaz, Muhammed Khalil and Muhammed Asif (2015) studied on factors influencing the performance of supply chain management in manufacturing industry. The aim of this paper is to find out the effect of critical factors like trade management, information technology, uncertainties', manufacturing and customer satisfaction on the performance of supply chain. The finding of the study shows the presence of strong significant relationships of each independent variable on the dependent variable.

Meseret (2016) studied the perception of supply chain management practices and its links with performances in agro processing industry. The purpose of this research was to assess supply chain management practices and to test the relationship of supply chain management practices with supply chain management operational and organizational performance. The research findings have shown that supply chain management practices have a positive effect on supply chain management operational and organizational performance.

### 2.3. Conceptual framework

Researchers have studied different variables influencing supply chains, which can act as barriers to the successful management of its processes and practices. Such factors include those in relation to the culture, work environments, information sharing and integration with partners.

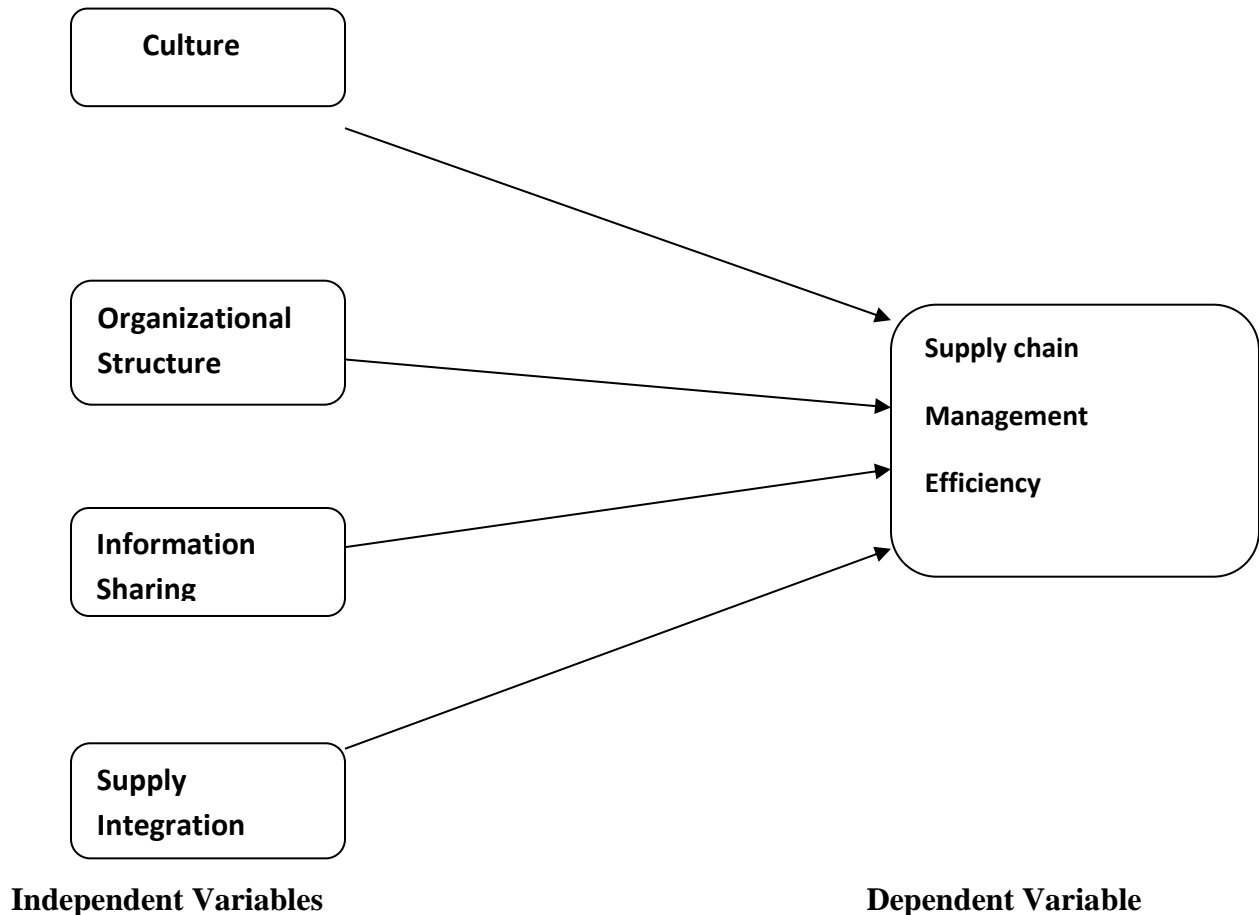


Figure 3.1 Conceptual Framework



## Chapter Three

### Research Design and Methods

#### 3.1. Research Design

Research design is the blueprint for fulfilling research objectives and answering research questions (John et al.,2007:20-84). The research design employed in this study is explanatory. Explanatory research design attempts to connect different ideas and to understand the different reasons, causes, and their effects. In the case of this study explanatory research design is suitable to assess the impacts of determinants on supply chain performance of the case company.

As the purpose of this research is to identify determinants of effective supply chain management practices, the researcher believes that mixed research approach is appropriate to gain greater insights and to conduct in depth analysis of supply chain management practices and the associated requirements in the case company.

Mixed method approach refers to integrating both quantitative and qualitative approach within a single study to produce a fuller account of the research problem. According to Johnson, et al (2007) mixed method is the type of research in which a researcher or a team of researchers combine elements of quantitative and qualitative approaches for the broad purpose of breadth and depth of understanding and corroboration (P.123). This echoes Creswell and Clark's (2007) view that mixed method is "a procedure for collecting, analyzing and "mixing" both quantitative and qualitative methods in a series of studies to understand a research problem." (P.5).

Leech and OnWuegbuzie (2009) accentuate that mixed methods research involves the collection and interpretation of both quantitative and qualitative data in a single research or in a series of research that investigates the same underlying phenomenon. The basic premise of this methodology is that such integration permits a more complete and synergetic utilization of data than do separate quantitative and qualitative data collection & analysis. Hence, this researcher has used mixed research method.

### **3.2. Sources of Data and Data collection techniques:**

Both primary and secondary data sources were used for this study. Primary data pertaining to the supply chain management practices and requirements related to National Tobacco Enterprise (Ethiopia) S.co. were collected using structured questionnaire from different members of supply chain. In order to quantify and evaluate data, a rating scale technique what is known as Likert Scale (Leedey and Ormarod,2010) is used for primary data collection.

In addition, a semi-structured interview was also employed as a primary data collection tool. In the interview a set of questions prepared in advance were addressed to the interviewees. Interview participants are professionals who have gained proven experiences from working directly on supply chain roles. On the other hand, secondary data sources such as various literatures and company profiles were used as a reference.

Selecting samples from the target population can be either probabilistic and/or non-probabilistic.

In probabilistic sampling all the elements of the population have a non-zero chance of being included in the sample. In non-probabilistic sampling certain elements of the population have a little or no chance of being included in the sample. (Tustin et al.2005; Blanche and Durrheim,2002). The different methods in probabilistic sampling includes simple random sampling, Systematic sampling, Stratified sampling and Cluster sampling (Cant, 2005). Non probabilistic sampling methods include convenience sampling, judgment sampling, purposive sampling, quota sampling and snowball sampling (Tustin et al.,2005;

Mc Daniel and gates, 2001: 347-350; Cant, 2005).

Combination of probabilistic and non-probabilistic sampling methods were used in this research to select samples.

### **3.3. Target Population and Sampling Methods:**

A population is the set of all units or individuals in which a research has an interest to make inference.

Diamantopoulos and Schlegelmilch (2000) defined population as the totality of entities, objects or events in which one has an interest to make an inference based on representative sample and these samples are also part of the population.

Samples are subsets of a corresponding population that are used to describe and make inferences concerning the population from which they are drawn. Sample from a population refers to the population from which the sample for the proposed study is drawn (Cooper and Schindler, 2003, p.82)

NTE employees, input suppliers and Cigarette distributors (Wholesalers) constitute the population for this research work. Suppliers and distributors located outside of Addis Ababa and the final consumers are excluded from the sampling population.

Simple random sampling method was used to select samples from suppliers and approved suppliers list were used as a sampling frame. Purposive sampling method was used to select samples from company employees. Purposive sampling is preferred to identify respondents with better understanding of contents of the questionnaire and those involved in supply chain management activities in one or another way.

As the number of cigarette distributors (Wholesalers) located in Addis Ababa are small, Census instead of sampling is used.

There are 110 approved suppliers of NTE located in Addis Ababa who directly involved in the supply of production related goods and services.

Yemane (1967) suggested formula for determination of sample size for a 95% confidence level 55 precision level as:

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

Where n-Sample size

N- population size

e- level of precision

Accordingly, sample size of the suppliers shall be:

$$n = \frac{110}{1 + 110(0.05)^2} = 86$$

A total of 154 samples planned to be selected for the survey where by 50 from employees, 86 from suppliers and 18 from Cigarette distributors (Wholesalers). Furthermore, at least two of company employees which are on key supply chain roles are expected to be addressed for the interview.

The actual population and samples taken are summarized below.

S/N	Type of respondents	Population size	Sample selected	Sampling Method	Response Obtained	Response Rate
1.	Employees	50	50	Purposive	51	100
2.	Wholesalers	18	18	Census	15	83.3
3.	Suppliers	110	86	Random	65	75.6
	Combined	178	154		131	84.4

(Source: Researcher Compilation)

Table 1. Population, sample size and response rate.

The total sample size selected for this research is 154. However, only 131 samples were accessed, and questionnaires were distributed to these accessed selected samples. This shows that there is 84.4% response rate.

Van der Vaart and van Donk (2008) has used 30% response rate for their data analysis. Therefore, 84.4%

Response rate is quite satisfactory to make data analysis for this study.

### **Reliability and Validity Test:**

Cronbach's alpha is generally used as an instrument or measure of internal consistency or reliability of a given concept. It is an indication of how well a set of items measures the same concept. The constructs in the study should all measure the same thing, so they should be correlated with one another. Cronbach's alpha generally increases when the correlations between the items increases. For this reason

The coefficient is also called the internal consistency or the internal consistency reliability of the test. The Cronbach's alpha coefficient varies between zero and one where zero indicates that there is no internal consistency and one indicates perfect correlation (Cronbach, 1951). As a rule of thumb, a reliability of Cronbach's alpha 0.7 or higher is required (Nunnally, 1978; Churchill, 1979).

Reliability test was conducted using SPSS version 20 and Cronbach's alpha test came out with  $\alpha = .703$

For supply chain requirements while  $\alpha = .774$  for supply chain management practices construct. Which implies both constructs have acceptable reliability.

### **3.4. Method of Data analysis and presentation:**

The collected data are summarized, analyzed and interpreted with a view of determining the degree to which supply chain management is practiced and to what extent supply chain requirements are considered in NTE. Presentation, analysis and interpretation of the results are discussed under different sections. The findings of the study are presented and analyzed using tables and figures.

The data were collected from different groups as shown in table 3.1. and using semi-structured interview. After data collection, the filled in and returned questionnaire were edited for completeness, coded and entered statistical package for Social Sciences (SPSS) version 20.

Descriptive statistical methods were used in data analysis. Mean and standard deviations were used as measures of central tendencies and dispersions respectively. Correlation analysis were also used to assess the strength of the relationships between the specified variables.

## **CHAPTER FOUR**

### **DATA PRESENTATION, DISCUSSION AND ANALYSIS**

#### **4.1. Introduction**

In this chapter the collected data are presented, analyzed and interpreted with a view of determining the determinants of efficient supply chain management practices in NTE. Presentation, analysis and interpretation of the results are discussed under different sections. The findings of the study are presented using tables and Figures.

The data were collected from NTE Employees, Suppliers and Cigarette distributors (Wholesalers). Following data collection, the filled-in and returned questionnaires were edited for completeness, coded and entered into Statistical Package for Social Sciences (SPSS) version 20.

Both descriptive statistics and causal relationship methods were used in the data analysis. Mean and standard deviation were used as measures of central tendency and dispersion respectively. Correlation Analysis was also used to assess the strength of the relationships between the specified variables.

The first section deals with the background information of respondents while the findings and analysis shall be presented in the next section.

#### **4.2. Descriptive Statistics**

This section starts with the description of sample characteristics for the study in respect to NTE employees, Suppliers and Wholesalers.

#### 4.2.1 Respondents by Sex

**Table below** shows the sex of respondents participated in the study. It shows that 110 (84%) of the respondents were male while 21(16%) were female. The result indicates that there were more male participants than female in the study.

	Frequency	Percent	Valid Percent	Cumulative Percent
Male	110	84.0	84.0	84.0
Female	21	16.0	16.0	100.0
Total	131	100.0	100.0	

*Table 2. Sex of Respondents*

#### 4.2.2. Respondents by Age

Table below shows respondents age distribution. It shows respondents of each age category participated in the study.

	Frequency	Percent	Valid Percent	Cumulative Percent
20-30	32	24.4	24.4	24.4
30-40	46	35.1	35.1	59.5
40-50	33	25.2	25.2	84.7
50 and Above	20	15.3	15.3	100.0
Total	131	100.0	100.0	

*Table 3. Age of Respondents*

### 4.2.3. Respondents Educational Level

Figure 4.1. shows the educational level of the respondents. Majority of the respondents were with college diploma and above educational background. This indicates that the respondents are deemed to understand supply chain management and respond to the questionnaires properly.

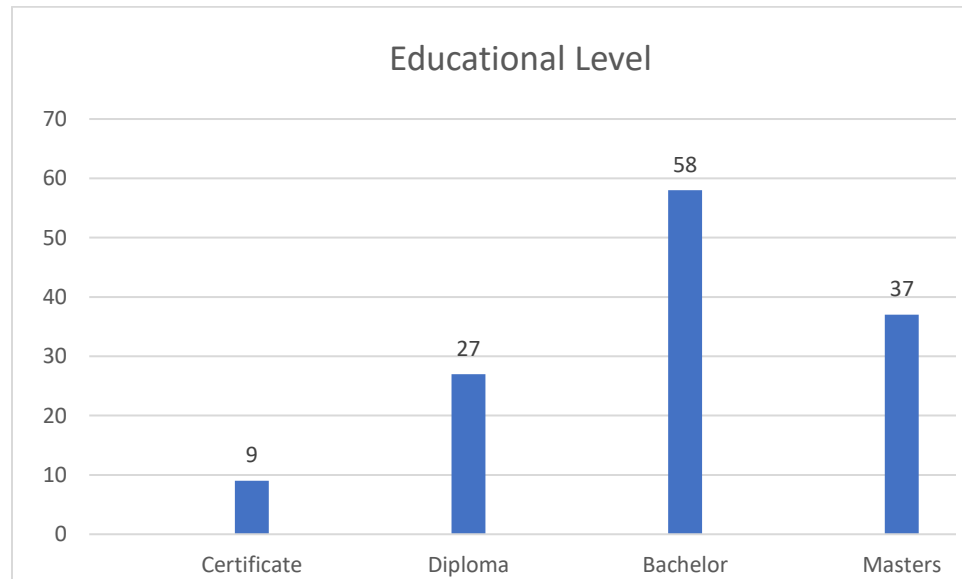


Figure 4.1 Educational level of Respondents.

### 4.2.4. Respondents relationship with NTE

Data for this study was collected from the upstream to the downstream supply chain members of NTE that includes Suppliers, Employees and Customers of NTE. Figure 4.2. below indicate the details.



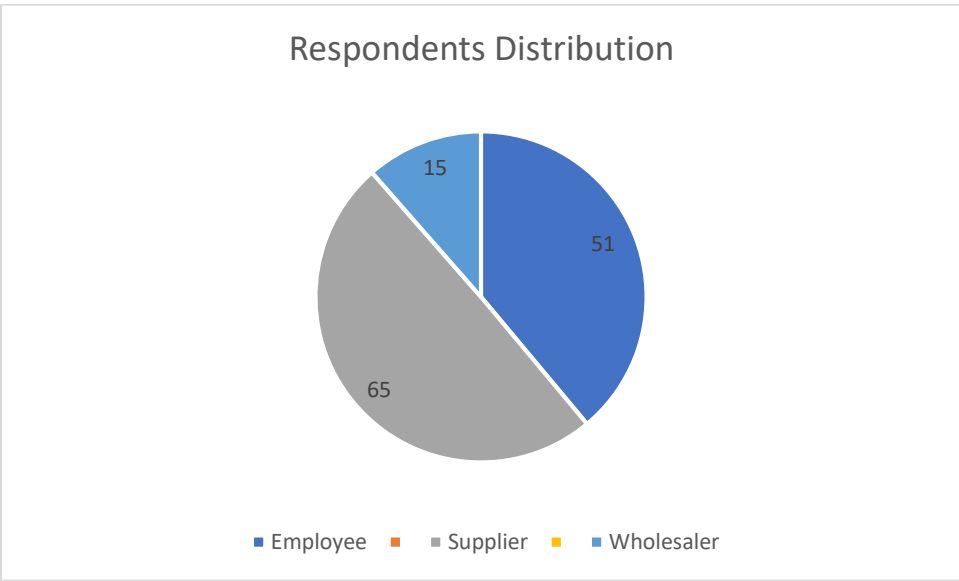


Figure 4.2. Respondents relationship with NTE

**4.2.5. Respondents Managerial level**

Table below shows the managerial status of the respondents. Respondents from all levels of managerial levels were participated in the study. Majority of the respondents are on the middle and above managerial levels which supports the reliability of the responses.

	Frequency	Percent	Valid Percent	Cumulative Percent
Top	46	35.1	35.1	35.1
Middle	52	39.7	39.7	74.8
Supervisory	33	25.2	25.2	100.0
Total	131	100.0	100.0	

Table 4. Respondents by Managerial Level

#### 4.2.6. Years of Service in/Partnership with NTE

Table below indicates years of Service or partnership with NTE of the respondents. Respondents were distributed in all given categories. Distribution of respondents reflects the recent change in ownership of NTE.

	Frequency	Percent	Valid Percent	Cumulative Percent
Under 2 Years	49	37.4	37.4	37.4
2 to 5 years	35	26.7	26.7	64.1
5 to 10 years	21	16.1	16.1	80.2
Over 10 years	26	19.8	19.8	100.0
Total	131	100.0	100.0	

Table 5. Respondents years of Service or Partnership with NTE

#### 4.2.6. Functional distribution of respondents of NTE Employees

Figure below shows functional/Department distribution of respondents which are Employees of NTE.

Respondents from each functional unit are participated in the survey which supports to accommodate diversified views.

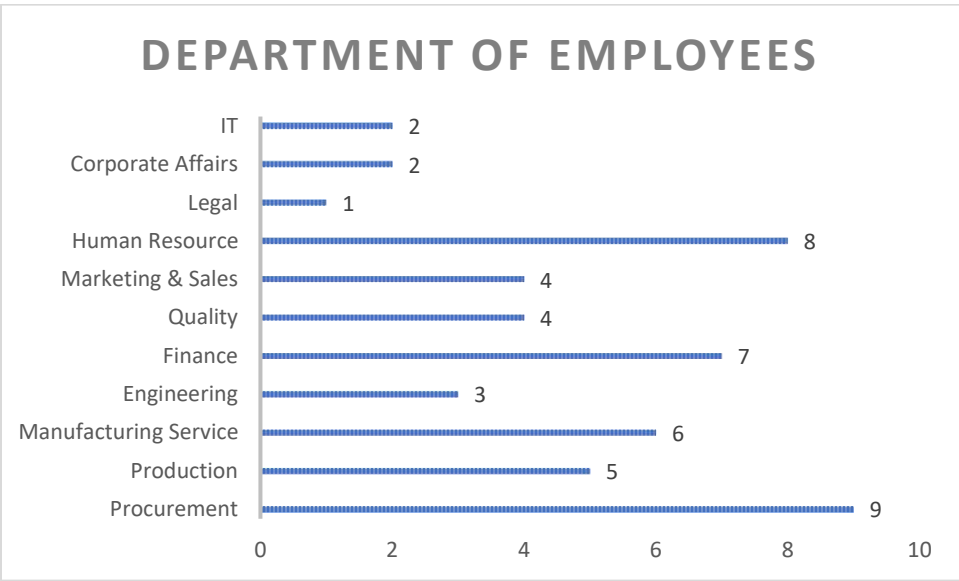


Figure 4.3 Employee Department Distribution

**4.3. Respondents perception of SCM practices and SCM requirements**

In this section respondents’ perception about the extent of SCM practices and requirements of SCM in NTE were discussed. Therefore, data related to SCM practices (Supplier Partnership, Customer Relationship and Internal Lean Practices) and SCM requirements (Information Sharing, Supply chain Integration, Cultural Variables and Organizational Structure) are summarized and the results are presented in the same format as they are in the questionnaire.

### 4.3.1. Supply Chain Management Practice

#### 4.3.1.1. Supplier Partnership

Table below shows respondents perception of the extent of practices of supplier partnership

In NTE from Suppliers and Employees perspective.

Where: - F= Frequency, %=Percentage (Source: Survey Results)

SN	Supplier Partnership		Level of Agreement					Mean	SD
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree		
1	NTE relies on few high-quality suppliers	F	-	8	13	28	2	3.4706	.80878
		%	-	15.7	25.5	54.9	3.9		
2	NTE rely on dependable suppliers	F	1	7	12	29	2	3.4706	.85681
		%	2	13.7	23.5	56.9	3.9		
3	NTE considers quality as number one criteria in selecting suppliers	F	-	3	11	26	11	3.8824	.81602
		%	-	5.9	21.6	51	21.6		
4	NTE strives to establish long term relations with its suppliers	F	-	1	1	33	16	4.2549	.59475
		%	-	2	2	64.7	31.4		
5	NTE helps its suppliers to improve their product quality	F	-	9	15	22	5	3.4118	1.00352
		%	-	17.7	29.4	43.1	9.8		

6	NTE has continuous improvement programs that include its key suppliers	F	-	11	12	22	6	3.4510	.96569
		%	-	21.6	23.5	43.1	11.8		
7	NTE includes its key suppliers in its planning and goal setting activities	F	-	13	21	11	6	3.1961	.95958
		%	-	25.5	41.2	21.6	11.8		
8	NTE actively involves its key suppliers in new product development processes.	F	1	13	24	11	2	3.0000	.84853
		%	2	25.5	47.1	21.6	3.9		
9	NTE certifies its suppliers for quality.	F	1	19	20	9	2	2.8431	.88029
		%	2	37.3	39.2	17.6	3.9		
10	NTE regularly solve problems jointly with its suppliers	F	-	2	23	22	4	3.5490	.70182
		%	-	3.9	45.1	43.1	7.8		

*Table 6. Extent of supplier partnership practices in NTE, Employee perspective*

As shown in table 6 above Establishing long term relation with suppliers has the highest mean value of 4.2549, which implies the most practiced element of supplier partnership. Considering quality as number one criteria in supplier selection has the next higher mean value of 3.8824, being practiced better. Inclusion of key suppliers in planning and goal setting, Suppliers involvement in new product development and Certifying suppliers for quality are relatively among the least practiced elements with mean values 3.1961, 3.000 and 2.8431 respectively.

Where: - F= Frequency, %=Percentage (Source: Survey Results)

SN	Supplier Partnership		Level of Agreement					Mean	SD
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree		
1	NTE relies on few high-quality suppliers	F	-	15	23	26	1	3.2000	.81394
		%	-	23.1	35.4	40.0	1.5		
2	NTE rely on dependable suppliers	F	-	3	15	47	-	3.6769	.56202
		%	-	4.6	23.1	72.3	-		
3	NTE considers quality as number one criteria in selecting suppliers	F	-	5	13	44	3	3.6923	.68290
		%	-	7.7	20.0	67.7	4.6		
4	NTE strives to establish long term relations with its suppliers	F	-	4	5	53	3	3.8462	.59242
		%	-	6.2	7.7	81.5	4.6		
5	NTE helps its suppliers to improve their product quality	F	-	8	34	21	2	3.2615	.71320
		%	-	12.3	52.3	32.3	3.1		
6	NTE has continuous improvement programs that include its key suppliers	F	-	40	22	2	1	2.4462	.63813
		%	-	61.5	33.8	3.1	1.5		
7	NTE includes its key suppliers in its planning and goal setting activities	F	-	57	6	2	-	2.1538	.44126
		%	-	87.7	9.2	3.1	-		
8		F	-	38	21	5	1	2.5231	.70948

	NTE actively involves its key suppliers in new product development processes.	%	-	58.5	32.3	7.7	1.5		
9	NTE certifies its suppliers for quality.	F	-	58	5	-	2	2.1692	.57471
		%	-	89.2	7.7	-	3.1		
10	NTE regularly solve problems jointly with its suppliers	F	-	37	16	10	2	2.6462	.85569
		%	-	56.9	24.6	15.4	3.1		

Table 7. Extent of supplier partnership practices in NTE, Supplier perspective.

As shown in table 7. above establishing long term relation with suppliers has the highest mean value 3.8462, and hence relatively the most practiced element. Mean values of relying on dependable suppliers (3.6769) and considering quality as number one criteria in supplier selection (3.6923) are average values. Inclusion of suppliers in planning and goal setting activities and certifying suppliers for quality are with mean values 2.1538 and 2.1692 respectively and are the least practiced elements.

#### 4.3.1.2. Customer Relationship

In this sub-section respondents were requested to rate practice of customer relationship in NTE based on six variables. The table below indicates respondent's perception on NTEs customer relationship from Employees and Wholesalers perspectives.

Where: - F= Frequency, %=Percentage (Source: Survey Results)

SN	Customer Relation		Level of Agreement					Mean	SD
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree		
1	NTE has frequent follow up with its customers for quality/service feedback.	F	2	10	11	25	3	3.3137	1.04862
		%	3.9	19.6	21.6	49	5.9		
2	NTE frequently measures and evaluates customer satisfaction	F	-	11	18	20	2	3.2549	.84482
		%	-	21.6	35.3	39.2	3.9		
3	NTE frequently determine future customer expectations	F	-	11	22	10	8	3.2941	.98578
		%	-	21.6	43.1	19.6	15.7		
4	Customers' ability to seek assistance from NTE is frequently facilitated	F	-	10	19	20	2	3.2235	1.24125
		%	-	19.6	37.3	39.2	3.9		
5	NTE frequently evaluates formal and informal complaints of its customers	F	-	7	16	27	1	3.4314	.75511
		%	-	13.7	31.4	52.9	2		
6	NTE periodically evaluate the importance of its relationship with its customers	F	-	3	9	35	4	3.7843	.67272
		%	-	5.9	17.6	68.6	7.8		

Table 8. Extent of Customer Relation practices in NTE, Employee perspective.

As shown in table 8 above Periodic evaluation of importance of relationship with customers has a mean value of 3.7843 which is relatively the most practiced element of customer relation. The other elements Evaluation of formal and informal complaints and follow up of customer feedback are elements practiced with mean values 3.4314 and 3.3137 respectively. The remaining elements with a relatively lower mean values are being practiced on a comparable level.



Where: - F= Frequency, %=Percentage (Source: Survey Results)

SN	Customer Relation		Level of Agreement					Mean	SD
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree		
1	NTE has frequent follow up with its customers for quality/service feedback.	F	-	7	4	4	-	2.80000	.86189
		%	-	46.7	26.7	26.7	-		
2	NTE frequently measures and evaluates customer satisfaction	F	-	6	5	3	1	2.9333	.96115
		%	-	40.0	33.3	20.0	6.7		
3	NTE frequently determine future customer expectations	F	-	7	5	3	-	2.7333	.79881
		%	-	46.7	33.3	20.0	-		
4	Customers' ability to seek assistance from NTE is frequently facilitated	F	-	2	10	3	-	3.0667	.59362
		%	-	13.3	66.7	20.0	-		
5	NTE frequently evaluates formal and informal complaints of its customers	F	-	1	8	6	-	3.3333	.61721
		%	-	6.7	53.3	40.0	-		
6	NTE periodically evaluate the importance of its relationship with its customers	F	-	-	3	12	-	3.8000	.41404
		%	-	-	20.0	80.0	-		

Table 9. Extent of Customer relation practices in NTE, Wholesaler perspective

As shown in table 9 above Periodic evaluation of importance of relationship with customers is the most practiced element with mean value of 3.8000. Mean value of formal and informal evaluation of customer complaints (3.3333) indicates the element is being practiced better. Remaining elements are of lower mean values and nearly practiced at equivalent level.

### 4.3.1.3. Internal Lean practices

Respondents were asked to indicate the extent to which the five variables of internal lean practices were experienced in NTE. The respondent's reflection to these attributes are shown in the table below from Employee, Suppliers and Wholesalers perspective.

Where: - F= Frequency, %=Percentage (Source: Survey Results)

SN	Internal Lean Practices		Level of Agreement					Mean	SD
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree		
1	NTE has continuous quality improvement program	F	-	2	10	34	5	3.8235	0.6544
		%	-	3.9	19.6	66.7	9.8		
2	NTE produces only what has been ordered by customers	F	8	26	8	7	2	2.7059	1.9346
		%	15.7	51	15.7	13.7	3.9		
3	NTE pushes suppliers for shorter Lead times	F	3	6	11	25	6	3.4706	1.10187
		%	5.9	11.8	21.6	49	11.8		
4	NTE goods are stored at appropriate distribution point close to customers	F	1	13	7	27	3	3.3529	0.99646
		%	2	25.5	13.7	52.9	5.9		
5	Supply chain members share risks and rewards	F	2	5	27	15	2	3.1961	0.8251
		%	3.9	9.8	52.9	29.4	3.9		
6	Supply Chain Members clearly defines roles and responsibilities	F	1	4	12	32	2	3.5882	0.77914
		%	2	7.8	23.5	62.7	3.9		

.Table 10:Extent of Internal Lean practices in NTE, Employee perspective

As shown in table 10 above Continuous quality improvement program has a mean value of 3.8235 which implies the most practiced elements of Internal Lean Practices. Defining roles and responsibilities of

supply chain members and pushing suppliers for shorter lead time have average mean values of 3.5882 and 3.4706 respectively while production by Customer orders is the least practiced with mean value 1.9346.

Where: - F= Frequency, %=Percentage (Source: Survey Results)

	Internal Lean Practices		Level of Agreement					Mean	SD
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree		
1	NTE has continuous quality improvement program	F	-	7	54	3	1	2.9692	0.46668
		%	-	10.8	83.1	4.6	1.5		
2	NTE produces only what has been ordered by customers	F	19	32	12	2	-	1.9538	0.77924
		%	29.2	49.2	18.5	3.1	-		
3	NTE pushes suppliers for shorter	F	1	-	2	32	30	4.3846	0.70027
	Lead times	%	1.5	-	3.1	49.2	46.2		
4	NTE goods are stored at appropriate distribution point close to customers	F	-	7	19	39	-	3.4923	0.68746
		%	-	10.8	29.2	60	-		
5	Supply chain members share risks and rewards	F	-	22	37	5	-	2.7344	0.59741
		%	-	33.8	56.9	7.7	-		
6	Supply chain members clearly defines roles and responsibilities	F	-	6	17	41	1	3.5692	0.68395
		%	-	9.2	26.2	63.1	1.5		

Table 11: Extent of Internal Lean practices in NTE, Supplier perspective.

As shown in table 11 above pushing suppliers for the shorter lead times has a mean value of 4.3846 and the most practiced element. Mean values of having clearly defined roles and responsibilities (3.5692) and the stored goods closer to customers (3.4923) have above average values while production by customer orders with mean value of 1.9538 is the least practiced element.

Where: - F= Frequency, %=Percentage (Source: Survey Results)

SN	Internal Lean Practices		Level of Agreement					Mean	SD
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree		
1	NTE has continuous quality improvement program	F	-	-	11	4	-	3.2667	0.45774
		%	-	-	73.3	26.7	-		
2	NTE produces only what has been ordered by customers	F	5	8	2	-	-	1.8	0.67612
		%	33.3	53.3	13.3	-	-		
3	NTE pushes suppliers for shorter Lead times	F	-	-	13	2	-	3.1333	0.35187
		%	-	-	86.7	13.3	-		
4	NTE goods are stored at appropriate distribution point close to customers	F	-	-	1	14	-	3.9333	0.2582
		%	-	-	6.7	93.3	-		
5	Supply chain members share risks and rewards	F	-	1	11	3	-	3.1333	0.5164
		%	-	6.7	73.3	20	-		
6	Supply chain members clearly defines roles and responsibilities	F	-	-	4	11	-	3.7333	0.45774
		%	-	-	26.7	73.3	1.5		

Table 12: Extent of internal Lean practices in NTE, Wholesalers perspective

As shown in the table 12 above Goods stored closer to customers has the highest mean value (3.9333) and is being practiced most. Mean value of defined roles and responsibilities of supply chain members (3.7333) is average value while production by customer order has the least mean value (1.8000), and hence the least practiced.

### **4.3.2. Supply Chain Management Requirements**

Respondents' attitude towards supply chain requirements of NTE will be discussed from four dimensions Namely Information Sharing, Supply Chain Integration, Cultural Variables and organizational Structure.

#### ***4.3.2.1. Information Sharing***

Respondents' were asked to assess how information sharing is being practiced in NTE to support the supply chain management practices. Respondents perception is summarized in the table below from Employee, Suppliers and wholesalers' point of view.

Where: - F= Frequency, %=Percentage (Source: Survey Results)

SN	Information Sharing		Level of Agreement					Mean	SD
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree		
1	NTE informs its trading partners in advance of changing needs	F	-	5	13	32	1	3.5686	.70014
		%	-	9.8	25.5	62.7	2		
2	NTE and its trading partners keep each other informed about events or changes that may affect the other partners	F	1	6	16	26	2	3.4314	.83078
		%	2	11.8	31.4	51	3.9		
3	Information exchange between NTE & its trading partner is timely	F	1	9	25	14	2	3.1373	.82510
		%	2	17.6	49	27.5	3.9		
4	Information exchange with trading partners is reliable	F	-	5	23	20	3	3.4118	.75303
		%	-	9.8	45.1	39.2	5.9		
5	Information exchange with trading partners is complete	F	-	5	32	13	1	3.1961	.63308
		%	-	9.8	62.7	25.5	2		

Table 13: Extent of Information Sharing practices in NTE, Employee perspective

As shown in table 13 above Informing partners of changing needs, information exchange between trading partners and exchange of reliable information have mean values 3.5686, 3.4314 and 3.4221 respectively and practiced nearly on equal level. Remaining elements are being practiced relatively at a lower level.

Where: - F= Frequency, %=Percentage (Source: Survey Results)

SN	Information Sharing		Level of Agreement					Mean	SD
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree		
1	NTE informs its trading partners in advance of changing needs	F	-	15	12	26	2	3.2308	.84353
		%	-	23.1	33.8	40.0	3.1		
2	NTE and its trading partners keep each other informed about events or changes that may affect the other partners	F	-	8	27	28	2	3.3692	.74097
		%	-	12.3	41.5	43.1	3.1		
3	Information exchange between NTE & its trading partner is timely	F	1	39	20	3	2	2.4769	.75224
		%	1.5	60.0	30.8	4.6	3.1		
4	Information exchange with trading partners is reliable	F	-	24	21	18	2	2.9692	.88334
		%	-	36.9	32.3	27.7	3.1		
5	Information exchange with trading partners is complete	F	-	32	22	10	1	2.6923	.78905
		%	-	49.2	33.8	15.4	1.5		

Table 14: Extent of Information sharing practices in NTE, Supplier in NTE, Supplier perspective

As shown in table 14. above Most of the elements have low mean value, but relatively information exchange between trading partners has mean value (3.3692) and is practiced better.

Where: - F= Frequency, %=Percentage (Source: Survey Results)

SN	Information Sharing		Level of Agreement					Mean	SD
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree		
1	NTE informs its trading partners in advance of changing needs	F	-	4	4	7	-	3.2000	.86189
		%	-	26.7	26.7	46.7	-		
2	NTE and its trading partners keep each other informed about events or changes that may affect the other partners	F	-	3	3	9	-	3.4000	.82808
		%	-	20.0	20.0	60.0	-		
3	Information exchange between NTE & its trading partner is timely	F	-	6	5	4	-	2.8667	.83381
		%	-	40.0	33.3	26.7	-		
4	Information exchange with trading partners is reliable	F	-	6	4	5	-	2.9333	.88372
		%	-	40.0	26.7	33.3	-		
5	Information exchange with trading partners is complete	F	-	6	6	3	-	2.8000	.77460
		%	-	40.0	40.0	20.0	-		

Table 14: Extent of Information Sharing Practices in NTE, Wholesaler perspective.

As shown in the table 15 above most of the elements have lower mean values, but relatively information sharing to each other has a mean value of 3.4000 and is being practiced fairly.

#### 4.3.2.2. Supply Chain Integration

Respondents were requested to review the contribution of supply chain integration for supply chain management practices in NTE. Respondents' perceptions are summarized in tables below from Employee, Suppliers and Wholesalers perspective.



Where: - F= Frequency, %=Percentage (Source: Survey Results)

SN	Supply Chain Integration		Level of Agreement					Mean	SD
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree		
1	Firms in the supply chain establish more frequent contact	F	-	7	16	26	2	3.4118	.89836
		%	-	13.8	31.4	51	3.9		
2	Firms in the supply chain create a compatible communication and information system	F	-	12	15	22	2	3.2745	.87358
		%	-	23.5	29.4	43.1	3.9		
3	NTE participates in the marketing efforts of its whole sales	F	-	1	10	32	8	3.9216	.65858
		%	-	2	19.6	62.7	15.7		
4	NTE participates in the sourcing decision of its suppliers	F	-	4	23	21	3	3.4510	.72976
		%	-	7.8	45.1	41.2	5.9		
5	High level of coordination & communication between functions in NTE	F	-	9	10	25	7	3.5882	.94184
		%	-	17.6	19.6	49	13.7		
6	Cross functional teams are frequently used for process design and improvement in NTE	F	1	1	17	29	3	3.6275	.72002
		%	2	2	33.3	56.9	5.9		
7	High level of integration and information system in NTE	F	1	9	9	25	7	3.5490	1.00625
		%	2	17.6	17.6	49	13.7		

Table 15: Extent of Supply chain integration practices in NTE, Employee perspective

As shown in the table 14 above Participating in Marketing efforts of wholesalers has a mean value of 3.9216, and hence the most practiced element. Use of cross functional teams for process improvement and design, high level of coordination and communication between functions and high level of integration and information system have comparable mean values and being practiced nearly at equivalent level.

Where: - F= Frequency, %=Percentage (Source: Survey Results)

SN	Supply Chain Integration		Level of Agreement					Mean	SD
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree		
1	Firms in the supply chain establish more frequent contact	F	-	45	9	10	1	2.4923	.81246
		%	-	69.2	13.8	15.4	1.5		
2	Firms in the supply chain create a compatible communication and information system	F	-	61	1	2	1	2.1231	.51562
		%	-	93.8	1.5	3.1	1.5		
3	NTE participates in the marketing efforts of its whole salers	F	-	-	53	12	-	3.1846	3.39100
		%	-	-	81.5	18.5	-		
4	NTE participates in the sourcing decision of its suppliers	F	-	15	40	10	-	2.9375	.61399
		%	-	23.0	61.5	15.4	-		
5	High level of coordination & communication between functions in NTE	F	3	57	3	1	1	2.0769	.53932
		%	4.6	87.7	4.6	1.5	1.5		
6	Cross functional teams are frequently used for process design and improvement in NTE	F	-	2	53	10	-	3.1231	.41487
		%	-	3.1	81.5	15.4	-		
7	High level of integration and information system in NTE	F	2	56	4	1	2	2.1538	.64301
		%	3.1	86.2	6.2	1.5	3.1		

Table 16:Extent of Supply Chain Integration practices in NTE, Supplier perspective.

As shown in table 17 above most of the elements have low mean values. Relatively participating in Marketing efforts of the wholesalers has better mean value and being practiced fairly.

Where: - F= Frequency, %=Percentage (Source: Survey Results)

SN	Supply Chain Integration		Level of Agreement					Mean	SD
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree		
1	Firms in the supply chain establish more frequent contact	F	-	7	5	3	-	2.7333	.79881
		%	-	46.7	33.3	20.0	-		
2	Firms in the supply chain create a compatible communication and information system	F	-	10	3	2	-	2.4667	.74322
		%	-	66.7	20.0	13.3	-		
3	NTE participates in the marketing efforts of its whole salers	F	-	-	3	12	-	3.8000	.41404
		%	-	-	20.0	80.0	-		
4	NTE participates in the sourcing decision of its suppliers	F	1	-	11	2	1	3.1333	.83381
		%	6.7	-	73.3	13.3	6.7		
5	High level of coordination & communication between functions in NTE	F	11	-	2	2	-	2.4000	.73679
		%	73.3	-	13.3	13.3	-		
6	Cross functional teams are frequently used for process design and improvement in NTE	F	-	-	14	1	-	3.0667	.25820
		%	-	-	93.3	6.7	-		
7	High level of integration and information system in NTE	F	10	-	3	2	-	2.4667	.74322
		%	66.7	-	20.0	13.3	-		

Table 17:Extent of Supply Chain Integration practices in NTE, Wholesaler perspective.

As Shown in the table 18 above participating in Marketing efforts of wholesalers has mean value 3.8000 is being practiced most. The mean values of the remaining elements are relatively low and are reflections of poor practices.

### 4.3.2.3. Cultural Variables

Respondents are requested to assess the influence of cultural factors on supply management practices in NTE. Perceptions of respondents from Employees, Suppliers and Wholesalers Perspectives are summarized in tables below.

Where: - F= Frequency, %=Percentage (Source: Survey Results)

SN	Cultural Variables		Level of Agreement					Mean	SD
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree		
1	Power & Relationship influence commitment between supply chain partners	F	-	4	16	28	3	3.5882	.72599
		%	-	7.8	31.4	54.9	5.9		
2	Un written rules, practices and customs influence our supply chain	F	-	9	25	16	1	3.1765	.74043
		%	-	17.6	49	31.4	2		
3	Trust(internal) between leaders and subordinates influences our supply chain	F	-	4	20	24	3	3.5098	.73137
		%	-	7.8	39.2	47.1	5.9		
4	Trust(external) between supply chain partners influences our supply chain	F	-	5	16	27	3	3.5490	.75667
		%	-	9.8	31.4	52.9	5.9		

Table 18:Extent of Impact of Cultural Variables in NTE, Employee perspective.

As shown in the table 19 above influence of power and relationship, influence of internal trust and influence of external trust on supply chain have mean values 3.3882, 3.5098 and 3.5490 respectively are being practiced better while unwritten rules practiced least.

Where: - F= Frequency, %=Percentage (Source: Survey Results)

SN	Cultural Variables		Level of Agreement					Mean	SD
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree		
1	Power & Relationship influence commitment between supply chain partners	F	-	13	9	41	2	3.4923	.85006
		%	-	20.0	13.8	63.1	3.1		
2	Un written rules, practices and customs influence our supply chain	F	-	16	35	11	1	2.8923	.77304
		%	-	24.6	53.8	16.9	1.5		
3	Trust(internal) between leaders and subordinates influences our supply chain	F	-	5	39	21	-	3.2462	.58712
		%	-	7.7	60.0	32.3	-		
4	Trust(external) between supply chain partners influences our supply chain	F	-	2	5	58	-	3.8615	.42855
		%	-	3.1	7.7	89.2	-		

Table 19:. Extent of Impact of Cultural Variables in NTE, Supplier perspective

As shown in the table 20 above External trust between supply chain partners has a mean value of 3.8615 which implies strong impact on supply chain practices. The next better mean value signifies the impact of power and relationship on supply chain practices. Remaining elements are with relatively lower impacts.

Where: - F= Frequency, %=Percentage (Source: Survey Results)

SN	Cultural Variables		Level of Agreement					Mean	SD
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree		
1	Power & Relationship influence commitment between supply chain partners	F	-	-	4	10	1	3.8000	.56061
		%	-	-	26.7	66.7	6.7		
2	Un written rules, practices and customs influence our supply chain	F	-	-	11	4	-	3.2667	.45774
		%	-	-	73.3	26.7	-		
3	Trust(internal) between leaders and subordinates influences our supply chain	F	-	-	9	6	-	3.4000	.50709
		%	-	-	60.0	40.0	-		
4	Trust(external) between supply chain partners influences our supply chain	F	-	-	2	13	-	3.8667	.35187
		%	-	-	13.3	86.7	-		

Table 20.. Extent of Impact of Cultural Variables in NTE, Wholesaler perspective.

**As shown** in the table 21 above external trust within supply chain partners and the influence of power and relationship have mean values 3.8667 and 3.8000 and with comparable impacts on supply chain practices in NTE. The remaining two elements relatively have lower impacts.

#### 4.3.2.4. Organizational Structure

Employees in NTE were requested to assess the impact of organizational structure on supply chain management practices of the company. Employees perception are summarized in the table below.

Where: - F= Frequency, %=Percentage (Source: Survey Results)

SN	Organizational Structure		Level of Agreement					Mean	SD
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree		
1	Employees of NTE affect supply chain performance	F	-	9	13	27	2	3.4314	.83078
		%	-	17.6	25.5	52.9	3.9		
2	Senior management involvement in operational decision affects supply chain	F	-	8	12	28	3	3.5294	.87984
		%	-	15.7	23.5	54.9	5.9		
3	Organizational structure influences communication and consequently supply chain practices	F	-	9	10	26	6	3.5686	.92206
		%	-	17.6	19.6	51	11.8		

Table 21. Extent of Impact of Organizational Structure in NTE, Employee perspective.

As shown in the table 22. above the influence of senior management involvement in operational decision and the influence of organizational structure have mean values 3.5294 and 3.5686 respectively and have more impacts on supply chain practices. Employees of NTE relatively has lower, but significant impact as well.

#### 4. 3.4. Inferential Statistics

##### 4.3.4.1. Linear Correlation Analysis

The composite mean value of the supply chain management practices (Supplier Relations, Customer Relationship and Internal Lean Practices) and supply chain requirements (Information Sharing, Supply Chain Integration, Cultural Variables and organizational structure) were used for correlation analysis.

The inter correlation of these items is calculated using SPSS version 20 and the results are shown in tables below.

Abbreviations used in this Chapter

Supply Chain Management Practice

Supply Partnership	<b>SP</b>
Customer Relation	<b>CR</b>
Internal Lean Practices	<b>ILP</b>

Supply Chain Management Requirements

Information Sharing	<b>IS</b>
Supply Chain Integration	<b>SCI</b>
Cultural Variables	<b>CV</b>
Organizational Structure	<b>OS</b>



		Supplier Partnership	Customer Relation	Internal Lean Practices	Information Sharing	Supply Chain Integration	Cultural Variable	Organizational Structure	
Supplier Partnership	Pearson Correlation Sig. (2-tailed)	1	.427* .039	.076 .443	0.360* .045	0.409* .049	.445 .277	.721 .244	.244
Customer Relation	Pearson Correlation Sig. (2-tailed)	0.427* .039	1	.255 .313	0.370* .047	0.405* .050	.412 .294	-.545 .317	-.545 .317
Internal Lean Practices	Pearson Correlation Sig. (2-tailed)	.076 .443	.255 .313	1	0.396* .038	0.448* .041	.943* .029	-.528 .323	-.528 .323
Information Sharing	Pearson Correlation Sig. (2-tailed)	0.360* .045	.080 .449	.168 .393	1	-.819* .045	.005 .498	-.901 .143	-.901 .143
Supply Chain Integration	Pearson Correlation Sig. (2-tailed)	0.409* .049	0.405* .050	.395 .219	-.819* .045	1	.435 .282	.566 .308	.566 .308
Cultural Variable	Pearson Correlation Sig. (2-tailed)	.445 .277	.412 .294	.943* .029	.005 .498	.435 .282	1	-.410 .365	-.410 .365
Organizational Structure	Pearson Correlation Sig. (2-tailed)	.721 .244	-.545 .317	-.528 .323	-.901 .143	.566 .308	-.410 .365	1	1

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

Table 22: Extent of Impact of Organizational Structure in NTE, Employee perspective.

		Supplier Partnership	Internal Lean Practices	Information Sharing	Supply Chain Integration	Cultural Variables
Supplier Partnership	Pearson Correlation	1	-.054	0.321*	0.432**	.070
	Sig. (2-tailed)		.460	.049	.010	.465
Internal Lean Practices	Pearson Correlation	-.054	1	-.766	.902**	.453
	Sig. (2-tailed)	.460		.065	.007	.273
Information Sharing	Pearson Correlation	0.321*	-.766	1	-.505	-.205
	Sig. (2-tailed)	.049	.065		.193	.398
Supply Chain Integration	Pearson Correlation	0.432*	.902**	-.505	1	.532
	Sig. (2-tailed)	.010	.007	.193		.234
Cultural Variables	Pearson Correlation	.070	.453	-.205	.532	1
	Sig. (2-tailed)	.465	.273	.398	.234	

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

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

Table 23: Pearson Correlation of supply chain management, Supplier Perspective

		Customer Relation	Internal Lean Practices	Cultural Variables	Information Sharing	Supply Chain Integration
Customer Relation	Pearson Correlation	1	0.614*	.348	.403	.210
	Sig. (2-tailed)		.048	.326	.251	.345
Internal Lean Practices	Pearson Correlation	0.614*	1	.857	-.696	.430
	Sig. (2-tailed)	.048		.072	.096	.197
Cultural Variables	Pearson Correlation	.348	.857	1	-.357	.004
	Sig. (2-tailed)	.326	.072		.322	.498
Information Sharing	Pearson Correlation	-.403	-.696	-.357	1	-.419
	Sig. (2-tailed)	.251	.096	.322		.241
Supply Chain Integration	Pearson Correlation	-.210	.430	.004	-.419	1
	Sig. (2-tailed)	.345	.197	.498	.241	

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

Table 24::Pearson Correlation of supply chain management, Wholesalers Perspective

**As it can** be seen in the above tables the correlation of the supply chain management practices (supplier Partnership, Customer relation and Internal lean practices) and supply chain management requirements (Information sharing, Supply chain integration, Cultural variables and Organizational structure) from Employee, Supplier and Wholesalers perspectives are most of them positive.

**When a one-to-one correlation are considered from table 23:**

Supplier partnership has a correlation of 0.427,  $P < 0.05$  with Customer Relation, 0.360,  $P < 0.05$  with information sharing and 0.409,  $P < 0.05$  with Supply Chain Integration.

Customer Relation has a correlation of 0.427,  $P < 0.05$  with Supplier Relationship, 0.370,  $P < 0.05$  with information sharing, 0.405,  $P < 0.05$  with Supply Chain Integration.

Internal Lean Practices has a correlation of 0.396,  $P < 0.05$  with information sharing, 0.448,  $P < 0.05$  with supply chain integration, 0.943,  $P < 0.05$  With Cultural Variable.

**When one-to-one correlations are considered from table 24:**

Supplier partnership has a correlation of 0.321,  $P < 0.05$  with information sharing, 0.432,  $P < 0.01$  with supply chain integration.

Internal lean Practice has a correlation of 0.902,  $P < 0.01$  with supply chain integration.

**When a one-to-one correlation is considered from table 25:**

Only customer relation has a correlation of 0.614,  $P < 0.05$  with Internal lean Practices.

The Results of the correlation analysis between the variables of this study shown in the above tables indicates that some of the supply Chain management elements are positively and significantly correlated with supply chain management practices. But, most of the correlations are in the ranges of low correlation. However, the existence of significant correlation proves the need to exert more efforts on the supply chain management requirements in order to bring improvements in Supply Chain Management Practices. On the other hand, correlations within high ranges, but with no significance indicates the need for more evidence.

#### 4.3.4.2. Regression analysis

Linear regression is a method of data analysis. It is used for assessing the strength of the relationship between each of a set of explanatory variables (independent variables) with a single variable (dependent variable). When only a single explanatory variable is involved it is referred as simple linear regression. When more than one independent variable is involved it is known as multiple regressions. Applying, multiple regression analysis to a set of data results in what are known as regression coefficients. Each explanatory variable has one coefficient. These coefficients give the estimated change in the dependent variable associated with a unit change in the independent variable. The fit of a multiple regression model can be judged through multiple correlation coefficients or by the examination of residuals (Leech et al., 2005).

Multiple linear regression analysis is used in this research to assess the strength of relationship of the dependent variables (Supply chain partnership , Customer Relation and Internal lean practices) with the independent variables ( Information sharing among stake holders, Supply chain Integration and Cultural variables)to test the correlation of Supply chain management practices with supply chain management requirements.

**4.3.4.2.1.** Regression analysis output for Dependent variable (Supplier partnership) and Independent variables (Information sharing, supply chain Integration and cultural variables:

#### Model Summary

Model	R	R Square	Adjusted R square	Std. Error of the estimate	Change Statistics		
					R square change	Df1	Df2
1	1.000 <sup>a</sup>	1.000			1.000	3	0

Table 25:Model Summary table with suppliers

a. Predictors:(Constant), Information Sharing, Supply Chain Integration, Cultural variables.

100% of the variance in dependent variable are explained by Information Sharing, Supply chain integration and Cultural variables.

**ANOVA<sup>a</sup>**

Model	Sum of squares	df	Mean square	Sig.
1. Regression	0.427	3	0.142	0.000 <sup>b</sup>
Residual	0.000	0		
Total	0.427	3		

*Table 26:ANOVA table with Supplier partnership*

- a. Dependent Variable: Supplier partnership.
- b. Predictors:(Constant), Information Sharing, Supply Chain Integration, Cultural Variables.

The regression model is significant with P value <0.001.

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	B		
1. (Constant)	30.669	0.000			
Information Sharing	-7.140	0.000	-3.419	2.712	0.045
Supply Chain Integration	-4.630	0.000	-3.456	2.115	0.049
Cultural Variables	3.923	0.000	1.965	0.964	0.277

*Table 27:Coefficients table with Supplier partnership.*

a. Dependent Variable: Supplier partnership.

With the given standardized coefficients, level of significance and alpha 0.05:  
Information sharing and Supply chain integration are significant predictors.

**4.3.4.2.2.** Regression analysis output for Dependent variable (Customer Relation) and Independent variables (Information sharing, supply chain Integration and cultural variable):

**Model Summary**

Model	R	R Square	Adjusted R square	Std. Error of the estimate	Change Statistics		
					R square Change	Df1	D f2
1	1.000 <sup>a</sup>	1.000			1.000	3	0

Table 28: Model summary table with Customer Relation.

a. Predictors:(Constant), Information Sharing, Supply chain Integration, Cultural Variables.

100% of the variance in dependent variable are explained by Information Sharing, Supply chain integration and Cultural variables.

**ANOVA<sup>a</sup>**

Model	Sum of squares	df	Mean square	Sig.
2. Regression	0.217	3	0.072	0.000 <sup>b</sup>
Residual	0.000	0		
Total	0.217	3		

Table 29: ANOVA table with Customer Relation

a. Dependent Variable: Customer Relation

b. Predictors:(Constant), Information Sharing, Supply chain Integration, Cultural Variables.

The regression model is significant with P value <0.001.

### Coefficients<sup>a</sup>

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	B		
3. (Constant)	22.884	0.000			
Information Sharing	-4.953	0.000	-3.326	0.591	0.047
Supply Chain Integration	-3.760	0.000	-3.935	-0.451	0.050
Cultural Variables	3.048	0.000	2.140	-0.267	0.294

Table 30: Coefficients table with Customer Relation.

a. Dependent Variable: Customer Relation.

With the given standardized coefficients, level of significance and alpha 0.05:

Information sharing and Supply chain integration are significant predictors.

**4.3.4.2.3.** Regression analysis output for Dependent variable (Internal Lean practices) and Independent variables (Information sharing, supply chain Integration and cultural variables):

#### Model Summary

Model	R	R Square	Adjusted R square	Std. Error of the estimate	Change Statistics		
					R square change	Df1	D f2
1	1.000 <sup>a</sup>	1.000			1.000	3	0

Table 31: Model summary table with Internal Lean Practices.



a. Predictors: (Constant), Information Sharing, Supply chain integration, Cultural Variable.

100% of the variance in dependent variable are explained by Information Sharing, Supply chain integration and Cultural variables.

**ANOVA<sup>a</sup>**

Model	Sum of squares	df	Mean square	Sig.
4. Regression	0.653	3	0.218	.000 <sup>b</sup>
Residual	0.000	0		
Total	0.653	3		

Table 32:ANOVA table with Internal Lean Practices.

a. Dependent Variable: Internal Lean Practices.

b. Predictors:(Constant), Information Sharing, Supply Chain Integration, Cultural Variable.

The regression model is significant with P value <0.001.

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	B		
5. (Constant)	-18.951	0.000			
Information Sharing	3.363	0.000	1.302	0.294	0.038
Supply Chain Integration	2.281	0.000	1.377	2.943	0.041
Cultural Variables	0.833	0.000	0.337	-0.382	0.029

Table 33:Coefficients table with Internal Lean practices.

*Dependent Variable: Internal lean practices.*

With the given standardized coefficients, level of significance and alpha 0.05:

Information sharing, Supply chain integration and Cultural variables are Significant predictors.

In summary, independent variables are proved to be significant predictors.  
Cultural variables are also more explained by the qualitative data analysis.  
Regulatory framework specific to the industry is picked from the qualitative  
Data analysis and its impact can be easily detected, and hence wise to  
Consider it as a determinant.

#### **4.3.5. Qualitative Data Analysis**

A semi structured interview methodology was employed to serve the research purpose in exploring determinants of efficient supply chain management. Two interviews were conducted with employees who have experiences of supply chain management in NTE. Both interviewees were asked the same group of questions and candidates gave their own opinions, with guidance from the interview questions. They were instructed not to limit their answers, to the specific experience of their organizations but to include what they have seen in their entire work experience.

Here are main questions and responses of the interview:

##### **Interview 1.**

##### **Position in the company: Sales area manager.**

- How do you see the situation of SCM in National Tobacco Enterprise (Ethiopia)?

Organized supply chain management practice is introduced to NTE along with the acquisition

Of the company by Japan Tobacco International, JTI. We have been practicing it for the last two years.

The supply chain extends from the supply of tobacco leaf and other non-tobacco materials to the distribution of finished products to the market.

- How do you judge compared to the modern supply chain practices?

As mentioned above SCM is a recent practice in NTE. So far, the SCM practices are being improved by

Integration of the international practices and supported by technology. However, hope more

Remained to be done.

- In your Opinion, what challenges confront SCM performance in National Tobacco Enterprise (Ethiopia)?

From sales perspective the major challenges are:

- The occurrence of illicit trade and
  - The regulatory framework
- Are These challenges specific to the sector?

Out of the above-mentioned challenges mainly the regulatory framework is specific to the sector, whereby the contents and the outer packages of the product are regulated. Imposition of High excise tax is also pushed for price hike.

Furthermore, though not specific to the sector illicit trade with about 40% market share is also very challenging.

- Who imposes these challenges in the supply chain?

The regulatory framework is enacted by law which is in line with the framework convention on tobacco control released under the auspices of world health organization.

Illicit trades are caused as a result of smuggled cigarettes into the country through the boarder mainly in eastern parts of the country.

These illicit products are being offered to the market with low price compared to the legal products.

- In your opinion, which challenges are the most important to supply chain performance?

In my opinion the illicit trade is the most challenging to the supply chain management practices of the Company. Consumers can get illicit products with low price as these products are free from any form of tax, which causes unfair competition.

- What do you do to avoid such challenges?

The company is trying to support law enforcement authorities on anti- illicit trade movements.

The support extends from awareness creation about the nature of illicit product to providing logistics.

- How success full do you find it?

The coordinated movement on anti-illicit trade has a positive impact in reducing the distribution, but

The success remained inconsistent depending on the security situation at the boarders.

- How do you evaluate the relationship with your supply chain partners?

Generally, the relationship with the supply chain partners can be rated as good. The company is working to lay out a system integrating the international practice with the local situation which promotes better partner relationship.

- Does any of the following aspects influence SCM performance?

**Culture:** No doubt culture will have an influence on SC M. Specific to the sector, tobacco, culture has an adverse effect on the performance of the supply chain performance of the company. The negative attitude towards the product emanates mainly from the religious influences.

**Organizational Structure:** Organizational structure enables quicker and precise decision making. The

Company is reviewing the channels of distribution to make the distribution more effective and efficient.

**Information Sharing:** Information is also important as decision making is based on shared information.

With such high market share of illicit trade information sharing with wholesalers, retailers, consumers

And relevant government offices are crucial to snatch at least some percentage of market share from the prevailing illegal trade.

**Supply chain Integration:** From sales perspective the company is focusing mainly on the manufacturing

While the distribution is managed by the wholesalers and retailers specific to each region. Of course

The company is providing technical support such as awareness creation and on door-to-door sales.

## **Interview 2**

**Position: Factory Purchase Division Manager**

- How do you see the situation of SCM in National Tobacco Enterprise (Ethiopia)?

Managing the supply chain requires close attention. The Manager needs to carefully search the market for the products that best fits. The company, NTE, recently acquired by an international company named Japan Tobacco International, JTI. Since then, the company is introducing comprehensive supply chain management system. The new system is well organized & technology supported whereby reduce non-value adding activities. Of course, there are areas which needs to make improvements such as on activities related to logistics.

- How do you judge compared to the modern supply chain practices?

As mentioned above, the supply chain management practices of NTE is improving as a result of integration with an international experience. But much remained to improve compared to the modern SC practices. On the other hand, laws and regulation of the host country has also impact on its implementation (Realization).

- In your opinion, what challenges confront SCM performance in National Tobacco Enterprise (Ethiopia)?

There are several challenges that confront SCM performance. Some of the challenges are external such as Shortage of foreign exchange supply and laws and regulations in relation to logistics. There are also internal challenges like delay of documentation process between NTE supply chain and the Global supply chain at the head quarter.

- Are these challenges specific to the sector?

The challenge reflected as external, Foreign exchange supply shortage, is common to all sectors while the internal challenge, Delay of documents, is specific to the company.

- Who imposes these challenges on the supply chain?

The foreign exchange shortage is a national issue, and hence allocation of this scarce resource is regulated by National Bank of Ethiopia. Internal challenges are self-imposed and can be rectified internally.

- In your opinion, which challenges are the most important to supply chain.

Foreign exchange supply shortage is the most critical and have significant impact on supply chain performances.

- What do you do to avoid such challenges?

To minimize the impact of the critical foreign exchange supply shortage, the company is taking the following measures:

- Deposit working capital in different banks to use alternative sources to earn foreign exchange.
- Arrange internal loan facility with JTI head quarter.
  - How successful do you find it?

The above alternative sources are successful and enable the company to continue its operation despite the challenges. Mainly securing foreign exchange loan facility from the head quarter was mainly allocated for acquiring raw materials for the operation whereby the company may stop functioning otherwise.

- How do you evaluate the relationship with your supply chain partners?

The company, JTI, is working with globally selected suppliers in order to source imported items.

Likewise, the company is also working to select capable local suppliers for sourcing goods and services.

Relationship with supply chain partners is expected to improve with the completion of the integration process.

- Does any of the following aspects influence SCM performances?

**Culture:** Lack of supply chain awareness, education and training can be considered as cultural barriers.

**Organizational Structure:** The current organizational structure facilitates the supply chain management practices. Currently, sourcing of goods and services is being practiced from selected suppliers as opposed to the previous tender system whereby takes longer time and may end up with poor quality.

**Information Sharing:** With the integration of an international company, JTI, information sharing platform is broader whereby easy supplier access, comply to regulation, fast delivery is being materialized.

**Supply Chain Integration:** Supply chain practice is a recent phenomenon for NTE. However, the international company, JTI, has been engaged on intensive acquisitions mainly horizontal to expand its operation, and hence its global competitiveness.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION and SUGGESTIONS**

#### **5.1. Introduction**

In this chapter summary of findings, conclusion and recommendations are discussed based on the findings from the study.

Based on the findings and conclusions drawn recommendations are suggested for practitioners and for further researchers.

#### **5.2. Summary & Conclusion of the findings**

The research was aimed to identify determinants of efficient supply chain management practices in National Tobacco Enterprise

(Ethiopia) S. Co. (NTE). To this end, supply chain management practices and in NTE and impacts of supply chain management requirements were assessed from Employees, Suppliers and Wholesalers perspective. The extent of supply chain managements and the associated supply chain requirements are summarized using descriptive statistics.

Furthermore, relationship between supply chain management practices and supply chain management requirements was tested through Pearson Correlation analysis and the finding in this study indicates part of the supply chain management requirements have statistically significant positive relations with the practices in the supply chain management. Information sharing and supply chain integration are common requirements, and hence determinants to enhance supply chain management practices.

On the other hand, interview with two of the company officials revealed that though the degree differs each supply chain management requirements have an impact on the supply chain management practices in NTE. Among others Regulatory framework specific to the industry

And Cultural impacts are observed as more dominant determinants.

### **5.3. Recommendations**

The findings of the quantitative data analysis indicate that some of the supply chain management requirements have statistically significant in enhancing supply chain management practices in NTE. The case company is advised to extensively practice supply chain management requirements mainly Information sharing practices and supply chain integration. The case company need to support its communication with trading partners using modern technology to facilitate smooth and dynamic communication. On the other hand, NTE must look into options either to support or involve in upstream and downstream supply chain activities in order to enhance sales and as a result to grab more market share from the illicit trade. Furthermore, the company must work to minimize the impacts of the regulatory framework by working closely with the regulatory organ to fight illicit trade, justify once arguments with sound evidences and adhere to the prevailing rules and regulations. Cultural factors which are outputs of the qualitative analysis can be mitigated by increasing awareness of the public and regulatory organ in a sense that as smoking is related with addiction, closing the factory is exposing smokers to use smuggled products which are by far more dangerous to health.

Finally, the company must consider making improvements on elements of supply chain management practices with better mean values in the descriptive analysis.

On the other hand, the findings from the qualitative data shows that each supply chain management requirements have an impact on the supply chain management practices. This reveals that more evidences are required to prove quantitatively for the remaining requirements.



#### **5.4. Limitation of the study**

The findings of this study are based on only one company with a product having peculiar characteristics and global concern.

In addition, Wholesalers and suppliers located outside Addis Ababa are not included in the study. Therefore, difficult to conclude the findings can have a universal application. Rather, in the future researchers can use the findings of this study as a reference to develop further towards their requirements.

#### **5.5. Suggestions for future Research**

The concept of SCM practices is complex and involves a network of various parties in its effort in producing and delivering a product (goods and services) to the final consumer. In addition to the multitude of parties involved in a supply chain management there are many different additional supply chain functions that were not included in this research as all domains cannot be covered in just one study. As a recently introduced concept many more developments are expected which needs to be considered.

In this study, there are some supply chain management requirements whereby their impacts on supply chain management practices needs to be proved quantitatively. Moreover, the research should address diversified areas of businesses and with large number of respondents to enhance the research findings.

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# **RESEARCH QUESTIONNAIRE I**

## **DETERMINANTS OF EFFICIENT SUPPLY CHAIN MANAGEMENT**

**In the case of National Tobacco enterprise (Ethiopia)**

**Jimma University College of Business AND Economics  
Post Graduate Program**

The purpose of this study is to gather information on the determinants of supply chain Management practices in National Tobacco Enterprise (Ethiopia). In this study I intend to establish those factors and issues which must be put in place for an efficient and successful implementation of supply chain management practices. Your participation will help identify these critical success factors.

Your responses are voluntary and will be confidential. By returning the questionnaire you are indicating

Your willingness to participate. This research is purely for academic purposes and the results Will not be used for any other purpose and your responses will remain confidential.

It will not take more than 20 minutes to go through the questionnaire. Select answers that best represent your views and mark as (√).

Thank you in advance for your cooperation and in cases of enquiry, please do not hesitate to contact with

The addresses below.

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kidus\_abinet@yahoo.com

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**Section 1: Personal Profile: -**

**1. Gender:** Male \_\_\_ Female \_\_\_

**2. Age:** 20-30 \_\_\_ 30-40 \_\_\_ 40-50 \_\_\_ 50 and above \_\_\_

**3. Educational Background:**

Certificate \_\_\_ Diploma \_\_\_ Bachelors \_\_\_ Masters \_\_\_ PhD \_\_\_

**4. Your relationship with National Tobacco Enterprise (Ethiopia):**

Employee \_\_\_ Supplier \_\_\_ Wholesaler \_\_\_

**5. Which management level do you fall under?**

Top \_\_\_ Middle \_\_\_ Supervisory \_\_\_

**6. Your years of service in/ partnership with National Tobacco Enterprise (Ethiopia):**

Under 2 years \_\_\_ 2 to 5 years \_\_\_ 5 to 10 years \_\_\_ Over 10 years \_\_\_

**7. If your answer for Q4 is Employee, Which department?**

Procurement \_\_\_ Production \_\_\_ Manufacturing service \_\_\_ Engineering

Finance \_\_\_ Quality \_\_\_ Marketing & Sales \_\_\_ Human Resource \_\_\_

Legal \_\_\_ Corporate Affairs \_\_\_ IT \_\_\_

**Section 2. Supply Chain Management Practices:**

Please indicate your level of agreement on the following statements based on your experience working

1- In/with National Tobacco Enterprise (Ethiopia). Five-point rating scales are indicated below with 1-Strongly disagree, 2- Disagree 3- Neutral 4- Agree 5- Strongly agree

Description of supply chain management construct	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<b>SUPPLIER PARTNERSHIP</b>					
NTE rely on few high-quality suppliers					
NTE rely on dependable suppliers					
NTE consider quality as number one criteria in selecting suppliers					
NTE strives to establish long term relationships with its suppliers					
NTE helps its suppliers to improve their product quality					
NTE has continuous improvement programs that include its key suppliers					
NTE includes its key suppliers in its planning and goal setting activities					
NTE actively involves its key suppliers in new product development processes					
NTE certifies its suppliers for quality					
NTE regularly solve problems jointly with its suppliers					
<b>CUSTOMER RELATIONSHIP</b>					
NTE has frequent follow up with its customers for quality/service feedback					
NTE frequently measures and evaluates customer satisfaction					
NTE frequently determine future customer expectations					
Customers' ability to seek assistance from NTE is frequently facilitated					

NTE frequently evaluates formal and informal complaints of its customers					
NTE periodically evaluate the importance of its relationship with its customers					

<b>INTERNAL LEAN PRACTICES</b>	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
NTE has a continuous quality improvement program					
NTE produces only what has been ordered by customers (Pull system)					
NTE pushes suppliers for shorter lead times					
NTE goods are stored at appropriate distribution point close to customers					
Supply chain members share risks and rewards					
Supply chain members clearly defines roles and responsibilities					

**Section 3: Supply chain Management Requirements:**

Supply chain management requirements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<b>INFORMATION SHARING</b>					
NTE informs its trading partners in advance of changing needs					
NTE and its trading partners keep each other informed about events or changes that may affect the other partners					
Information exchange between NTE & its trading partners is timely					
Information exchange with trading partners is reliable					
Information exchange with trading partners is complete					



<b>SUPPLY CHAIN INTEGRATION</b>					
Firms in the supply chain establish more frequent contact					
Firms in the supply chain create a compatible communication and information system					
NTE participates in the marketing efforts of its wholesaler					
NTE participates in the sourcing decision of its suppliers					
High level of coordination & communication between functions in NTE					
Cross functional teams are frequently used for process design and improvement in NTE					
High level of integration and information system in NTE					

<b>CULTURAL VARIABLES</b>	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Power and relationship influence commitment between supply chain partners					
Un written rules, practices and customs influence our supply chain					
Trust(internal) between leaders and subordinates influences our supply chain					
Trust(external) between supply chain partners influences our supply chain					
<b>ORGANIZATIONAL STRUCTURE</b>					
Employees of NTE affect supply chain performance					
Senior management involvement in operational decision affects supply chain					
Organizational structure influences communication and consequently supply chain practices					

# RESEARCH QUESTIONNAIRE II

## DETERMINANTS OF EFFICIENT SUPPLY CHAIN MANAGEMENT In the case of National Tobacco enterprise (Ethiopia)

### Jimma University College of Business AND Economics Post Graduate Program

The purpose of the study is to gather information on the determinants of supply chain Management practices in National Tobacco Enterprise (Ethiopia). In this study I intend to establish those factors and issues which must be put in place for an efficient and successful implementation of supply chain management practices. Your participation will help identify these critical success factors.

Your responses are voluntary and will be confidential. By returning the questionnaire you are indicating Your willingness to participate. This research is purely for academic purposes and the results Will not be used for any other purpose and your responses will remain confidential.

It will not take more than 20 minutes to go through the questionnaire. Select answers that best represent your views and mark as (√).

Thank you in advance for your cooperation and in cases of enquiry, please do not hesitate to contact with The addresses below.

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#### Section 1: Personal Profile: -

1. **Gender:** Male \_\_\_ Female \_\_\_\_
2. **Age:** 20-30 \_\_\_ 30-40 \_\_\_ 40-50 \_\_\_ 50 and above \_\_\_
3. **Educational Background:**  
Certificate \_\_\_ Diploma \_\_\_ Bachelors \_\_\_ Masters \_\_\_ PhD \_\_\_
4. **Your relationship with National Tobacco Enterprise (Ethiopia):**  
Employee \_\_\_ Supplier \_\_\_ Wholesaler \_\_\_
5. **Which management level do you fall under?**  
Top \_\_\_ Middle \_\_\_ Supervisory \_\_\_
6. **Your years of service in/ partnership with National Tobacco Enterprise (Ethiopia):**  
Under 2 years \_\_\_ 2 to 5 years \_\_\_ 5 to 10 years \_\_\_ Over 10 years \_\_\_

**Section 2. Supply Chain Management Practices:**

Please indicate your level of agreement on the following statements based on your experience working In/with National Tobacco Enterprise (Ethiopia). Five-point rating scales are indicated below with  
 2- Strongly disagree, 2- Disagree 3- Neutral 4- Agree 5- Strongly agree

Description of supply chain management construct	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<b>SUPPLIER PARTNERSHIP</b>					
NTE rely on few high-quality suppliers					
NTE rely on dependable suppliers					
NTE consider quality as number one criteria in selecting suppliers					
NTE strives to establish long term relationships with its suppliers					
NTE helps its suppliers to improve their product quality					
NTE has continuous improvement programs that include its key suppliers					
NTE includes its key suppliers in its planning and goal setting activities					
NTE actively involves its key suppliers in new product development processes					
NTE certifies its suppliers for quality					
NTE regularly solve problems jointly with its suppliers					

<b>INTERNAL LEAN PRACTICES</b>	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
NTE has a continuous quality improvement program					
NTE produces only what has been ordered by customers (Pull system)					
NTE pushes suppliers for shorter lead times					
NTE goods are stored at appropriate distribution point close to customers					
Supply chain members share risks and rewards					
Supply chain members clearly defines roles and responsibilities					

**Section 3: Supply chain Management Requirements:**

Supply chain management requirements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<b>INFORMATION SHARING</b>					
NTE informs its trading partners in advance of changing needs					
NTE and its trading partners keep each other informed about events or changes that may affect the other partners					
Information exchange between NTE & its trading partners is timely					
Information exchange with trading partners is reliable					
Information exchange with trading partners is complete					

<b>SUPPLY CHAIN INTEGRATION</b>					
Firms in the supply chain establish more frequent contact					
Firms in the supply chain create a compatible communication and information system					
NTE participates in the marketing efforts of its wholesaler					
NTE participates in the sourcing decision of its suppliers					
High level of coordination & communication between functions in NTE					
Cross functional teams are frequently used for process design and improvement in NTE					
High level of integration and information system in NTE					

<b>CULTURAL VARIABLES</b>	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Power and relationship influence commitment between supply chain partners					
Un written rules, practices and customs influence our supply chain					
Trust(internal) between leaders and subordinates influences our supply chain					
Trust(external) between supply chain partners influences our supply chain					
Senior management involvement in operational decision affects supply chain					

# RESEARCH QUESTIONNAIRE III

## DETERMINANTS OF EFFICIENT SUPPLY CHAIN MANAGEMENT In the case of National Tobacco enterprise (Ethiopia)

### Jimma University College of Business AND Economics Post Graduate Program

The purpose of the study is to gather information on the determinants of supply chain Management practices in National Tobacco Enterprise (Ethiopia). In this study I intend to establish those factors and issues which must be put in place for an efficient and successful implementation of supply chain management practices. Your participation will help identify these critical success factors.

Your responses are voluntary and will be confidential. By returning the questionnaire you are indicating Your willingness to participate. This research is purely for academic purposes and the results Will not be used for any other purpose and your responses will remain confidential.

It will not take more than 20 minutes to go through the questionnaire. Select answers that best represent your views and mark as (√).

Thank you in advance for your cooperation and in cases of enquiry, please do not hesitate to contact with The addresses below.

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#### Section 1: Personal Profile: -

1. **Gender:** Male \_\_\_ Female \_\_\_
2. **Age:** 20-29 \_\_\_ 30-39 \_\_\_ 40-49 \_\_\_ 50 and above \_\_\_
3. **Educational Background:**  
Certificate \_\_\_ Diploma \_\_\_ Bachelors \_\_\_ Masters \_\_\_ PhD \_\_\_
4. **Your relationship with National Tobacco Enterprise (Ethiopia):**  
Employee \_\_\_ Supplier \_\_\_ Wholesaler \_\_\_
5. **Which management level do you fall under?**  
Top \_\_\_ Middle \_\_\_ Supervisory \_\_\_
6. **Your years of service in/ partnership with National Tobacco Enterprise (Ethiopia):**  
Under 2 years \_\_\_ 2 to 5 years \_\_\_ 5 to 10 years \_\_\_ Over 10 years \_\_\_

**Section 2. Supply Chain Management Practices:**

Please indicate your level of agreement on the following statements based on your experience working In/with National Tobacco Enterprise (Ethiopia). Five-point rating scales are indicated below with 3- Strongly disagree, 2- Disagree 3- Neutral 4- Agree 5- Strongly agree

Description of supply chain management construct	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<b>CUSTOMER RELATIONSHIP</b>					
NTE has frequent follow up with its customers for quality/service feedback					
NTE frequently measures and evaluates customer satisfaction					
NTE frequently determine future customer expectations					
Customers' ability to seek assistance from NTE is frequently facilitated					
NTE frequently evaluates formal and informal complaints of its customers					
NTE periodically evaluate the importance of its relationship with its customers					

<b>INTERNAL LEAN PRACTICES</b>	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
NTE has a continuous quality improvement program					
NTE produces only what has been ordered by customers (Pull system)					
NTE pushes suppliers for shorter lead times					
NTE goods are stored at appropriate distribution point close to customers					
Supply chain members share risks and rewards					
Supply chain members clearly defines roles and responsibilities					

**Section 3: Supply chain Management Requirements:**

Supply chain management requirements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<b>INFORMATION SHARING</b>					
NTE informs its trading partners in advance of changing needs					
NTE and its trading partners keep each other informed about events or changes that may affect the other partners					
Information exchange between NTE & its trading partners is timely					
Information exchange with trading partners is reliable					
Information exchange with trading partners is complete					
<b>SUPPLY CHAIN INTEGRATION</b>					
Firms in the supply chain establish more frequent contact					
Firms in the supply chain create a compatible communication and information system					
NTE participates in the marketing efforts of its wholesaler					
NTE participates in the sourcing decision of its suppliers					
High level of coordination & communication between functions in NTE					
Cross functional teams are frequently used for process design and improvement in NTE					
High level of integration and information system in NTE					



<b>CULTURAL VARIABLES</b>	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Power and relationship influence commitment between supply chain partners					
Un written rules, practices and customs influence our supply chain					
Trust(internal) between leaders and subordinates influences our supply chain					
Trust(external) between supply chain partners influences our supply chain					

# INTERVIEW QUESTIONS

## DETERMINANTS OF EFFICIENT SUPPLY CHAIN MANAGEMENT

In the case of National Tobacco enterprise (Ethiopia)

Jimma University College of Business AND Economics

Post Graduate Program

The purpose of the study is to gather information on the determinants of supply chain Management practices in National Tobacco Enterprise (Ethiopia). In this study I intend to establish those factors and issues which must be put in place for an efficient and successful implementation of supply chain management practices. Your participation will help identify these critical success factors.

Thank you in advance for your cooperation.

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1. How do you see the situation of SCM in national Tobacco Enterprise (Ethiopia)?
  2. How do you judge compared to the modern supply chain practices?
  3. In your opinion, what challenges confront SCM performance in National Tobacco Enterprise (Ethiopia)?
  4. Are these challenges specific to the sector?
  5. Who imposes these challenges on the supply chain?
  6. In your opinion, which challenges are considered to be the most important to supply chain Performance?
  7. What do you do to avoid such challenges?
  8. How successful do you find it?
  9. How do you evaluate the relationship with your supply chain partners?

10. Does any of the following aspects influence SCM performance?

- Culture

-Organizational Structure

-Information sharing

-Supply chain integration