

ASSESSMENTS OF SUPPLY CHAIN MANAGEMENT PRACTICE: IN THE CASE OF
WORLD VISION ETHIOPIA CONSTRUCTION SECTION

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Table of content

<u>Contents</u>	<u>Page Number</u>
List of Tables	V
DECLARATION	VI
CERTIFICATION	VII
ACKNOWLEDGMENTS	VIII
ACRONYMS	IX
<i>ABSTRACT</i>	X
CHAPTER ONE	1
INTRODUCTION.....	1
1.1. BACKGROUND OF THE STUDY	1
1.2. BACKGROUND OF THE ORGANIZATION/STUDY AREA.....	3
1.3. STATEMENT OF THE PROBLEM	3
1.4. RESEARCH QUESTIONS.....	5
1.5. OBJECTIVE OF THE STUDY	5
1.5.1 GENERAL OBJECTIVES	5
1.5.2 SPECIFIC OBJECTIVES	5
1.6. SIGNIFICANCE OF THE STUDY	5
1.7. SCOPE AND LIMITATION OF THE STUDY	6
1.7.1. SCOPE OF THE STUDY	6
1.7.2. LIMITATION OF THE STUDY	6
1.8. DEFINITION OF TERMS.....	7
1.9. ORGANIZATION OF THE STUDY	8
CHAPTER TWO	8
REVIEW OF RELATED LITERATURE	8
2. 1 THEORTICAL LITRATUER REVIEW	8
2.1.1. THE CONCEPT OF SUPPLY CHAIN MANAGEMENT	8
2.1.2. SUPPLY CHAIN MANAGEMENT IN CONSTRUCTION SECTOR.....	12
2.1.3. OVERVIEW OF CONSTRUCTION SECTORE GLOBALLY AND IN ETHIOPIA	16
2.1.4. SUPPLY CHAIN MANAGEMENT IN THE ETHIOPIA CONSTRUCTION INDUSTRY	17
2.1.5. SUPPLY CHAIN MANAGEMENT PRACTICES.....	19

2.1.5.1. STRATEGIC SUPPLIER RELATIONSHIP.....	20
2.1.5.2. LEAN SUPPLY CHAIN MANAGEMENT.....	21
2.1.5.3. CUSTOMER RELATIONSHIP	22
2.1.5.4. LEVEL OF INFORMATION SHARING	23
2.1.5.5. QUALITY OF INFORMATION SHARING	23
2.2. EMPIRICAL LITERATURE REVIEW	24
2.2.1. EMPIRICAL RESEARCH ON SUPPLY CHAIN MANAGEMENT PRACTICES OF CONSTRUCTION INDUSTRY	24
2.2.2. EMPIRICAL RESEARCH ON SUPPLY CHAIN MANAGEMENT OF CONSTRUCTION SECTOR	25
CHAPTER THREE	27
RESEARCH METHODOLOGY	27
3.1. RESEARCH DESIGN	27
3.2. RESEARCH APPROACH	27
3.3. DATA SOURCES AND DATA COLLECTION INSTRUMENTS	27
3.4. POPULATION AND SAMPLING PROCEDURE.....	28
3.4.1. SAMPLING TECHNIQUES	28
3.4.2. POPULATION OF THE STUDY	28
3.4.3. SAMPLE SIZE	28
3.5. DATA ANALYSIS TECHNIQUES.....	30
3.6 VALIDITY AND RELIABILITY OF RESEARCH INSTRUMENTS	30
3.6.1 RELIABILITY TEST	30
3.6.2 VALIDITY TEST	32
3.7. ETHICAL CONSIDERATION	32
CHAPTER FOUR.....	32
DATE PRESENTATION, ANALYSIS AND DISCUSSION	32
4.1. INTRODUCTION.....	32
4.1.1. DEFINING THE RANGE OF SUPPLY CHAIN MANAGMNT PRACTICE.....	33
4.2. DEMOGRAPHIC CHARACTERISTICS.....	34
4.2.1 AGE	34
4.2.2 EDUCATIONAL QUALIFICATION, JOB TITLE AND WORK EXPERIENCE.....	34
4.3. DESCRIPTIVE ANALYSIS	37

4.3.1 STRATEGIC SUPPLIER RELATIONSHIP.....	37
4.3.2 CUSTOMER RELATIONSHIP.	39
4.3.3 LEAN SUPPLY CHAIN MANAGEMENT.....	42
4.3.4 LEVEL OF INFORMATION SHARING.	44
4.3.5. QUALITY OF INFORMATION.....	47
CHAPTER FIVE	51
SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION.....	51
5.1 SUMMARY OF FINDINGS.	51
5.2. CONCLUSION.....	52
5.3. RECOMMENDATION.	53
REFERENCE	55
APPENDIXES	57

List of Tables

Table 3.1 summary of population size in WVE.....	35
Table 3.3: Cronbach's Alpha	30
Table 3.4: Reliability Statistics Result of the Study.....	30
Table 4.1 Educational Qualification, Job title and work experience of respondents.....	29
Table 4.2: Mean and Standard Deviation of Strategic Supplier Relationship.....	42.
Table 4.3: Frequency and percentage of respondent for Strategic supplier Relationship.....	43
Table 4.4: Customer relationship.....	44
Table 4.5: Frequency and percentage of respondent for Customer relationship.....	45
Table 4.6: Lean supply Chain Management Practice.....	46
Table 4.7 Frequency and percentage of respondent for Lean SCM Practice.....	47
Table 4.8: Level of information sharing.....	49
Table 4.9 Frequency and percentage of respondent for Level of Information sharing.....	51
Table 4.10 Quality of Information.....	51
Table 4.11 Frequency and percentage of respondent for Quality of Information.....	52
Table 4.16: Summary of variables.....	57

DECLARATION

I, the undersigned, declare that this thesis is my original work, prepared under the guidance of Mr. SEID HUSSEN and Mr. BELAY CHEKOL. All sources of materials used for the thesis have been duly acknowledged, the researcher further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

MESFIN TAMIRE

Signature_____

Date_____

JIMMA UNIVERSITY

July, 2020

CERTIFICATION

This is to certify that the thesis prepared by **MESFIN TAMIRE** entitled assessment of supply chain management practice in case of world vision Ethiopia construction section and submitted in partial fulfillment of the requirements for the degree of master in business administration (MBA) complies with the regulations of the university and meets the accepted standards with respect to originality and quality signed by the examining committee:

Advisor _____ Signature _____ Date _____

Co-Advisor _____ Signature _____ Date _____

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ACRONYMS

CSCM----- Construction Supply Chain Management

ICT-----Information and Communication Technology

JIT-----Just in Time

SC-----Supply Chain

SCM -----Supply Chain Management

SPSS-----statically package for social science.

SRM-----Supplier Relationship Management

TQM -----Total Quality Management

WVE-----World Vision Ethiopia

ABSTRACT

Getting organizations working together in our today's business environment is becoming critical. This is because competition has changed from being firm based to supply chain based. Firms are working together to maximize their competitiveness on today's market. Therefore; it becomes apparent that relationship among the member of the supply chain members has to be managed well. This research focused on supply chain management practices of World Vision Ethiopia. From the preliminary assessment of the last three years World Vision Ethiopia outsourced on average about 150 projects annually to construction companies. It is also revealed from the preliminary assessment that completing construction projects with specified quality, allocated budget and dead line set are the challenge faced by the organization. That is why the researcher motivated to assesses the Supply Chain Management practice of the organization specific to the construction section. The main objectives to conducting this research are investigating the key practice of Supply Chain Management of the organization and identifying the challenges of Supply Chain Management practice in the Construction section of the organization and to recommend possible solutions to mitigate Supply Chain Management related challenges. The researcher used Descriptive research design method and the research approach used both quantitative and qualitative. Primary data obtained from survey or questioners and secondary data from Books and organization's booklets and newsletters. The sampling procedure was none probability purposive sampling method. The data was analyzed by using Statically Package for Social Science and the finding was presented by using frequency, percentage, mean and standard deviation in the form of tables and charts. Accordingly, the finding of World Vision Ethiopia's Supply Chain Management practice is below average and not consistent throughout the Supply Chain Management dimensions. Better managed Supply Chain Management practices are Strategic supplier and customer relationship whereas Information sharing and Information quality are poorly managed practices. Finally, it has been recommended to scale up this research to other organization with similar business and also recommended for further study to investigate organization performance with current practice of Supply Chain Management.

Keywords: *Supplier and Customer relationship*

Lean Supply chain Management

CHAPTER ONE

INTRODUCTION

1.1. BACKGROUND OF THE STUDY

SCM is a concept that started in the manufacturing industry. It is seen as a demanding innovation that is built on previous changes such as Total Quality Management and Just-in-time (Saad, 2002).

According to Saad (2002) the supply chain is “the network of organizations that are involved, through upstream and downstream linkages, in the different processes and activities that produce value in the form of products and services in the hands of the ultimate customer.” But since the construction sector includes projects of dramatically different types, sizes and complexities and there is also a high degree of subcontracting within the industry, the definition of construction supply chain is a bit more complex. (Lana B.G. & Daint, 2005)

“Managers have reexamined their companies’ competencies, placing more emphasis on what they do extremely well. They then work to build strong relationship with Supply Chain partners who possess essential complimentary capabilities. They do this because the nature of competition is changing. Although companies still compete against other companies, they increasingly leverage the strength of suppliers and customers to gain a competitive edge.” (Fawcett, S.E., Ellram, L.M., & Ogden, J.A., 2008)

As it is clearly stated by Shoghari & Abdallah (2016), Implementation of supply chain has begun just after the scientific revolution, which had a big contribution for the emerging supply chain management. “Due to scientific revolution and great technological development, the interest in the supply chain has become a necessity and organizations were forced to implement it. In line with this supply chain management processes became an important element in the company's efficiency and effectiveness. Therefore, supply chain management is the most prominent in the production, sale, making profit, and achieving continuity through customer service that regulate the market share of the organization and provide competitive advantage in the market”. (Fawcett et al, 2008)

According to Vrijhoef and Koskela(2000); In construction industry significant number of construction companies and service providers showing much interest for the implementation of Supply chain management. However unlike manufacturing industry construction industries are very slow and reluctant for the full implementation.

According to Asad, Khalfan & McDermott (2005) various problems faced for the slow implementation of SCM philosophy in Construction industry are presence of uncertainties due to complex construction processes, lack of information exchange, lack of sufficient knowledge from the SCM actors, volatile market price, increasing competition due to purchase of construction materials from different suppliers and the existence of dishonesty and frustration which cause for very slow implementation of SCM practices.

Due to its nature the construction industry is highly fragmented and disorganized. Because of that traditional management approach dominates the construction industries. The main reason for fragmentation is separation of design and construction, poor communication, lack of coordination & integration among various functional disciplines.

Due to all the above reasons the end result of for employers and end users (customers) is dissatisfaction with the outcomes of higher costs, delayed project and inferior quality of construction projects.

In this research the case organization (World Vision Ethiopia) as a focal organization has close relationship with service providers (Construction companies) from upstream side for getting service from the construction companies to which the construction projects are outsourced.

On the other hand, the case organization World Vision Ethiopia as a focal organization has strong relationship with the downstream side with end users' communities as Customers.

Supply Chain Management practice of the organization is mainly affected by supplier and customer relationship, Information sharing, quality of information and Lean supply chain management.

Therefore, the researcher is focused to investigate the Supply Chain Management practice of World Vision Ethiopia within the context of the organization structure and setup.

1.2. BACKGROUND OF THE ORGANIZATION/STUDY AREA

World Vision Ethiopia is the largest Christian relief, development and advocacy organizations in the country with a vision statement of ‘For every child life in all its fullness. Our prayer for every heart the will to make it so’ with a focus on working with children, families and communities to overcome poverty and injustice. Its 1,300 staff and volunteers in nearly 60 districts are committed to work with the most vulnerable populations, regardless of religion, race, ethnicity or gender. For over four decades, World Vision Ethiopia has been working to improve the lives of children in Ethiopia. By improving health, nutrition, education and access to clean water in the communities where it works, World Vision is tackling the root causes of poverty. It also helps to empower partners and communities to lead and undertake their own development. Construction is one of the intervention areas of the World Vision Ethiopia ministry to reach the vulnerable children and the needy communities.

1.3. STATEMENT OF THE PROBLEM

As Fawcett et al (2008) clearly stated that “Managers have examined their company's competency, placing more emphasis on what they do extremely well and they then work to build strong relationship with supply chain partners.”

In line with this in order to achieve the strategic Vision and Mission; World Vision Ethiopia supply chain management department has been engaged and working with other construction companies for various construction activities throughout the country in order to address vulnerable children and the needy communities. World vision Ethiopia as a focal organization of the Supply Chain Management with construction companies and service providers for the constructions activities as upstream whereas world vision Ethiopia’s field offices local government offices and communities representing the end users as downstream.

The different project categories to which the organization engaged and working with other construction companies are Water and Sanitation construction projects (which includes water well drillings, Water supply projects), Construction of Schools and Health facilities projects,

Flood mitigation projects and some other projects. Different donors all over the world fund all these projects. (<https://www.wvi.org>)

From the preliminary assessment and past experience of the organization there are repeated challenges which the organization faced in construction getting projects done with the required and specified quality, Budget allocated and deadline set by the organization.

Among various problems which contribute for the project delay, budget overrun and less quality of works; loose communication practice of the supply chain members takes significant portion.

On average for the last three years; world Vision Ethiopia as a client and Construction companies as contractor execute about 150 projects annually with different project amount or size which have been constructed throughout the country. There are four regional offices at regional state level, 11 cluster offices at Zone level and about 60 area development program offices at woreda level throughout the country to administer the construction projects and other sustainable development activities. (<https://www.wvi.org>)

There is a high competition among charity organization and being efficient and effective in project accomplishment is not a choice. Completing the project with the specified quality, allocated Budget and the deadline set by the donors are the key requirements in order to get sustainable projects' funds from the donors. Therefore, assessment of supply chain management practice is very essential in order to know the level of key supply chain management practice among the supply chain actors and give recommendation on how to improve the supply chain management performance. The research made by Dagmawit Asfaw on the same case organization(WVE) shows that there was gaps on supply chain management human capital efficiency, inventory management, management support, information sharing and communication gaps which affect the supply chain management practice of the organization. The research made by Dagmawit Asfaw and other researcher focused on supply Chain management practice of world vision Ethiopia in general and specific to Human capital efficiency.

But this research focused on same topic and organization but focused on supply chain management practices of the organization specific to construction section of World Vision Ethiopia. From the preliminary assessment of the last 3 years WVE outsourced on average about 150 projects annually to construction companies. From the preliminary assessment it is revealed that completing construction projects with the specified quality, allocated budget

and dead line set by the employer is the challenge faced by World Vision Ethiopia which the researcher motivated to conduct this research.

1.4. RESEARCH QUESTIONS

1. How is the current practice of supply chain management of World Vision Ethiopia?
2. What are the main challenges of supply chain management practice of World Vision Ethiopia?

1.5. OBJECTIVE OF THE STUDY

1.5.1 GENERAL OBJECTIVES

The main objective of the study is to assess the Supply Chain Management Practice of World Vision Ethiopia.

1.5.2 SPECIFIC OBJECTIVES

1. To assess the current Supply Chain Management practice of World Vision Ethiopia specific to construction section.
2. To identify the challenges of SCM practice of World Vision Ethiopia Construction section.

1.6. SIGNIFICANCE OF THE STUDY

As stated by Pujawan & ER (2010) “today’s competition is become tighter due to the fact that perfect competition and perfect market.” And also as stated by (Li et al,2004) “achieving

efficiency within the organization is no longer enough.” Whole supply chain needs to be efficient as the competition is no longer between firms, but also among supply chains.

In the process of this research the researcher has got an insight and improved the knowledge of Supply Chain and Supply Chain Management principles. The researcher has been also motivated to conduct other researches and read more and implement SCM principles.

The outcome of this research can help and give a base for other researcher either to scale up this research with in the same organization or to some other organization conducting similar business or to replicate or conduct further research to some other organization conducting similar business.

The completion of this research would become helpful to increase the understanding of World Vision Ethiopia managements, Construction Company’s management, other organization conducting related business to improve the organization’s supply chain management practice grey area.

There are significant numbers of Charity organization working throughout the country. Almost all the charity organizations are using the limited resource of the country. Therefore, as a country, this research will give an insight on Supply Chain Management practice and in line with this it will help to use the limited resources efficiently effectively.

1.7. SCOPE AND LIMITATION OF THE STUDY

1.7.1. SCOPE OF THE STUDY

Since Supply chain management is vast issue to be addressed, the scope of this research is only address issues that are critical to supply chain management practice and focused only at Head Office Supply chain management specific to construction section.

1.7.2. LIMITATION OF THE STUDY

The concept of Supply chain management is not fully understood by supply chain management actors in the country. particularly there is a limitation to fully implement supply chain management practice in the construction sector due to fragmented nature of the

construction activities. Therefore, the number of target population has been limited in order to get reliable respondents.

1.8. DEFINITION OF TERMS.

Supply chain: Are all inter-connected human, financial, facilities and other resources and processes needed to produce and deliver products and services to customers. (Banchiyirgu Desalegn, 2017)

Supply chain management: is “the design and management of seamless, value added processes across organizational boundaries to meet the real need of the end user (Fawcett et.al, 2008)

Customers, suppliers and service providers’ relationship: The entire collection of practices that are implemented for the purpose of managing and integrating Customers in this case communities to which the focal organization is serving, suppliers and service providers in this case construction companies to which the focal organization outsourcing the construction activities. The final goal of building long-term relationships with Customers, suppliers and service providers’ is improving stakeholders and customers’ satisfaction between the focal organization and its suppliers and service provider and customers. It is designed to leverage the strategic and operational capabilities of individual participating organizations to help them achieve significant and sustainable benefits. (Banchiyirgu Desalegn, 2017)

Lean Supply Chain: (LSC) : A group of organizations directly linked by upstream part in this case construction companies & service providers and downstream part in this case communities’ flows of products, services, finances and information that collaboratively work to reduce unnecessary costs and waste by making all the process most efficient and eliminating none value adding process (Vitasek et al., 2005: 21).

Level of information sharing: The extent and volume of critical information sharing and communicating all the necessary information to the supply chain partners.

Quality of information sharing: Refers to the accuracy, timeliness, adequacy, and credibility of information exchange.

1.9. ORGANIZATION OF THE STUDY

This study consists of five chapters:

The first chapter provides brief introduction of the study, which includes, background of the study, statement of the problem, general and specific objectives, and significance of the study, research questions, scope and limitations of the study. The second chapter includes empirical literature review, Theoretical literature review and Conceptual framework of the study. The third chapter contains Research design, Research approaches, data collection technics and sampling procedure. The fourth chapter includes data interpretation and data analysis. Finally, the fifth chapter present summary of findings, conclusion and recommendations.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 THEORTICAL LITRATUER REVIEW

2.1.1. THE CONCEPT OF SUPPLY CHAIN MANAGEMENT

Supply chain by Christopher (1998) defined as “a network of various organizations involved both through upstream and downstream linkages in different kinds of activities and processes. The term “supply chain” contains several interdependent steps of activities, including order of process and overlapping process as well as flows between them, supported by infrastructure such as people, equipment, building, software, etc

Supply Chain Management: is a network of relationships, with the goal to deliver superior value, i.e., the management of upstream and downstream relationships with suppliers and customers to deliver superior customer value at less cost to the supply chain as a whole (Banchiyirgu Desalegn,2017).

Fawcett et al (2008) defined supply chain in detail.

Some Companies have always been member of a supply chain of organizations; however, most companies still view themselves as an independent distinct entity.

As the author clearly stated full-fledged effective collaboration among supply chain members which includes the whole tiers at this time is rare and most often occurs with a company's most important first tier customers and first tier suppliers. Indeed research has shown that over 95% of collaborative efforts target the first tier.

Degree of supply chain integration has been described as follow (From common trend to rare trend).

Internal only: only the firm's functional units

The firm with key suppliers coordinated through purchasing.

The firm with key customer coordinated through marketing.

The firm with both key suppliers and customers.

End to end coordination the firm with (Suppliers' supplier, suppliers, customers, and Customers' customer (Fawcett et al, 2008)

Supply chain encompasses all organizations and activities related with the flow and transformation of goods from the raw materials stage to the final customer, as well as the associated information flows. Whereas, supply chain management is the integration and management of supply chain organizations and through building integrated organizational relationships, effective business processes, and high levels of information sharing to create high- performing value systems that provide actors in organizations a sustainable competitive advantage (Anumba C.J. & Ruikar K., 2002).

The concept of Supply chain management has been defined by several authors. Anumba et al (2002) defines SCM as the simultaneous integration of customer requirements, internal requirements and upstream supplier performance. Council of Logistics Management (CLM) defines SCM as the systemic, strategic coordination of the traditional business functions and tactics across these businesses functions within a particular organization and across businesses within the supply chain for the purposes of improving the long-term performance of the individual organizations and the supply chain as a whole.

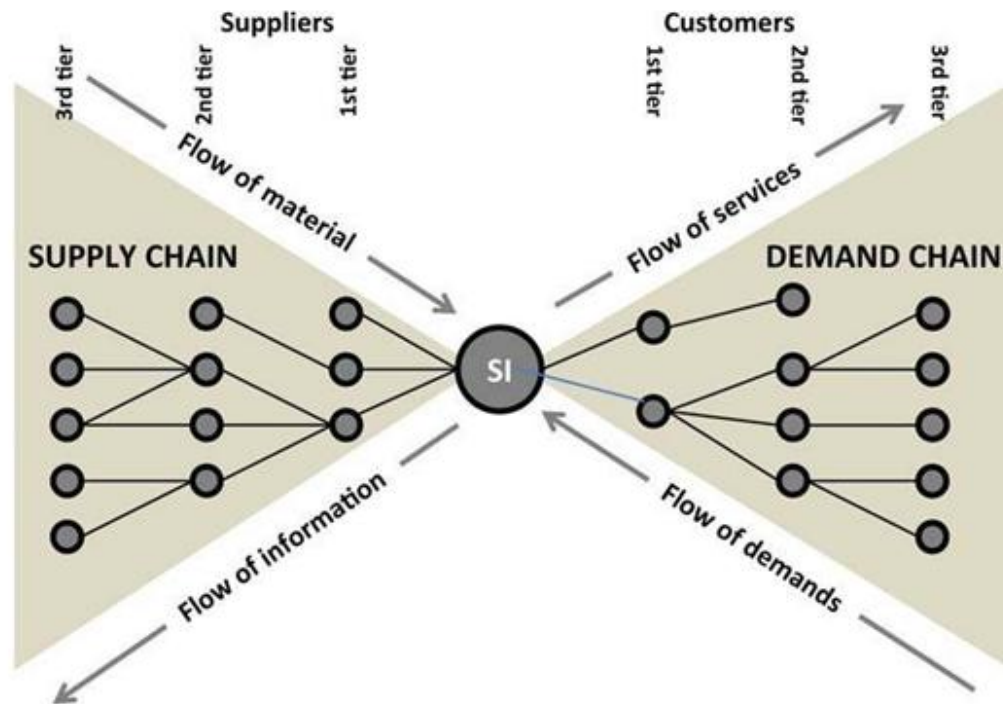
Furthermore, Anumba et al (2002) described, SCM is a concept which its goal is to integrate both information and material flows seamlessly across the supply chain as an effective competitive weapon.

Lana et al (2005) also stated that SCM applies to show the collaborative relationships of members of different echelons of the supply chain and refers to common and agreed practices performed jointly by two or more organizations.

Furthermore, Lana et al (2005) explain that SCM, as a term, first appeared in the early 1980s to describe the range of activities coordinated by an organization to procure and manage. SCM is a concept originating from the supply system used by Toyota to coordinate its supplies and reduce its inventory. After its emergence in the Japanese automotive industry as part of a production system, the concept of SCM has been evolved as an industrial management theory and a distinctive subject of scientific research.

It was indicated that the evolution of SCM theory is driven by rapid changes in global business practice. Scholars argued that the worldwide recession of the late 1980s and early 1990s forced companies to re-examine, at a strategic level, the ways in which they aimed to add value and reduce costs throughout their business. Initially, the term referred to an internal focus bounded by a single organization and how that organization sourced and procured supplies, managed their internal inventory and moved goods onto its customers. It was recognized that this understanding was inadequate and that the reality of managing supplies meant that supply chains extended beyond the purchasing organization and into its successive lower tiers - suppliers and their suppliers' suppliers.

SCM and other similar terms, such as network sourcing, value chain management and value stream management have become the subject of increasing interest after the 1990s (Christopher, 1998). SCM has been labeled as the single most wide-ranging approach when considering how organizations utilize their suppliers' processes, technology and capability to enhance competitive advantage. The interest in SCM is growing due to the ever-increasing market competition and declining incidence of vertical integration as a result of which efficiency and innovation can no longer be solely an internal management function.



Source: Adapted after Lambert *et al.* (1998), London and Kenley (2000) and Vrijhof and deRidder (2005)

Fig 2.1 Supply Chain which shows upstream and downstream with flow of material and Information

According to Pujawan & ER (2010) today's competition is becoming harder due to perfect market and perfect competition to provide high quality goods and services with low cost. Therefore, achieving efficiency within the organization is no longer enough. The whole supply chain needs to be efficient as the competition is no longer between firms but also among the supply chains. Supply chain itself is constructed from upstream and downstream level of supply.

As stated by Fawcett *et al* (2008) Great firms will fight the war of today's aggressive market competition for dominance in the today's competition market place not against individual organization or competitors in their business but fortified by alliance with wholesalers, manufacturers and suppliers all along the supply chain. In general, competitive dominance in today's world will be achieved through entire supply chain, with Battelle fought supply chain against supply chain.

According to Anumba *et al* (2002) Supply chain is defined as the sequence of events that cover a product's entire life cycle, from the conception to consumption. These days companies are not only competing as autonomous entities instead they entered into an era of

competing among different supply chains, leading them to work as a team in the formed network of business relationship.

Many definitions describe SCM as the chain linking each element of the manufacturing and supply process from raw materials to end users, encompassing several organizational boundaries. This is well summarized as: The management of upstream and downstream relationships with suppliers and customers to deliver superior customer value at less cost to the supply chain as a whole (Christopher, 1992)

Another scholar Lana et al (2005) defined SCM as the process of strategically managing the movement and storage of materials, parts and finished products from suppliers, through the manufacturing process and onto customers or end-users, as well as the associated information flows.

A simple definition provided in the Handbook of Supply Chain Management is that SCM is about the design, maintenance and operation of supply chain processes for the satisfaction of end user's needs (Anumba et al, 2002).

However, the most widely used definition is: The supply chain encompasses all activities associated with the flow and transformation of goods from raw materials stage (extraction), through to the end user, as well as the associated information flows. Materials and information flow both upward and downward supply chain. Supply chain management (SCM) is the integration of these activities through improved supply chain relationships, to achieve a sustainable competitive advantage.

In summary, these definitions link SCM with the integration of systems and processes within and between organizations, including the upstream suppliers and downstream customers and involving methods of reducing waste and adding value across the entire process. It also emphasizes the importance of effective linkages among the activities in the value chain.

2.1.2. SUPPLY CHAIN MANAGEMENT IN CONSTRUCTION SECTOR

As it is well defined by (Huang et al, 2009); Construction is “the erection, maintenance, and repair of immobile structures, the demolition of existing structures, and land development “The size of the construction can be small or big, the nature of the construction can be complex or simple.

It is not uncommon to hear that the construction industry is different to other industries and must find other solutions and concepts for improving performance and efficiency. It is customary to view that there are certain peculiarities of construction, like one-of-a-kind products, temporary organization, and site production, preventing the attainment of flows as efficient as in manufacturing (Crespin-Mazet & Ghauri, 2007).

As an example the principal construction company that manages a construction project mostly executes only a small part of the product by its own personnel and its own production facilities. The great part, approximately 75 percent and more, of the product's value is built with help from suppliers and subcontractors (Anumba et al, 2002).

It is often believed that advancement in construction are related to the elimination of these peculiarities, like site production by means of industrialization or one-of-a-kind products by means of pre-engineering. The idea of Construction Supply Chain Management (CSCM) emerged as a result of the actual circumstance of the construction industry. Many researchers consider that the construction industry nowadays is highly fragmented and this could lead to significant negative impacts, low productivity, cost and time overruns conflicts and disputes, resulting in claims and time-consuming litigation (Anumba et al, 2002).

To overcome industry fragmentation, there has been a growing recognition that it is important to integrate the various disciplines participants in a construction project, and this includes aspects of integrating all the members of the supply chain.

The need for significant improvements in the project performance and profits gradually emerged also in construction. Researchers suggest that there should be changing methods in managing the supply chain. However, SCM initiatives have not made the breakthrough in construction industry yet, as the attempts to replicate the benefits obtained by supply chains in other industries still testify a lack of effectiveness and a partial and slow implementation (Akintoye, et al., 2000).

Practitioners have in fact realized partial or fragmented application, focusing on different areas/objectives depending on specific circumstances: sometimes they focused on the supply chain, other times on the construction site, others again on both of them (Vrijhoef, et al., 2000).

There is a view that collaborative relationships that go unmanaged result in rising costs to clients and that SCM is the means through which improvements in value and reductions in costs can be achieved.

The SCM concept has the potential, through information and communication technologies, to overcome some of the fragmentation problems. It has a critical role to play in improving the overall performance of construction, but its application remains at a very early stage of development. However, the industry is becoming increasingly aware of the necessity to change the current working practices and the attitudes they represent (Saad, 2002). In terms of structure and function, the construction supply chain (CSCM) is characterized by the following elements (Vrijhoef, et al., 2000):

1. It is a converging supply chain directing all materials to the construction site where the object is assembled from incoming materials. The «construction factory» is set up around the single product, in contrast to manufacturing systems where multiple products pass through the factory, and are distributed to many customers.
2. It is, apart from rare exceptions, a temporary supply chain producing one-of construction projects through repeated reconfiguration of project organizations. As a result, the construction supply chain is characterized by instability, fragmentation, and especially by the separation between the design and the construction of the built object.
3. It is a typical make-to-order supply chain, with every project creating a new product or prototype. There is little repetition, again with minor exceptions. The process can be very similar, however, for projects of a particular kind. Construction supply chain management is more concerned with the coordination of discrete quantities of materials (and associated specialized engineering services) are delivered to specific construction projects. Construction supply chain (CSC) embodies all construction processes, which starts at the initial demands by the client/owner, to design and construction, maintenance, replacement and eventual demolition of the projects. It also consists of different organizations involved in the construction process, including client/owner, designer, contractor, subcontractor, and suppliers.
4. Most construction projects today struggle with the same problems that have faced the industry such as no centralized source of information and resource management, multiple parties involved on each project - resulting in constantly changing people and companies on each job-site, multiple projects occurring simultaneously - resulting in

redundant and costly duplication of processes and activities; and multiple Customers - even different departments within the same organization can result in different rules being enforced on each project - resulting in higher management and administrative costs.

According to Tan (1998) SCM aims at improving both efficiency and effectiveness by extending traditional functional and intra-organizational activities. Members of the SC can attain sustainable competitive advantages by developing much closer relationships with all other members, thus allowing for significant reductions in time expenditure and costs and increases in quality, provided, although, that there is proper management of the SC and the customer needs are adequately served. Successful SCM is crucial to strengthening the competitive edge of companies in competitive environments.

According to Saad (2002) the Client-Contractor relationship is regarded as the main relationship in the CSC, linking the entities involved in a project together into one SC. This relationship is central to construction supply chain management and, as a consequence, the relationships change from one Construction Supply Chain (CSC) to another as Client change. However, it is also important to pay attention to relationships upstream of the construction site, i.e. between contractors and their sub-contractors and suppliers. It is also argued that a change in the management of relationships among client, contractors, sub-contractors and suppliers is compulsory to improve the effectiveness and efficiency of CSC (Anumba et al, 2002).

SCM application has particularly found obstacles in construction sector as a consequence of its particular context of temporary multiple organization and because of the difficulties in managing networks of a large number of different companies, supplying materials, components and multiple services and with adversarial relationships (Saad, M., & Jones, M., 2003).

As it is clearly stated by Arlbjorn, J.S. and Halldorsson, A. (2002) although useful the existing manufacturing research in SCM, it cannot be directly applied to a construction environment; because of the transient nature of production in construction projects)

Although effective SCM is a key element to add value and in reducing construction costs, it is noted that very few studies have defined what SCM means within the construction context. For this reason, CSCM is defined as: It is the coordination and the integration of key construction business both processes and members involved in CSC, extending traditional

intra-enterprise activities in a management philosophy by bringing together partners who have the common goals of optimization and efficiency so establishing long-term, win/win, and cooperative relationships between stakeholders in a systemic perspective (Davis, 2008).

The CSC is not a real chain but a network of multiple organizations and relationships, which includes the flow of information, the flow of materials, services or products, and the flow of funds between client, designer, contractor and supplier. Construction is a multi-organization process, which involves client/owner, designer, contractor, supplier, consultant, and so on. It is also a multi-stage process, which includes conceptual activities, design, construction, maintenance, replacement, and decommission. At first it was proposed an alternative SCM networked structure, to substitute the traditional vertical one, in order to support partnering (Arlbjorn, J.S. & Halldorsson, A., 2002)

2.1.3. OVERVIEW OF CONSTRUCTION SECTORE GLOBALLY AND IN ETHIOPIA

Bresnen, M. & Marshall, N. (2000) Conducts research entitled Improving construction supply chain collaboration and performance. in his research methodology he conducts three surveys (responded to by 26, 29 and 32 project participants), the three workshops attended by 15-20 participants 12 interviews. Lastly he found out several aspects facilitate the achievement of more than one core element in the SCM.

Bryman, A. & Cramer, D. (1996) investigates interdependence in supply chains and projects in construction. He found out that SCM is crucial in any construction activity.

Cox, A. & Ireland, P. (2002) studied about the establishment and implementation of an aggregated strategic alliance and its success factors. He found out Centralized communication, efficient IT support and trust among the partners are shown to be major factors contributing to the success of the alliance in SCM.

In a study, contractors 'opinions were surveyed because of their pivotal role in the construction supply chain (Akintoye, et al., 2000). The study reveals that contractors are more oriented towards clients rather than their product suppliers in the supply chain. Contractors seem to have more arrangements with clients than with suppliers and a higher proportion of the relationships with clients are contractual. Due to the aggressive business

mentality of the industry and the non-trusting climate, contractors have the tendencies to pay more attention to clients who provide their workload (Kombo, D. K., & Tromp, D. L., 2011). Finally, the survey highlights that problems in implementing successful SCM within the UK construction industry are at present associated with an inappropriate traditional business culture and the unique individual features of the organizational structure.

2.1.4. SUPPLY CHAIN MANAGEMENT IN THE ETHIOPIA CONSTRUCTION INDUSTRY

Globally, the construction industry hugely influences the economy, the environment and the society. The sector is account for significant percentage of the GDP, according to World Economic Forum's 2016 report.

The sector's contribution is greater in the case of developing countries including Ethiopia and the industry has been playing a crucial role in sustaining country's rapid and equitable socio-economic development and changing the livelihood of millions of peoples.

The sector had also a significant share from Ethiopia's total Gross Domestic Product (GDP). The construction sector has made immense contribution in urban development and benefiting low-income citizens by providing low cost and modern houses. It is also to be noted that the sector is the second largest employing industry following the manufacturing industry through creating jobs for the citizens thereby alleviating urban poverty.

In Ethiopia construction industry is a cross-sectorial development driver that is a pre-condition to deliver infrastructures necessary for socio-economic development. The sector embraces the process by which the physical infrastructure is planned, designed, constructed, altered, repaired, and demolished. The sector, in this regard, has been paying a pivotal role in satisfying public's ever-increasing demand for house, transport, utilities and physical infrastructures, among others. Moreover, the industry has contributed to entrepreneurship and private sector's participation significantly increases in that the number of contractors, consultants and suppliers that are engaged in the construction business has shown steady progress.

Ethiopia set a vision of becoming a middle-income economy by 2025 and the realization of the vision partly depends on the existence of a reliable and competitive local construction

industry that could deliver quality services. Taking in to account the role expansion of infrastructure (railways, roads, telecom, power, and irrigation) for the realization of Growth and Transformation Plan and other goals, the current government has allocated huge budget to the industry.

Massive road, railway and airports development have been executing to enhance country's foreign trade and boost its competitiveness in the international market. Furthermore, the structures would also have a vital role in increasing public's access to social services. The construction of irrigation and energy generating dams and sugar producing plants would contribute in satisfying domestic demands and boosting country's foreign currency earnings.

Furthermore, country's educational system is designed in the way promotes practice-oriented approach and it is aligned with the national development goals. Due to this reason, hundred thousand of youth are graduating from higher learning institutions and technical and vocational schools to ensure the sustainability of the infrastructure development through local capacity.

In its endeavors to place Ethiopia among middle income economies, the government is working to have a dynamic, efficient and competitive local construction industry that fosters economic growth and international competitiveness.

Despite its significant importance and achievements in the last two decades, the Ethiopian construction industry has encountered challenges such as quality gaps, time and cost overruns attribute to the sector's poor performance. Furthermore, shortage of competent, certified human resources together with lack of effective construction project management system and the change resistant behavior of the industry have resulted in low productivity. The unreliable, import-dependent and inefficient supply chain of the construction materials, machineries and finance stated to worsen the situation.

A study conducted by Belay Mengistu (2011) about SCM predominantly aimed at reducing waste and the improvement of performance both of which are seen as essential factors for organizations to survive and successfully compete in today's global economic environment. It is a concept that has provided many industries with the opportunity to become more efficient and cost effective to the extent that over time earned itself an autonomous status in the concept of industrial management theory.

SCM exists in the form of a chain at a high level of abstraction and it is the networks of relationships that provide us with the detail and analysis that we need to fully understand the operation of the supply chains. Yet the mission statement associated with the recognition of the importance of supply chains and their management is significant. The management of those relationships, using a supply chain approach (in another words escaping from the management of those firms in direct contractual relationships with the other firm) improves knowledge for academe and practice, thus contributing to the management of projects in construction.

According to the overall challenges of supply chain management, one can say that the practice of supply chain management of Ethiopian construction industry is almost poor.

On the other hand, the numbers of construction companies are increasing at an alarming rate and some of the entrants are international companies having huge capital as well as long years of technical and managerial experiences in the industry. The supply chain management practices categorized under different issues shows that the level of the practices is at their lower level. The impacts of different variables on the competitive position of construction industry are highly significant study conducted by Lana et al (2005) remarks the importance of supply chain management the context of improving companies' performance. They also assert that since the construction industry is a key social and economic activity of every country, the application of SCM strategies is considered helpful in achieving higher competitiveness of construction firms and construction sector as a whole. Construction is a worldwide activity with many special characteristics and it includes projects of dramatically different types, sizes and complexities.

2.1.5. SUPPLY CHAIN MANAGEMENT PRACTICES

Arlbjorn et al, (2002) stated that there are different supply chain management practices. From that different SCM practices the first and most important for the successful accomplishment of efficient SCM is relationship management at both suppliers and customer levels. The level of information sharing and quality of information sharing among the supply chain actors are also very critical. Another key and very important supply chain management practice is Lean supply chain in each organization as supply chain actors. These five dimensions are very essential in measuring SCM practice. The above stated SCM practices construct upstream

side (strategic supplier partnership) and downstream side (customer relationship) of a supply chain. Furthermore, flow across a supply chain includes information sharing and quality of information), and internal supply chain process. It should be pointed out that even though the above dimensions capture the major aspects of SCM practice, they cannot be considered complete. Other factors, such as geographical proximity, JIT/lean capability, cross functional teams, logistics integration, agreed vision and goals, and agreed supply chain leadership are also identified.

According to Arlbjorn et al. (2002) the concept of SCM must be able to agree with the vision and goals of an organization. SCM also involves sharing of information, award and risk sharing, cooperating with other stakeholders in the process of integration as well as having long-standing relationship with stakeholders and maintaining leadership in supply chain.

Another important SCM practice involves Supplier relation management. Mettler and Rohner (2009) describe Supplier Relationship Management (SRM) as a comprehensive approach to manage an organization's interactions with the firms that supply the products and services it uses. They also assert that the immediate objective of SRM is to streamline and make more effective sourcing processes between enterprises and its suppliers. SRM also aims at quality-related improvements of information, products, services, and work force capabilities. Strategic partnership with suppliers focuses on direct, long-term association and encourages mutual planning and problem-solving efforts. SRM involves the use of information technology in order to facilitate and enhance communication between the organization and the suppliers. The main Supply Chain practice components are briefly defined as follow.

2.1.5.1. STRATEGIC SUPPLIER RELATIONSHIP

According to Lana et al (2005) Strategic Supplier Partnership (SSP) is defined as the long-term relationship between the organization and its suppliers. Strategic supplier partnership emphasizes direct relationship and long-term and encourages mutual planning and efforts to resolve problem. Supplier and organizations can work together more closely and eliminate useless time and effort. Effective partnerships with suppliers can be critical factor to guide supply chain management. He also stated that in strategic supplier partnership, suppliers play more direct role in an organization's quality performance. Through close bonded relationships, supply chain partners are more willing to share risks and reward and be able to

maintain the relationship over a longer period of time. SSP is designed to leverage the strategic and operational capabilities of individual participating organizations to help them achieve significant ongoing benefits. Such strategic partnerships are entered into to promote shared benefits among the parties and ongoing participation in one or more key strategic areas such as core raw materials, technology, products, and markets.

Strategic partnerships with suppliers enable organizations to work more effectively with a few important suppliers who are willing to share responsibility for the success of the products. Suppliers participating early in the product-design process can offer more cost effective design choices, help select the best components and technologies, and help in design assessment. Strategically aligned organizations can work closely together and eliminate wasteful time and effort. An effective supplier partnership can be a critical component of a leading-edge supply chain. The main objective of strategic partnerships with suppliers is increasing the functional capability of desired supplier. Therefore, strategically managed long-term relationship with supplier has positive impact on a firm's supplier performance.

2.1.5.2. LEAN SUPPLY CHAIN MANAGEMENT

As per Vitasek (2005) explanation Lean supply chain (LSC) can be defined as a "set of organizations directly linked by upstream and downstream flows of products, services, finances and information that collaboratively work to reduce costs and waste. Management of LSC is a process aimed at eliminating waste and no value-adding activities from the overall value stream in the supply chain. Moreover, the study defined lean supply chain as a systematic approach to enhancing value to the customer by identifying and eliminating waste of (time, effort and materials) at every level of the supply chain through continuous improvement by flow of the product at the pull of the customer in pursuit of perfection. The study also stated that the concept of Lean has been originated in the 1920s, when Henry Ford applied the concept of continuous flow to the assembly-line process. This practice focused on cost reduction by improving quality and the output. Ford's assembly line continued to be recognized as the most advanced manufacturing process until two Japanese executives at Toyota introduced the Toyota Production System (TPS), following a visit to Ford in the 1950s.

2.1.5.3. CUSTOMER RELATIONSHIP

Fawcett et al (2008) noted that Information is power, especially in the hands of customers. Today's customers are empowered with a broad range of products from inferior to high quality products and they also well informed about the price of every products and services. The internet reduces the cost of information accusations and allowing customers to compile product specifications and compare the price of products accordingly. Customer empowerment is occurring across the supply chain.

Customer empowerment means that companies up and down the supply chain must increase their abilities to deliver value Information availability and shifting power have created customers that use the market leverage to constantly demand higher level of services at lower price.

Harvardes Micheal Porter noted that" to succeed companies have to develop a distinctive advantage

Distinctive advantage implies that a company differentiates itself in the mind of customers beating the competition by capturing the heart of customers. If a company were to bring its managers together to brainstorm opportunities to create value many ideas would be identified. The ideal could likely be classified in to five basic area of customer value. Quality, cost, flexibility, delivery and innovation"

Therefore identifying customers' needs and addressing those needs is critical in order to fulfill customer needs fulfillment strategy. In order to achieve that strategy customer's analysis, supply chain analysis, competency analysis, defining relationship intensity and establishing appropriate process and systems are very essential.

Fawcett et al (2008) has clearly stated that customer of choice are the "A" customers whose needs the company is well positioned to fulfill. They are also profitable relationships. Therefore, it makes sense to dedicate the resource need to build strong relationship with them.

2.1.5.4. LEVEL OF INFORMATION SHARING

This day's information is power if the recipient used it properly. Level of information sharing implies quantity of information received or how the information shared to respective supply chain partners is adequate and enough. It is clear that too much information is sometimes too much confusion. On the other hand, too little information also crates gaps among the SCM actors. Therefore, adequate Information sharing is an important aspect in achieving perfect integration in a supply chain. Cross-functional integration and inter organizational integration requires the visibility of information across the supply chain. Poor information sharing between partners in a supply chain resulted in poor coordination that lead to many serious problems such as high inventory levels, inaccurate forecasts, low resource utilization, and high production of costs. Indeed, information sharing is highly considered as the way to reduce demand uncertainty (Arlbjorn J.S. & Halldorsson A., 2002)

Many studies have reported that information sharing can bring many benefits to both suppliers and buyers, such as inventory reduction, and reduced manufacturing cost (Lee, 2002). On the other hand poor information sharing among the supply chain actors will lead to critical disaster and complications.

The way companies share information whatever the confidential level or not; determines the success of the collaboration. The nature of information to be across the supply chain differs based on the degree of integration, institutional trust and availability of infrastructure that facilitate the practice. Therefore, an informatics perspective is vital in the supply chain since information flow is an integral part of SCM and material flow is closely dependent on information flow (Bresnen et al, 2000).

2.1.5.5. QUALITY OF INFORMATION SHARING

There are two separate but interrelated components of quality information sharing capabilities. These are connectives and willing ness. Connectivity is a technological ability to share information whereas willingness is cultural phenomenon.

Quality of information sharing implies the accuracy, timeliness and credibility of the information received. Source of information also matters. The information received should be analyzed in terms of with whom the information shared, from where the information shared, how the information shared, when the information shared, what is the content, is it valid in terms of time. Is the information asymmetry among supply chain partners? In addition, the following questions should be also answered. Why should information be shared? What information should be shared? When should information be shared? Who should be sharing the information?

2.2. EMPIRICAL LITERATURE REVIEW

2.2.1. EMPIRICAL RESEARCH ON SUPPLY CHAIN MANAGEMENT PRACTICES OF CONSTRUCTION INDUSTRY

According to the study conducted by Wegelius & Pahkala (1998), the actual supply chain management practice of construction not only fails to address practical application of supply chain management practice rather the actual practice is going on against the principles of supply chain management philosophy.

If it is properly implemented supply chain management can play significant roles in construction industries. In general supply chain management can be used to analyze problems faced, to coordinate resources properly, to improve the processes flow, to improve virtually the whole construction supply chain and to resolve problems faced by the supply chain actors.

Implementation of full-fledged supply chain management principles in construction industry is practically impossible in short-term. Therefore, as per the study conducted by Wegelius & Pahkala (1998), it is advisable to implement construction supply chain principles on a lower scale initially, addressing limited numbers of problems and involving few supply chain actors at the beginning. Through time the supply chain practice can be fully implemented and gradually increase the number of supply chain actors and improves collaborations, partnership and relationship among the supply chain partners.

Due to its generic characteristics supply chain management practice it demands continuous improvement which result significant reduction of construction projects cost, and significant reduction of lead-time or project delivery period. The primary motive of construction supply chain is to ensure efficient material, equipment and labor flows to the construction site timely with reasonable price for the sake of avoiding complications in the workflow.

Study conducted by (Adebayo, 2012) in Nigeria reveals that supply chain management has a great influence on the accomplishment of the construction projects. The construction supply chain practices considered on the study are strategic supplier partnership, customer relationship, information sharing practice and quality of information. The study gave empirical justifications for the major dimensions of supply chain practice and also identified the relationship between the practices of supply chain management against the level of construction projects accomplishment. The study applied descriptive method and confirmed that supply chain management practice definitely influences the construction projects accomplishment.

Another study conducted by Lana et al (2015) reveals that supply chain management is very important for the improvement of companies' performance. She describes that since the construction industry has significant impact on social, political and economic status in every country; the implementation of supply chain strategy is crucial for achieving higher competitiveness of construction companies and construction industries as whole. She described that there are so many construction activities with different characteristics, categories, dramatically different size, complexities. The study also put bold remark that although varies literatures suggest that supply chain management principle as principle should be simple and linear. However, when we come to the construction industry the reality is totally different.

2.2.2. EMPIRICAL RESEARCH ON SUPPLY CHAIN MANAGEMENT OF CONSTRUCTION SECTOR

Researchers have claimed that the construction industry suffered from poor performance. Supply chain and related concepts such as partnering and lean construction has been proposed as a solution to these problems

So many researches have been conducted to find ways to improve productivity in the construction industry. There has been an increased interest to implement supply chain management in the construction industries.

As per the study made by Dubois & Gadde (2002) more integrated supply chain using collaborative agreement between construction companies' material suppliers, and Client.

It is not uncommon to hear that the construction industry is totally different to other industries and must find other solutions and concepts for improving performance and efficiency. Is it true or a myth? It is customary to view that there are certain peculiarities of construction, like one-of-a-kind products, temporary organization, and site production, preventing the attainment of flows as efficient as in manufacturing (Koskela, 1992).

Information Sharing and Information qualities which are the of the key factor of supply chain management practice are beneficial to the construction industry by linking Construction companies with client, subcontractors, with suppliers and other supply chain actors. However, a survey made by the researchers shows that information sharing and quality of Information are less used in construction industry than the other industries. Another interesting finding is that technology experts do not seem to play the role of opinion leaders in the adoption of information sharing in the construction sectors. In addition, another finding revealed that construction companies are not well organized to use web based transactional process with those strong supply chain relationships that can give them competitive advantage.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. RESEARCH DESIGN

To accomplish the study, the researcher applied descriptive research design method. Descriptive design method helps the researcher to describe the existing status of the supply chain management practice of world vision Ethiopia construction section.

3.2. RESEARCH APPROACH

In this research, the researcher applied both qualitative and quantitative (Mixed Research) approach. The reason why the researcher prefers qualitative and quantitative approach is the nature of the data. The researcher constructed questionnaire in the form of Likert scale which are numeric (quantitative) and Interview and open ended questioners which are qualitative in its nature.

3.3. DATA SOURCES AND DATA COLLECTION INSTRUMENTS

The instruments used to collect the necessary information regarding the practice and determinants of SCM in Construction projects of World Vision Ethiopia were both primary and secondary sources. For primary data collection for quantitative data analysis questioner has been developed and distributed to the respondent with five level Likert scale.

Regarding secondary data or Documents analysis have been made to assess the overall construction Supply Chain Management practice of world vision Ethiopia.

In this study both primary and secondary data sources were used. With regard to secondary data source, relevant information was collected by consulting different pertinent documents

such as procurement policies of world vision Ethiopia, and other related literatures were thoroughly reviewed. These include reports, journals, books; websites etc.

Primary Data collected by questionnaire and interview questions. In addition, to have clear idea about the subject matter under this research, in depth interviews were made with managers of World Vision Ethiopia and Construction companies working with World Vision Ethiopia.

3.4. POPULATION AND SAMPLING PROCEDURE

3.4.1. SAMPLING TECHNIQUES

Due to the nature of the research the researcher used Non probability/ purposive sampling. This study focused on Supply Chain Management department and other departments directly related to supply chain management activities which comprise four departments which have direct relationship with supply chain management practice of World Vision Ethiopia.

3.4.2. POPULATION OF THE STUDY

The overall staffs of World Vision Ethiopia throughout the country are about 1300. But few staffs are working in Supply Chain and Supply Chain related departments as shown on the sample size part.

3.4.3. SAMPLE SIZE

A total of 88 target populations with the following composition have been selected:

World Vision Ethiopia Supply Chain Department=25, World Vision Ethiopia Finance department =20, World Vision Ethiopia field office engineers=15, World Vision Ethiopia Contract administration and civil work engineers=15, World Vision Ethiopia Information Technology department =10, Construction companies working with World Vision Ethiopia=3.

Working in WVE at Head office are 15 and engineers working at field offices directly related to Supply Chain Management construction section are 15 staffs. In addition, managers representing top three Construction Companies currently working with World Vision Ethiopia based on their project amounts are 3.

Table 3.1 summary of population size in WVE

No	Department	Number of employees/population	of Sample size	Sampling techniques
1	WVE Supply chain management	25	25	Census
2	Finance department	20	20	Census
3	Contract Administration, Civil and Water work Engineers.	15	15	Census
3	Field office Engineers.	15	15	Census
4	WVE IT	10	10	Census
5	Representative of Construction Companies working with WVE.	3	3	Census
Total		88	88	

Therefore, as per the above table, the target population size of the research is 88 which is 100 % of the population directly related with SCM.

Regarding the sampling method, the researcher used census method. The Census Method is also called as a Complete Enumeration Survey Method wherein each and every item in the universe is selected for the data collection. The universe might constitute a particular place, groups of people or any specific localities which is the complete set of items and which are of interest in any particular situation.

3.5. DATA ANALYSIS TECHNIQUES

After the data collects, data presentation and analysis is the necessary step. The information collected from both primary and secondary data sources through review of different documents and in depth, interviews with key informants, personal observations as well as questionnaire survey were organized and narrated.

To analyze the quantitative as well as qualitative date, Statically Package for Social science (SPSS version 20) which is statistical software package would become applicable accordingly. To be specific, answers of respondents on the questionnaire survey were summed up by frequency counts and then converted into percentages to provide the understandings of issue under discussion numerically. And also presented by using Mean value and standard deviations

Regarding, the descriptive data obtained from the structured interviews and open ended questions were analyzed by identifying the themes which informed the categories as they emerge from the data. Facts that were extracted from different documents were analyzed thematically and served to confirm study outcomes accordingly.

Data analysis was presented using tables and figures where necessary. Ultimately, generalizations were made and presented accordingly for the data by way of narrating and interpreting the situations.

3.6 VALIDITY AND RELIABILITY OF RESEARCH INSTRUMENTS

3.6.1 RELIABILITY TEST

Reliability Test is concerned with the consistency or stability of the score obtained from a measure or assessment overtime and across settings or conditions. If the measurement is reliable, then there is less chance that the obtained score is due to random factors and measurement error. Cronbach's alpha is a coefficient of reliability. It is commonly used as a measure of the internal consistence or reliability of a psychometric test score for a sample of examinees. Cronbach's alpha reliability coefficient normally ranges between 0 and 1 (Kothari, 2004).

Table 3.3: Cronbach's Alpha

No	Cronbach's Alpha	Description
1	$\geq .9$	Excellent
2	$\geq .8$ but $< .9$	Good
3	$\geq .7$ but $< .8$	Acceptable
4	$\geq .6$ but $< .7$	Questionable
5	$\geq .5$ but $< .6$	Poor
6	$\leq .5$	Unacceptable

Source: Kothari (2004)

Based on this, to ensure the reliability, this study used self-administered questionnaires then the questionnaires were pre-tested based on pilot study, to guarantee a common understating of questions among respondents. The alpha results for the items of the questionnaire and their alpha values have met “Good” which is 0.8848 in relation to the aforementioned requirement range.

Table 3.4: Reliability Statistics Result of the Study

No	Variables	Cronbach's Alpha	Number of items
1	Strategic supplier relationship	0.78	6
2	Customer relationship	.921	5
3	Lean supply chain	.879	6
4	Information sharing	.924	6

5	Quality information	.920	6
6	Total	0.8848	29

Source: Survey Result, 2020

3.6.2 VALIDITY TEST

Validity aims at establishing the results which are linked with the condition. It is concerned with the extent that the scale accurately represents the construct of interest. In order to assure the validity of the measurement instrument of the study was conducted based on the literature review and objectives of the study. So that pre-questionnaire was distributed to the WVE employees to check the validity of questions to further data collection process. As per the comments and the discussion with employee the question prepared to primary data collection for the research objective was found valid by researcher.

3.7. ETHICAL CONSIDERATION

During data collection, respondents were informed as to why the data is collected, how the data is collected, respondent are not obliged to fill the questioners and they are expected to respond the questioners voluntarily. They have been also well informed about the confidentiality and privacy of respondent kept safe. Finally, all the literatures, books and any resources referred and reviewed and used as source documents in this research have been acknowledged and listed under reference section.

CHAPTER FOUR

DATE PRESENTATION, ANALYSIS AND DISCUSSION

4.1. INTRODUCTION

The main purpose of this chapter is to present and interpret the data collected through questioners, interview and some other secondary data sources on the assessment of supply

chain management practice in case of World Vision Ethiopia construction section. In line with this, the findings of the study are presented and discussed in this chapter. The discussion focuses on respondent demographic profile, strategic supplier relationship, strategic customer relationship, Lean supply chain management, level of information sharing and quality of information sharing.

4.1.1. DEFINING THE RANGE OF SUPPLY CHAIN MANAGEMENT PRACTICE.

The questionnaire has been developed in five scales ranging from five to one; where 1 represents very low, 2-low, 3-average, 4-high and 5 represents very high. In order to assess the supply chain management practices of supply chain management practice descriptive, analyses were conducted for the collected data through questionnaire, interview and other secondary data sources. A total of 88 questionnaires were distributed and 74(84%) of them are collected or responded from respondents. The collected data were presented and analyzed by using SPSS (version 20) statistical software.

For the ease of elaboration and describing the Supply Chain Practice of key supply chain management parameters the researcher put a range of Mean value and Standard deviations. In line with this Mean value less than 2.5 has been described as low and poorly practiced SCM. A mean Value between 2.5 and 3.5 (2.5 inclusive) has been described as moderate and moderately practice SCM. A mean value between 3.5 and 4 (3.5 inclusive) has been described as well practiced SCM moderately. A mean value which exceeds 4 (4 inclusive) has been described as highly practiced SCM and a value 4 and above (4 inclusive) has been described as very strong and strongly practiced SCM.

Regarding standard deviations, a value greater than 1(One inclusive) has been described as scattered data with inconsistent data. Whereas a standard deviation less one is consistent data with most of the participants in responding the questionnaires are responded near to the mean value.

4.2. DEMOGRAPHIC CHARACTERISTICS.

The demographic profile and characteristics of the respondents are analyzed as shown below. The purpose of assessing and presenting respondent age is to show how the representation is heterogeneous and how the age group represented well.

Whereas analyzing work experience, education level and position of the respondents in the organization clearly show that the more educated, experienced and higher positioned the respondents the better understanding of the questionnaires and respond well and there is chance of getting reliable information from the respondents.

4.2.1 AGE

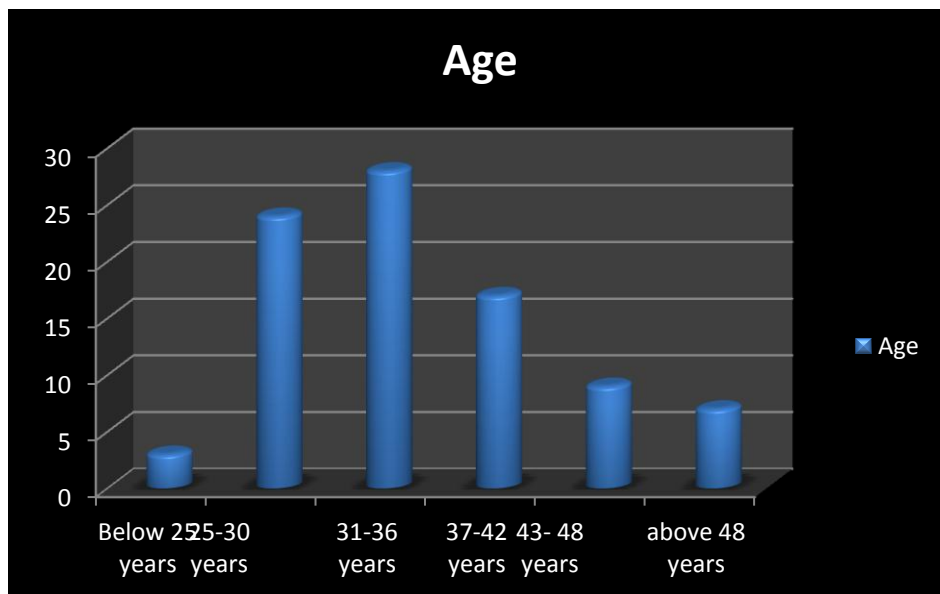


Fig 4.1 Age distribution of respondents

Source: survey result, 2020

As the above figure shows that the age distribution of respondent lies in all categories. Most of respondents from age 25 up to 42 or 78.4% lie in productive age.

4.2.2 EDUCATIONAL QUALIFICATION, JOB TITLE AND WORK EXPERIENCE

Table 4.1 Educational Qualification, Job title and work experience of respondents

No	Demographic issues	Value	Frequency	Percentage
	Educational Qualification	Certificate	-	-
		Diploma	3	4.05%
		First Degree	64	86.48%
		Second Degree and above	7	9.45%
No	Demographic issues	Title	Frequency	Percentage
	Job title	Manager and above	4	5.4%
		supervisor	5	6.76%
		Senior officer	18	24.32%
		team leader	3	4.05%
		medium officer	44	59.46%
	Work Experience	under 3 years	3	4.05%
		3-6 years	35	47.29%
		7-10 years	26	35.13%
		over 10 years	10	13.51%

Source: survey result, 2020

Regarding their job position non managerial (medium officer) and senior officer (section head) employees are highly dominant in which are 59.46% and 24.32% respectively. There for the researcher believes that the question is distributed from the lower to the higher

position in world vision Ethiopia. Therefore, it is possible to infer that the conclusion is valid because it is collected from the right person in the organization.

A study conducted by Ballou, R.H., (2007) reaffirms that SCM at the operational level focuses primarily upon activities that happen within a company's walls to manufacture a product or service. This includes formulating policies, managing the daily operations and workflow, overseeing workers, and participating in the design, planning and the physical production of the product and all those activities are done by non-managerial employees who have great contribution for the effective implementation of SCM in the company to complete the goal.

As the above table shows the study include from the non-managerial to managerial positions.

Regarding educational level, the highest education level attained by most of the respondents was first-degree holders which represent, greater than 86.48% out of the valid respondents and followed by Second Degree and above which accounts 9.45%, diploma and others are accounts 4.07%. Surprisingly there are no respondents in certificate or below diploma.

Regarding work experience as above table clearly shows the frequency distribution of respondents work experience, 13.51% Of respondent work in the organization more than 10 years and the largest of the respondents 35% have between 3 up to 6 years of work experience. In the same case, 26% of respondents have been 7 up to 10 years of work experience on the other hand, respondents within work experience less than 3 years of experience shows 4.05% of the respondents. This implies that in total 95.95% of the respondents have more than 3 years of work experience with in the case company. When the respondents are more and more experienced within the organization, they have better opportunity to know more about the organization.

As Lambert and Cooper (2000) point out today employees' level of Trust, mutual dependence, cooperation, and shared goals are increasing as employees become more experience and familiarize with the company goal. Supply chain management (SCM) has been widely adopted in various industry sectors because SCM involves integrating corporate functions using business processes within and across companies. In creating integration supply chain management and work Experience are interdependent to each other.

4.3. DESCRIPTIVE ANALYSIS

4.3.1 STRATEGIC SUPPLIER RELATIONSHIP.

As it is clearly stated by Dawei (2011) Strategic supplier relationship can be defined as a cross functional organization interaction and exchange between the participating member of the supply chain.

In addition, Fawcett et al (2008) clearly stated that establishing good relationship with current and potential SC members is essential to the successes of any company's competitive strategy. In today's cutthroat, yet resource constrained world, the key is to establish an appropriate relationship with each member of supply chain.

A study conducted by Arlbjorn et al (2002) also point outs also the existence of strong supply chain management helps to increase efficient communication, price volatility mitigation, supply chain consolidation, outsourcing, and continues improvement.

As per the assessment made the perceived mean value of Strategic Supplier Relationship in world vision Ethiopia is ($m=3.34$, $SD=0.91$). This means the organization level of relationship with its supplier and service provider is a bit higher than the average and moderately practiced. Relatively Considering quality as number one criteria by World Vision Ethiopia (WVE) during construction companies and service providers' selection is practiced well with Mean value= 3.87 and $SD. =0.87$ on the other hand the extent of involving Construction companies and service providers in solving problems faced by world Vision Ethiopia is below average with Mean value= 2.97 and $SD. =0.93$ which moderately practiced and which needs improvement.

Table 4.2: Mean and Standard Deviation of Strategic Supplier Relationship.

	Description	Mean	STD
1	Considering quality as number one criteria by World Vision Ethiopia (WVE) during construction companies and service providers' selection.	3.87	0.86
2	Extent of involving Construction companies and service providers in solving problems faced by world Vision Ethiopia.	2.97	0.93

3	Extent of involving world Vision Ethiopia in solving problems faced by Construction companies and service providers.	3.03	1.10
4	Extent of working together by WVE and its construction companies and service providers to improve quality of constructions and service provision.	3.37	0.96
5	The level of continues improvement programs by WVE and its construction companies and service providers.	3.40	0.81
6	The level of cooperation among world Vision Ethiopia, construction companies and communities.	3.43	0.82
Overall		3.34	0.91

Table 4.3: Frequency and percentage of respondent for Strategic supplier Relationship

Item	Description	Scale	Very Low	Low	Average	High	Very High
1	Considering quality as number one criteria by World Vision Ethiopia (WVE) during construction companies and service providers' selection.		0	5(7%)	11(15%)	43(57%)	16(21%)
2	Extent of involving Construction companies and service providers in solving problems faced by		5(7%)	11(15%)	42(55%)	11(14%)	5(7%)

	world Vision Ethiopia.					
3	Extent of involving world Vision Ethiopia in solving problems faced by Construction companies and service providers.	8(10%)	14(18)	23(32%)	24(32%)	5(7%)
4	Extent of working together by WVE and its construction companies and service providers to improve quality of constructions and service provision.	5(7%)	30(40%)	30(40%)	8(11%)	0
5	The level of continues improvement programs by WVE and its construction companies and service providers.	3(4%)	35(47%)	6(8%)	27(37%)	3(4%)
6	The level of cooperation among world Vision Ethiopia, construction companies and communities.	0	11(15%)	29(39%)	31(42%)	3(4%)

4.3.2 CUSTOMER RELATIONSHIP.

As it is clearly stated by Dawei (2011) The end-consumer of the supply chain is perhaps the most important factor of all as far as its management is concerned. Everything a supply chain does is driven by the needs and wants of the end-consumer. The contents of SCM are populated with the approaches, activities as well as the strategies that are aiming at delivering the products and services to satisfy the end-consumer. Therefore, it is safe to say that the SCM should be and has always been a customer centered management. This reflects the typical characteristic of supply chain's customer orientation.

Table 4.4: Customer relationship

Description		Mean	STD
1	World Vision Ethiopia Interaction level with communities to identify the real needs of venerable children and communities.	4.17	0.65
2	World Vision Ethiopia monitoring level and evaluating regularly the target communities' satisfactions.	3.27	0.87
3	Extent of assessment of the communities and venerable children needs and expectation by World Vision Ethiopia.	3.53	0.78
4	Extent of evaluation about the relationship of the organization with target communities working together.	3.23	0.82
5	Extent of on time delivery of projects by construction companies and service providers.	4.17	0.67
Overall		3.67	0.75

As per the assessment made shown on Table 4.4 the perceived mean value of customer relationship in world vision Ethiopia ($m=3.673$ $SD=0.75$). This means that World Vision Ethiopia has practiced SCM well and the organization has good interaction level with communities to identify the real needs of venerable children and communities. Moreover, to this World Vision Ethiopia monitors and evaluates satisfactions of the target communities. Generally world vision Ethiopia has very good assessment of the communities and venerable children needs high with Mean value= 4.17 and $SD. =0.65$ on the other the organization performance monitoring level and evaluating regularly the target communities' satisfactions is relatively low with Mean value= 3.27 and $SD. =0.87$ To sum up world vision Ethiopia has good performance in overall supply chain management, particularly in customer relationship.

Table 4.5: Frequency and percentage of respondent for Customer relationship

Item	Description	Scale	Very	Low	Average	High	Very
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		Low		High		
1	Frequency of World Vision Ethiopia and its construction companies and service providers exchange adequate information with each other.	0	0	11(15%)	42(57%)	24(32%)
2	Frequency of WVE and construction companies and service providers conduct meeting to update information for mutual benefit.	3(4%)	13(18%)	24(32%)	37(50%)	0
3	World Vision Ethiopia informs in advance pre-qualified construction companies and service provides when the organization faced change.	33(4%)	0	31(42%)	35(47%)	5(7%)
4	World Vision Ethiopia's construction companies and service providers give information about issues that may affect the organization business and image.	0	29(39%)	37(50%)	5(7%)	3(4%)
5	World Vision Ethiopia and its construction companies and service providers share knowledge of core business process each other.	0	37(50%)	32(43%)	5(7%)	0

Frequency(%)

6	World Vision Ethiopia and its construction companies and service providers exchange information related to business planning.	0	32(43%)	29(39%)	13(18%)	0
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4.3.3 LEAN SUPPLY CHAIN MANAGEMENT

Lean supply chain management unlike money others has been extremely enduring. After three decades of worldwide purchasing and application lean supply management is still going strong. In today's business management world, lean method is still maintaining its popularity across the world. More than 70% organization all over the world with varies extent exercise Lean supply chain management principle.

Table 4.6: Lean supply Chain Management Practice

	Description	Mean	STD
1	Extent of World Vision Ethiopia and its construction companies and service providers strive to avoid delay and consequential cost overrun.	2.03	0.67
2	Level of commitment for continuous quality improvement by construction companies and service providers working with WVE.	3.167	0.87
3	How serious is the organizations on pushing construction companies and service providers for shorter lead time in order to avoid unnecessary long project duration.	3.47	0.97
4	Extent of construction projects elements standardization by WVE and its construction companies and service providers strive during design stage to avoid material wastage	3.20	0.81
5	Level of continuous improvement by World Vision Ethiopia and its construction companies and service providers on their processes to avoid unnecessary time and resources wastage.	3.20	0.76

6	Level of continuously working for standardized processes from Inception stage up to project completion stage. By World Vision Ethiopia and its construction companies and service providers.	3.13	0.82
Over all		3.2	0.82

For this specific assessment as it shown on the table 4.6 below the overall perceived mean of lean supply chain management practice in world vision Ethiopia is (mean=3.2, SD=0.82) which indicate that Lean Supply Chain Management is practiced moderately and it is a bit higher than the average. Relatively there is better achievement on How serious is the organizations on pushing construction companies and service providers for shorter lead time in order to avoid unnecessary long project duration with (mean value=3.47 and SD=0.97). On the other hand achievement on Extent of World Vision Ethiopia and its construction companies and service providers strive to avoid delay and consequential cost overrun is very low with (mean value=203 and SD=0.67) which needs improvement.

Table 4.7 Frequency and percentage of respondent for Lean Supply Chain Management Practice

Item	Description	Scale	Very Low	Low	Average	High	Very High
1	Extent of World Vision Ethiopia and its construction companies and service providers strive to avoid delay and consequential cost overrun. selection.	0	13(7%)	42(15%)	19(57%)	0	
2	Level of commitment for continuous quality improvement by construction companies and service providers working with WVE.	0	18(24%)	27(37%)	27(37%)	2(3%)	
3	Extent of construction projects	0	13(17%)	21(28%)	32(43%)	8(11%)	

	elements standardization by WVE and its construction companies and service providers strive during design stage to avoid material wastage					
4	Extent of construction projects elements standardization by WVE and its construction companies and service providers strive during design stage to avoid material wastage	3(4%)	11(15%)	29(39)	31(42%)	0
5	The level of continues improvement programs by WVE and its construction companies and service providers.	0	16(22%)	29(39%)	29(39%)	0
6	Level of continuously working for standardized processes from Inception stage up to project completion stage. By World Vision Ethiopia and its construction companies and service providers.	0	18(24%)	27(36%)	29(39%)	0

4.3.4 LEVEL OF INFORMATION SHARING.

There are two separate, but related components of an information sharing capabilities: connectivity and willingness. Connectivity is the technology ability to share information and willingness is the cultural phenomenon that promotes sharing and makes it safe to do so.

As per the assessment the overall mean value of Information sharing between the organization and construction companies practiced moderately practiced and it is below average with the (Mean value=2.81 and STD=0.87) relatively there is better performance on world Vision Ethiopia informs in advance pre-qualified construction companies and service

provides when the organization faced change with (Mean Value=3.03 and STD=0.76) whereas low performance on World Vision Ethiopia and its construction companies and service providers share knowledge of core business process each other with (Mean value=2.6 and STD=0.97). From an open ended question participants revealed that World Vision Ethiopia and its construction companies and service providers exchange information related to business planning in a fragmented manner.

From an open ended question participants revealed that in World Vision Ethiopia and its construction companies and service providers there is no as such organized information sharing trends and sessions.

Table 4.8: Level of information sharing

	Description	Mean	STD
1	Frequency of World Vision Ethiopia and its construction companies and service providers exchange adequate information with each other.	2.97	0.81
2	Frequency of WVE and construction companies and service providers conduct meeting to update information for mutual benefit.	2.70	0.95
3	World Vision Ethiopia informs in advance pre-qualified construction companies and service provides when the organization faced change.	3.03	0.76
4	World Vision Ethiopia's construction companies and service providers give information about issues that may affect the organization business and image.	2.80	0.85
5	World Vision Ethiopia and its construction companies and service providers share knowledge of core business process each other.	2.60	0.97
6	World Vision Ethiopia and its construction companies and service providers exchange information related to business planning.	2.73	0.87
	Over all	2.81	0.87

Table 4.9 Frequency and percentage of respondent for Level of Information sharing

Item	Description	Scale	Very Low	Low	Average	High	Very High
1	Frequency of World Vision Ethiopia and its construction companies and service providers exchange adequate information with each other.		0	27(36)	27(36)	20(28%)	0
2	Frequency of WVE and construction companies and service providers conduct meeting to update information for mutual benefit.		3(3.56%)	27(36)	27(36)	14(18)	3(3.56%)
3	World Vision Ethiopia informs in advance pre-qualified construction companies and service providers when the organization faced change.	Frequency(%)	0	19(25%)	37	6(16%)	3(3.56%)
4	World Vision Ethiopia's construction companies and service providers give information about issues that may affect the organization business and image.		0	32(43%)	26(36)	13(17%)	3(3.56%)
5	World Vision Ethiopia and its construction companies and service providers share knowledge of core business		11(15%)	24(32%)	32(43%)	5(6.44%)	2(3.56%)

process each other.

6	World Vision Ethiopia and its construction companies and service providers exchange information related to business planning.	3(3.56%)	32(43%)	21(28%)	19(25.44%)	0
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4.3.5. QUALITY OF INFORMATION

A study conducted by Davis P.R.A (2008) point out the following as barrier or cause of low Information sharing in the company. Those barriers were managerial barriers, organizational barriers, financial barriers, technological barriers individual barriers and social-cultural barriers,

In addition Fawcett et al. (2008) clearly stated that information should be shared for many reasons. The most frequently discussed role of information in SCM helps company to be more responsive to customers' request. Simply stated sharing quality information helps organizations to reduce cost, improve lead time, reduce cost, increase quality and promote innovation.

Table 4.10 Quality of Information

Description	Mean	STD
1 To what extent the information given by WVE to Construction Companies and service providers adequate.	3.33	0.84
2 To what extent the information given by WVE to Construction Companies and service providers accurate.	3.33	0.71

3	Timeliness of the information given by WVE to Construction Companies and service providers.	2.87	.68
4	To what extent the information given by Construction Companies and service providers to WVE is adequate.	2.77	0.77
5	To what extent the information given by Construction Companies and service providers to WVE is accurate.	2.63	0.67
6	Timeliness of the information given by Construction Companies and service providers to WVE.	2.77	0.73
Over all		2.95	0.73

Regarding the Quality of Information in world vision Ethiopia, employees perceive the mean value of 2.95 with its deviation 0.74. This means that the quality of information that flows in the supply chain actor is below the average and practiced moderately. In other words, the information given by WVE to Construction Companies and service providers was not adequate or it was not accurate and vis-versa. Furthermore, the Timeliness of the information given by WVE to Construction Companies and service providers were not at the right time and vis-versa. Generally, the extent of information sharing level and quality of information shared by both WVE and construction companies are not satisfactory and needs improvement.

Table 4.11 Frequency and percentage of respondent for Quality of Information.

Item	Description	Scale	Very Low	Average	High	Very High	
1	To what extent the information given by WVE to Construction Companies and service providers adequate.	Frequency(%)	0	11(15%)	34(45%)	20(28%)	0

2	To what extent the information given by WVE to Construction Companies and service providers accurate.	0	8(11%)	37(50%)	27(37%)	2(2)
3	Timeliness of the information given by WVE to Construction Companies and service providers.	0	22(30%)	39(53%)	13(18%)	0
4	To what extent the information given by Construction Companies and service providers to WVE are adequate.	0	30(40%)	37(50%)	5(7%)	2(2%)
5	To what extent the information given by Construction Companies and service providers to WVE are accurate.	0	37(50%)	32(43%)	5(7%)	0
6	Timeliness of the information given by Construction Companies and service providers to WVE.	0	32(43%)	29(39%)	13(18%)	0

Table 4.16: Summary of variables

No	Description	Mean	Std. Deviation
1	Strategic supplier Relationship.	3.34	0.91
2	Customer relationship	3.67	0.75
3	Lean supply Chain Management Practice	3.20	0.82

4	Level of Information sharing	2.81	0.87
5	Quality of Information.	2.95	0.73

Source: survey result, 2020

The overall supply Chain Management practice is below average and moderately practiced with mean value of 2.95 and standard deviation of 0.73. The standard deviation of the overall supply chain practice relatively consistent and close to the center or the mean value. This means the member of the respondent are close to the mean value.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

5.1 SUMMARY OF FINDINGS.

The purpose of this study is to investigate the case organization World Vision Ethiopia Supply Chain Management practice. Investigation of supply chain management practice has been done against strategic Supplier relation relationship, Customer or end users relationship, Lean supply chain management, Level of information sharing, and Quality of information.

The assessment reveals the level of each and every variable and the results have been discussed in detail.

As the organization is doing a number of projects throughout the country close collaboration is required with its suppliers, Construction companies and service providers from Up-stream side and local government offices and communities on the downstream side for the successful achievements of the supply chain as a whole.

Assessment of supply chain practice of the organization and Key Supply chain management practice prevail the following results.

Relatively Customer relationship, Strategic supplier relationship and Lean supply chain management are practiced moderately with group (Mean value of 3.67, 3.34 and 3.2 with STD=0.75, 0.91 and 0.92) respectively. But as we can see from the group mean and standard deviation the level of the organization relationship with its supplier and customers are not satisfactory. In addition, the lean supply chain management of the organization is a bit higher than the average and moderately practiced and it is not satisfactory. Due to that the organization is compromised unnecessary wastage which implies the organization is incurring additional costs on its construction projects.

Level of Information sharing and Quality of information sharing among the Supply chain actors are also practiced moderately with group (Mean value of 2.81, 2.95 and 2.63 with STD=0.87, 0.73 and 0.91) respectively. As we can see from the result level of information sharing, quality of information is low and below average. In today's world without adequate and reliable information sharing it is difficult to sustain as a supply chain partners.

5.2. CONCLUSION

As one of the largest humanitarian organizations World Vision focused and works on impoverished and disaster-stricken areas globally. Children are remained at the heart of the organization's focus area. World Vision Ethiopia is also the largest relief, development and advocacy organizations in the country, focused on children, families and communities to overcome poverty and injustice. Its staff and volunteers in nearly 60 districts all over the country are committed to work with the most vulnerable populations, regardless of religion, race, ethnicity or gender. For over four decades, World Vision Ethiopia has been working to improve the lives of children in Ethiopia. By improving health, nutrition, education and access to clean water in the communities where it works, World Vision is tackling the root causes of poverty. It also helps to empower partners and communities to lead and undertake their own development. Construction is one of the intervention areas of World Vision Ethiopia ministry to reach the venerable children and the needy communities and to improve the accessibility of clean water and sanitation.

In order to achieve its strategic goals and objectives World Vision Ethiopia Supply Chain Management Department is working with suppliers, Service providers and construction companies on water well drillings, water supply projects and health and education infrastructures projects. If we take the last three years' data on average the organization construct about 150 projects with different categories and size annually and almost all projects are outsourced to construction companies.

The supply chain management actors in the construction section of World Vision Ethiopia construction projects are World Vision Ethiopia itself as focal and integrating organization of SCM, Construction companies and their suppliers as SCM upstream actors and local government offices and communities representing the end user customers as downstream actors.

From the finding of the study one can conclude the following points:

1. Relatively Strategic supplier relationship, customer relationship and Lean supply management practice have been performed well a bit higher than the average value with group (Mean value of 3.67, 3.34 and 3.32 STD=0.75, 0.91 and 0.91) respectively. However, the study revealed that the overall supply chain management practice of the organization is still below average with (mean value of 2.93 with Standard deviation of 0.88) which means the overall supply chain management of the organization has been poorly practiced.
2. The level information sharing practice and Information quality among the SCM actors are below average and needs improvement and hard work.
3. From the open ended quaternaries the challenges of supply chain management practice as a country and as an organization are volatility of price and local market conditions, poor and low connectivity and IT integration resulted from poor IT infrastructure; very low understanding of Supply Chain management concepts and organization culture difference among supply chain actors are very critical challenges.

5.3. RECOMMENDATION.

World Vision is working globally on several initiatives to optimize the end- to- end to supply chain to focus on reducing the cost and the lead time from project commencement to project completion. Therefore, in order to attain the above stated initiatives world vision Ethiopia should work and improve the grey area of supply chain management practice of the organization which is identified on this research. The recommendations proposed based on the findings are:

1. The organization should take initiatives improve supplier and customer relationship with regular updates with trainings, Knowledge sharing experience sharing.
2. Preparing guidelines, Checklists and close follow-up during stage and project implementation stages.
3. The organization is also expected to improve Lean supply chain management practice to reduce wastage, eliminate unnecessary process and to improve productivity which result cost minimization and promote innovations. This improvement can be realized by improving the design and construction process continuously. frequent KIZEN work shop for supply chain actors is very important to implement lean supply chain management and preparing standardized design to minimize wastage.

4. The organization should take the initiatives and leadership to improve information sharing and improve quality of information to be shared by supply chain actors. This can be achieved by pushing the supply chain actors towards IT system and including this capability on the terms of reference during supplier selection.
5. World Vision Ethiopia as a focal organization should take the initiatives and the lead to create awareness about supply chain management concept to support supply chain partners and arrange trainings, capacity buildings, forums and update frequently
6. Poor information sharing with contractors and service providers in a supply chain will result in poor coordination that will lead to serious disaster. In order to achieve advancement in goal accomplishment in the long run through enhancing organizational performance, it is crucial for world vision Ethiopia to give due attention on SCM practices in the coming years and should focus on how the organization could maximize opportunities to gain high organizational performance.

Finally, it should be noted that this study has tried to assess World Vision Ethiopia's Supply Chain Management practices and analyze the level of supply chain management practice in the Construction section of the organization.

I would like to suggest that any researcher can base this research and can investigate the effect of such supply chain management practice on the organization performance.

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APPENDIXES

JIMMA UNIVERSITY

FACULTY OF BUSINESS AND ECONOMICS

DEPARTMENT OF MANAGEMENT

ABH Campus Addis Ababa

Dear respondents!

The main objective of this questionnaire is to gather your opinion regarding *assessment of supply chain management practice in case of World Vision Ethiopia construction projects*. The data and opinion gathered will be used for partial fulfillment of the requirement for Master's Degree in MBA. Your faithful and quick response will make the research fruitful. The information you provide will be kept confidential. Thank you in advance for your collaboration. If you have problems in completing this form, please do not hesitate to contact.

MESFIN TAMIRE

Mobil NO: 0911227632

Thank you in advance!!

Part One: General Information of Respondents

- ✓ **Note: no need of writing your name**
- ✓ **Circle your answer**

1) Gender: A. Male B. Female

2) Age: A. Below 25 years B.25-30 years C.31-36 years
D.37-42 years E.43- 48 years F. above 48 years

3) Educational Qualification:

- A. Certificate B. Diploma
- C. First Degree D. Second Degree and above

4) Job title

- A. Manager and above
- B. supervisor
- C. Junior officer
- E. Senior officer
- D. team leader
- F. medium officer

5) Number of Work Experience in World Vision Ethiopia

- A. under 3 years
- B. 3-6 years
- C. 7-10 years
- D. over 10 years

Part Two

Specific Questions: please put “√” mark on your level of agreement

Key: 1-Very Low.

2-Low.

3-Average.

4-High.

5-Very High.

Items of question						
Strategic supplier Relationship.	Very low	Low	Average	High	Very High	
Considering quality as number one criteria by World Vision Ethiopia (WVE) during construction companies and service						

	providers' selection.					
	Extent of involving Construction companies and service providers in solving problems faced by world Vision Ethiopia.					
	Extent of involving world Vision Ethiopia in solving problems faced by Construction companies and service providers.					
	Extent of working together by WVE and its construction companies and service providers to improve quality of constructions and service provision.					
	The level of continues improvement programs by WVE and its construction companies and service providers.					
	The level of cooperation among world Vision Ethiopia, construction companies and communities.					
	Customer relationship	Very low	Low	Average	High	Very High
	World Vision Ethiopia Interaction level with communities to identify the real needs of venerable					

children and communities.					
World Vision Ethiopia monitoring level and evaluating regularly the target communities' satisfactions.					
Extent of assessment of the communities and venerable children needs and expectation by World Vision Ethiopia.					
Extent of evaluation about the relationship of the organization with target communities working together.					
Extent of on time delivery of projects by construction companies and service providers.					
Lean supply Chain Management Practice	Very low	Low	Average	High	Very High
Extent of World Vision Ethiopia and its construction companies and service providers strive to avoid delay and consequential cost overrun.					
Level of commitment for continuous quality improvement by construction companies and					

<p>service providers working with WVE.</p>					
<p>How serious is the organizations on pushing construction companies and service providers for shorter lead time in order to avoid unnecessary long project duration.</p>					
<p>Extent of construction projects elements standardization by WVE and its construction companies and service providers strive during design stage to avoid material wastage</p>					
<p>Level of continuously improvement by World Vision Ethiopia and its construction companies and service providers on their processes to avoid unnecessary time and resources wastage.</p>					
<p>Level of continuously working for standardized processes from Inception stage up to project completion stage. By World Vision Ethiopia and its construction companies and service providers.</p>					
<p>Level of Information sharing</p>	<p>Very</p>	<p>Low</p>	<p>Average</p>	<p>High</p>	<p>Very</p>

		low				High
	Frequency of World Vision Ethiopia and its construction companies and service providers exchange adequate information with each other.					
	Frequency of WVE and construction companies and service providers conduct meeting to update information for mutual benefit.					
	World Vision Ethiopia informs in advance pre-qualified construction companies and service providers when the organization faced change.					
	World Vision Ethiopia's construction companies and service providers give information about issues that may affect the organization business and image.					
	World Vision Ethiopia and its construction companies and service providers share knowledge of core business process each other.					
	World Vision Ethiopia and its construction companies and service providers					

exchange information related to business planning.					
Quality of Information.	Very low	Low	Average	High	Very High
To what extent the information given by WVE to Construction Companies and service providers adequate.					
To what extent the information given by WVE to Construction Companies and service providers accurate.					
Timeliness of the information given by WVE to Construction Companies and service providers.					
To what extent the information given by Construction Companies and service providers to WVE are adequate.					
To what extent the information given by Construction Companies and service providers to WVE are accurate.					
Timeliness of the information given by Construction Companies and service providers to WVE.					

Part Three.

List of interview questions:

For Support service / SCM division Director.

1. How do you see the collaboration among WVE, Construction companies and service providers?
2. How do you evaluate the extent of information sharing practice between WVE and Construction companies and service providers?
3. Do you think that World Vision Ethiopia has already established strategic or long term relationship with construction companies and service providers working with World Vision Ethiopia?
4. What are the main challenges of supply chain management in World Vision Ethiopia's context?

For Finance Director.

1. How does WVE Finance Division manage suppliers' and customers' complaints?
2. Does WVE Finance Division have flexible /agile man power to respond construction companies and service provider's request?
3. How do you see the internal operation practices of WVE in terms of Supply chain management?

For Contract Administration Engineer.

1. Do you think construction companies and service providers are well equipped with IT system?
2. Does the WVE construction companies and service providers respect and maintain the lead time?

For three Construction companies managers selected based on the amount of projects.

1. How do you see the collaboration among WVE, Construction companies and service providers?
2. How do you evaluate the extent of information sharing practice between WVE and Construction companies and service providers?
3. Do you think that you have already established strategic or long term relationship with World Vision Ethiopia?
4. What are the main challenges of supply chain management context between World Vision Ethiopia and your companies?

Thank you so much!!!