
# ADDIS ABABA UNIVERSITY
# COLLEGE OF NATURAL SCIENCES
# SCHOOL OF INFORMATION SCIENCE

## DESIGNING A KNOWLEDGE SHARING PLATFORM FOR INTER ORGANIZATIONS: THE CASE OF ETHIOPIAN CHAMBER OF COMMERCE AND SECTORAL ASSOCIATIONS

**MINDAHUN DEGAFU**

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Name and Signature of Members of the Examining Board

| **Name** | **Title** | **Signature** | **Date** |
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| Temtim Assefa (Ph.D) | Advisor: | _____ | _____ |
| _____ | Examiner: | _____ | _____ |

## Declaration

I declare that this thesis is my original work and has not been presented for a degree in any other university. _____

This thesis has been submitted for examination with my approval as university advisor.

_____
Advisor

## Dedication

I would like to dedicate this research to my Mom, who has always been supported me since childhood.

## Acknowledgement

First and for most, I would like to thank Dr. Temtim Assefa for his uninterrupted advice to accomplish this research work. Doctor, you were the only one who guided me even to start thinking what to do for this thesis. You also made available all the best motivational and energetic words in my life even you presented wonderful materials and supportive documents to accomplish this research. You are my instructor, my advisor and the best mentor I have ever had in my life. I thank you very much!

Mom, you are one of the very few that I have in this world. No one in this world that I loved, respected and cared about except you. You are the only one that I am living for. It is your pray that keeps me safe and sound. May God give you a long live! I always love you Mom. This work is for you!

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## List of Acronyms

| | |
|---|---|
| ECCSA | Ethiopian Chamber of Commerce and Sectoral Associations |
| EPPCF | Ethiopian Public Private Consultative Forum |
| ICT | Information Communication Technology |
| IOKS | Inter Organizational Knowledge Sharing |
| IOKSS | Inter Organizational Knowledge Sharing Systems |
| KM | Knowledge Management |
| KMS | Knowledge Management System |
| KS | Knowledge Sharing |
| NBA | National Business Agenda |
| SECI | Socialization, Externalization, Codification and Internalization |
| WFMS | Workflow Management System |

## Abstract

In today's global economy, competitive advantage is increasingly achieved through the effective use of knowledge**.** Knowledge is the most important strategic resource in organizations**.** In this regard, managing knowledge is important in the business community. However, most of the knowledge in ECCSA is not shared to the staff, members and business community at large. ECCSA has lack of systems that promote knowledge sharing. It is not a learning organization that properly documents knowledge and best practices produced internally or obtained from benchmarking visits elsewhere. Moreover, there is no formal system of sharing lessons learned from foreign travel by board members.

The main objective of this research is to design a knowledge sharing platform that promotes inter organizational knowledge sharing among member associations of ECCSA. The study used both qualitative case study and design science research methods. The case study research method is used to assess the existing knowledge sharing practice among member associations and explore the factors that promote IOKS. Moreover, the design science research method is used to design a knowledge sharing platform that promotes knowledge sharing among member associations of ECCSA. Data was collected using interview, observation and document review methods. Twelve business association representatives were selected for interview using purposive sampling methods.

The study showed that technology is the least applied among member associations and it is the factor that hinders knowledge sharing. This confirmed that ECCSA and its members need to apply knowledge management systems and ICT infrastructure to promote IOKS. Moreover, the study designed a knowledge sharing platform. This platform contributes to promote inter organizational knowledge sharing among business associations.

The study recommended that the ICT infrastructure that ECCSA and member associations used to apply need to be improved. In this regard, it can facilitate the communication among member associations and enable business associations to access and share knowledge. In addition, ECCSA should utilized KMS tools to support its business activities.

# CHAPTER ONE

# INTRODUCTION

## 1.1 Background

In today's global economy, competitive advantage is increasingly achieved through the effective use of knowledge**.** Knowledge is the most important strategic resource in organizations. In this regard, managing knowledge has become one of the most essential elements for business success. According to Nakkiran & David (2003), knowledge is the primary commodity and most important in the economy. Managing knowledge is important in the business community because knowledge is one of the most essential elements that can maintain their competitiveness. As a result, knowledge management enables organizations to find, select, organize, distribute, and transfer critical information.

Knowledge sharing is a process where the individual exchanges his/her knowledge and ideas through discussions to create new knowledge or ideas (Alam et al., 2009).As it is defined by Argote ( 2003), knowledge sharing is the process through which one unit is affected by the experience of another. If organizations implement knowledge sharing properly, they will be successful and competent in their business. Organizations have to take advantage of knowledge they acquire in order to have effective knowledge sharing within the organization. Knowledge exists and shared at different levels in organizations, such as individual, team and group levels.

One of the most important elements in knowledge management is knowledge sharing, which can be defined as "the exchange of knowledge between and among individuals and within and among teams, organizational units, and organizations" (King, 2006). As it is explained by Szulanski (1996), organizational knowledge is contingent upon the firm's ability to institutionalize individual-based knowledge with the intention of making it available to other organizational members.

At this time, organizations are designing and implementing knowledge sharing platforms in an effort to improve their competitiveness, productivity, organizational effectiveness and customer service. Consequently, chamber of commerce should also create new knowledge and share their knowledge to satisfy their member associations and maintain competitive advantage in the

business environment. A firm has continued its competitive advantage when it implements a knowledge creating and sharing strategy (Brown et al., 1998). Like other organizations, chamber of commerce need to be a knowledge sharing organization, which enable them to increase their member associations efficiency in terms of achieving organizational success in serving the business community. As a result, chamber of commerce should be a learning organization in a way to create, share and apply knowledge that enables members to be competitive in the business environment.

The Ethiopian Chamber of Commerce and Sectoral Associations (ECCSA) is an umbrella, autonomous, non-for-profit, non-partisan, and membership based private sector organization. It was established with the aim to provide a platform for unified voice of the private sector that can play a leading role in the economy through advocacy, trade and investment promotion and capacity building. It can create business friendly environment and vibrant private sector, working in partnership with the government, business community, development partners and other stakeholders and the society at large. ECCSA has been reorganized in line with the proclamation No. 341/2003.

The Ethiopian Chamber of Commerce and Sectoral Associations (ECCSA) has eighteen members including nine Regional Chambers of Commerce and Sectoral Associations, two City Chambers of Commerce and Sectoral Associations, one National Chamber of Sectoral Associations and six Sectoral Associations organized at national level. The higher decision making body at the Chamber is the General Assembly which is composed of the representatives of member chambers of commerce and sectoral associations of ECCSA.

ECCSA working with businesses members of all sizes and representing all sectors. Its mission is to make the chamber network system an essential part of growing business by sharing business opportunities, knowledge and expertise.

However, most of the knowledge in the organization is not shared to the staff, members and business community at large (ICOS Consulting, 2013). Thus, there is a need to explore the knowledge sharing practice and design a knowledge sharing platform that promotes knowledge sharing among member associations of ECCSA's context is very important. As a result, this

enables the ECCSA to achieve organizational success and promote knowledge sharing among its member associations.

### 1.2 Statement of the Problem

Knowledge is an essential element in today's modern business world. According to Ipe (2003), knowledge is now being seen as the most important strategic resource in organizations and the management of this knowledge is considered critical to organizational success. According to Sharma (2014), rapid changes due to globalization in the business environment caused by high competition. In this regard, knowledge become the key components of competitive advantage and main factor to enhance productivity and improve organizations performance.

Knowledge management is a decisive factor for the survival of almost all businesses. According to Robbins (2003), knowledge management (KM) is defined as the process of organizing and distributing the organization's collective wisdom so that the right information gets to the right people at the right time. When done properly, KM provides an organization with both a competitive edge and improved organizational performance. Organizations have tried to find ways to compete in the information age and knowledge has emerged as the primary source and most valuable asset in this fast-paced, ever-changing environment.

The study on ECCSA's Five Year Strategic Plan by ICOS Consulting (2013) shows that ECCSA has lack of systems that promote organizational learning. It also shows that ECCSA is not a learning organization that properly documents knowledge and best practices produced internally or obtained from benchmarking visits elsewhere. Moreover, they substantiated their argument with the fact that there is no formal system of sharing lessons learned from foreign travel by board or staff members with other staff and issues discussed at management meetings are not also shared among the staff. As a result, this could have great consequence in affecting sense of belongingness and hindering from having shared vision. From this we can conclude that most of the knowledge in the organization is not shared to the staff, members and business community at large. In this regard, exploring the existing knowledge sharing practice and design a knowledge sharing platform that promotes knowledge sharing among member associations of ECCSA's context is very important.

There is a study conducted in the area of investigating inter organizational knowledge sharing in Addis Abeba City Administration Sector Bureaus. Shibru (2015) studied about investigation of inter-organizational knowledge sharing among Addis Ababa city administration sector bureaus. The main objective of the study was to investigate inter organizational knowledge sharing among public sector in Addis Ababa city Administration and propose the solution for the gap observed during the study. However, this study did not incorporate the issue of inter organizational knowledge sharing platform as an effective knowledge sharing mechanism. In this regard, developing effective inter-organizational knowledge sharing platform that can promote the sharing of knowledge among member associations.

Knowledge sharing is the core process in leveraging information assets across the business partners with the purpose to recognize the emerging opportunities in marketplace or capture the business value (Ke & Wei, 2007). Inter-organizational knowledge sharing can be considered as a strategic means in attaining competitive advantage in fast changing business environment (Cao & Zhang, 2011). In this sense, knowledge sharing across the business partners allows the business entities to coordinate the information assets and enhance the operational efficiency. Boer et al. (2011) argue that effective knowledge sharing take place when the sharing entities use similar relational model with appropriate incentive mechanisms and knowledge management systems. Therefore, designing appropriate knowledge sharing platform enables member associations to solve problems related to knowledge sharing among themselves.

Designing inter-organizational knowledge sharing systems are important for member associations to enable the sharing of business opportunities, knowledge and expertise. However, there are challenges in facilitating inter-organizational knowledge sharing among member association of ECCSA. In addition, this inter-organizational knowledge sharing can promote collaborative business doing and provide effective business service delivery for the business community.

For this reason, this study focuses on designing knowledge sharing platform for inter organizations in the case of ECCSA. Therefore, in this study the researcher aims to explore the existing knowledge sharing practice among member associations of ECCSA and design a

knowledge sharing platform to promote knowledge sharing among member associations of ECCSA.

## 1.3 Research Questions

This study attempts to answer the following research questions:

- How member associations of ECCSA share knowledge?
- What are the factors that promote knowledge sharing among member association of ECCSA?
- How we design a platform that can promote knowledge sharing?

## 1.4 Objective of the Study

### 1.4.1 General Objective

The main purpose of this research is to explore the existing knowledge sharing practice among member associations of ECCSA and design a knowledge sharing platform to facilitate inter organizational knowledge sharing in achieving organizational success among member associations of ECCSA.

### 1.4.2 Specific Objectives

The specific objectives are:

- To explore inter-organizational knowledge sharing practice among member associations of ECCSA
- To identify the factors that promote knowledge sharing among member associations of ECCSA
- To design a knowledge sharing platform that promote inter organizational knowledge sharing

## 1.5 Scope and Limitation of the Study

Knowledge management is the processes of storing, collecting, structuring, sharing, controlling, creating, disseminating, codifying, using and exploiting knowledge in organizations.

However , the scope of this study is limited to designing a knowledge sharing platform for inter organizations in the case of ECCSA. This enables to explore the existing knowledge sharing practice and designing a knowledge sharing platform that promotes knowledge sharing in ECCSA. As a result, it suggests better way of knowledge sharing in achieving organizational success in ECCSA.

Hence, the main goal of this study is to explore the knowledge sharing practice in ECCSA including nine Associations which are located and has offices in Addis Ababa and design a knowledge sharing platform.

The result of the research might be more meaningful if it includes all the 18 member associations of ECCSA. However, due to time and financial constraints this study is limited to incorporate 9 associations which are located in Addis Ababa. In this regard, this study is not incorporate regional chamber of commerce's.

While conducting this research work, the writer faced the limitation of translating the interview audio file which is in Amharic to English text. The behavior of the two languages and the behavior of translation, the researcher believes there may be a little bias on it.

Moreover, the researcher came across the limited resources produced within Ethiopia on local organizations. In order to fill similar gaps, the researcher used articles, studies, publications and books published abroad on foreign organizations.

**1.6 Significance of the Study**

This study explore the existing knowledge sharing practice among member associations of ECCSA and design a knowledge sharing platform to promote inter organizational knowledge sharing. Consequently, ECCSA member associations can use the designed knowledge sharing platform to promote knowledge sharing among them and it solves knowledge sharing challenges in ECCSA. Moreover, the study serve as reference for scholars who are working on further research related with knowledge sharing.

This study has a theoretical and practical contributions. In relation to the theoretical contribution, the study explore factors that promote inter organizational knowledge sharing by reviewing different inter organizational knowledge sharing studies. This study has also a practical

contribution in terms of designing a knowledge sharing platform to promote inter organizational knowledge sharing among member associations in ECCSA.

The researcher believes that this study contributes a lot to the knowledge sharing practice in the chamber system of Ethiopia, specifically for ECCSA. The findings and recommendations of the study will improve the knowledge sharing to achieve organizational success among member associations.

### 1.7 Organization of the Thesis

This thesis comprises seven chapters. Chapter one contains the study background, statement of the problem, objective, scope and limitations and significance of the study. Chapter two focuses on the literature review, which mainly concentrates on the key concepts of knowledge, knowledge management, knowledge sharing, benefits of organizational knowledge sharing, inter- organizational knowledge sharing, inter-organizational knowledge sharing systems and factors that promote inter-organizational knowledge sharing. Chapter three mainly focuses on research methodology which includes research design, case study research method, design science research and design science research methodology. Chapter four contains data presentation and analysis. Chapter five deals with the designing of a knowledge sharing platform. It mainly describes national business agenda development business process and its activities. Chapter six mainly focuses on discussion of the findings. Finally, chapter seven contains conclusion and recommendations.

# CHAPTER TWO
# LITERATURE REVIEW

Knowledge is considered as one of the most important assets of management within organizations, as knowledge permits organizations to use and develop resources, to increase the competitive ability and to obtain a substantial competitive advantage (Leung et. al., 2009). It is also now being seen as the most important strategic resource in organizations and the management of this knowledge is considered critical to organizational success (Ipe, 2003). Organizations be able to understand about knowledge and create, share and use knowledge effectively to develop and sustain a competitive advantage (Watson, 2003). Therefore, effective use of knowledge has been crucial to the organization's survival and success in competitive global markets and has a strong potential to problems solving, decision making, organizational performance enhancements and innovation.

Knowledge management is the process through which organization generates values of its intellectual assets based on knowledge (Santosus et al, 2008). Knowledge management (KM) also passes through the stages: knowledge creation, knowledge capture, knowledge storing, sharing of knowledge and knowledge application, forming on that way its own life cycle (Macintosh, 1995, p. 139). Therefore, organizations should design appropriate platforms for enabling knowledge sharing easy.

Knowledge sharing is one of the essential knowledge management process. Inter-organizational knowledge sharing and leverage is a strategic means achieving competitive advantage in rapid changing business environment (Cao & Zhang, 2011). The sharing and communication of knowledge within and across the organization or research group can help in the advancement of organizational knowledge and improved innovation (Caloghirou et al., 2004).

Knowledge management system (KMS) can be defined as "an integration of technologies and mechanisms that are developed to support knowledge management processes" (Becerra-Fernanadez et al., 2004, p. 31). An Inter organizational Knowledge Sharing Systems (IOKSS) is a type of KMS and is defined as a system that enables seamless dissemination of individual and organizational knowledge through repositories or networking between two or more organizations (Al-Busaidi, 2013).

## 2.1 Overview of Knowledge

Knowledge is defined by scholars in different ways from different point of view. As it is defined by Smith & Bollinger (2001), knowledge is the individual´s ability to interpret information according to individual´s own experience, expertise and skills. According to this definition, knowledge is equivalent to individual's experience which is important to interpret the information. According to Nakkiran & David (2003), knowledge is defined as human expertise which is found in peoples mind and gained through experience and interaction. This definition also substantiates the fact that individual expertise can be gained through experience and interaction which enables them to perform tasks effectively.

Understanding what knowledge is and how to create, share and use it effectively in organizations enables them to develop and sustain a competitive advantage (Richard, 2004). Hence, organizations need to know the importance of knowledge to maintain their competitiveness. In addition, Davenport & Prusak (2000), define knowledge is the result of cognitive processing triggered by the inflow of new stimuli. They interpret knowledge, as an organizational asset constituted of "a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experience and information".

According to Fahey & Prusak (1996), data is numbers and facts, information is processed data and knowledge is personalized information. From this we can understand that knowledge is based on experience. It is also defined as the intersection of information, experience and theory (Miller & Morris, 1999).

Huseman & Goodman (1999) add more depth to the understanding of knowledge. They describe five elements which characterize knowledge and create its value. They are:

- **Experience** - creates a continuum between past happenings and present situation
- **Truth -** represents the actual state of affairs and helps to relate to things and happenings objectively
- **Judgment** - describes the capability of apprehend unfamiliar situations
- **Intuition** - is a strong aid in acting in new and changing circumstances and environment

- **Values** - which assist in evaluating the importance of actions, processes, pieces of information, operations etc., and help in their testing

These characteristics are human-generated. Thus, it is easy to comprehend why knowledge is of such great value especially for organizations. Therefore, the quality of knowledge utilization plays a central role in organization's success or failure.

### 2.1.1 Types of Knowledge

The concept of knowledge has been treated into two main types, tacit knowledge and explicit knowledge (Polanyi, 1967; Nonaka, 1994).

**Tacit Knowledge**: Tacit knowledge is developed over a long time period by an individual through their experiences and know-how (Davenport & Prusak, 2000; Bartczak, 2002). According to Nonaka & Takeuchi (1995), tacit knowledge as being subjective in nature due to the inclusion of the individual's perceptions.

The concept of tacit knowledge is a basis for any organization and covers knowledge that is unarticulated and tied to the senses, movement skills, physical experiences, intuition, or implicit rules of thumb (Nonaka & Krogh, 2009). Tacit knowledge is a know-how and learning rooted within the minds of the people in an organization (Kidwell et al., 2000).

**Explicit Knowledge**: Explicit knowledge is able to be codified and thus recorded more easily because of this codification (Bartczak, 2002). Nonaka & Takeuchi (1995) describe explicit knowledge as being objective in nature.

According to Choi & Lee (2003) , explicit knowledge is a knowledge that can be created, written down, documented ,transferred verbally or through some medium of communication such as emails, telephone or information systems.

## 2.2 Knowledge Management (KM)

Knowledge management is a broad concept and different scholars define it in different way. According to Robbins (2003), knowledge management (KM) is defined as the process of organizing and distributing the organization's collective wisdom so the right information gets to the right people at the right time. When done properly, KM provides an organization with both a

competitive edge and improved organizational performance. Another definition for knowledge management is that it is the set of processes that seeks to change the organization's present pattern of knowledge processing to enhance both the organization and its outcomes (Firestone & Mark, 2005).

According to Sagsan (2006), KM is the processes of storing, collecting, structuring, sharing, controlling, creating, disseminating, codifying, using and exploiting knowledge in organizations. Knowledge management is an approach used to develop a systematic set of processes for the creation, organization and dissemination of knowledge by using different technologies supported by a knowledge creating and sharing culture of the organizations (Omur et al., 2009). In addition, the following definition (Carlisle, 2002) substantiates the fact that KM has a great role in managing individual expertise in organizations.

> *"Knowledge management is about more than the management of hardware and software and solving problems of user friendliness. It is also concerned with making the best possible use of the creativity and expertise of people and the effective management of dynamic social processes which generate and exploit a wide range of differing types of knowledge".*

### 2.2.1 Knowledge Management Process

According to Alavi & Leidner (1999), knowledge management is mostly considered as a process. Serrat (2008) defines that there are five basic activities of knowledge management processes: identify, create, store, share and use knowledge. Gold (2001) on his part grouped KM process into four broad dimensions of process capability – acquiring knowledge, converting it into useful form, applying or using it and protecting it. In practice, KM process has major common tasks namely knowledge creation, acquisition, codification, sharing and application.

**Knowledge Creation**

Knowledge creation is considered as the most important task performed in implementing KM in any organization. According to Paween (2006) , knowledge creation involves the collection and organization of raw information which is stored in tacit and explicit format and will achieved

primarily by creating a repository of relevant information and creating a repository of learning which can be converted into knowledge. Knowledge is created by applying tacit knowledge into the problems faced. It is because, tacit knowledge exists in people's mind, the tools and techniques that support knowledge creation are ways of managing people and the way in which they interact (Payne & Tony, 1994).

**Knowledge Acquisition**

As it is depicted by Alan (2011), knowledge acquisition refers to the knowledge that a firm can try to obtain from external and internal sources. The external sources include suppliers, competitors, partners, alliances, customers and external experts. Whereas, internal sources includes experts and other employees of the organization (Alan, 2011). Therefore, this can be performed by selecting and capturing relevant knowledge to the organization.

**Knowledge Codification**

This process will transform knowledge into a coded form to make knowledge structured, explicit, transferable and easy to understand as possible (Paween, 2006). Knowledge codification is stored and retrieved through information retrieval systems. Ontology enables knowledge concepts are arranged in hierarchical structures, typically related by relationships. Therefore, ontologies are intended to provide an understanding of the static domain knowledge that facilitates knowledge retrieval (Karadsheh et al, 2009; Alavi & Leidner, 2001).

**Knowledge Sharing**

As Payne & Tony (1994) explained, knowledge sharing can be carried out through some kind of knowledge base which is technical or through the direct exchange of people. Knowledge sharing is undertaken when best practices can be shared through organizational processes and standard procedures (Payne & Tony, 1994).

**Knowledge Application**

According to Payne & Tony (1994), knowledge has no value unless it consistently used or applied in the right way, at the right place and at the right time. According to Bhatt (2001), knowledge application is enabling knowledge more active and relevant for the organizations to create value. As you would expect, knowledge is acquired from all works of every occupation; even from a simple work. As a result, employees are required to use their knowledge for making

decisions and performing task perfectly for the organizational success. In this regard, it is important to automate knowledge in order to add values to the organization by applying it in the business process.

### 2.2.2 Knowledge Management Systems (KMS)

Alavi & Leidner (2001) defined knowledge management system (KMS) as a set of information systems applied for managing organizational knowledge. According to Lehner (2000), the definition of KMS corresponds to the functional view combined with the view of KMS as a new type of application systems which realize parts of the organizational knowledge base. The term KMS can be used to describe two different types of systems (Maier, 2007). KMS as application system and KMS as platform.

**KMS as application system:** The KMS is built on the basis of an already existing ICT platform that provides basic functionality; for instance, data and document management, office management as well as communication. Examples are an intranet solution or a groupware platform (Maier, 2007).

**KMS as platform:** In KMS as platform, the KMS not only provides these advanced functions but also integrates the basic functionality of an ICT platform ( Maier,2007). Many KMS offered on the market show a tendency towards the first category as most organizations already have an ICT platform in place. These KMS then provide an integrated set of intelligent tools, functions and services that use the ICT platform's functions (Maier, 2007).

As it is noted by Alavi & Leidner (2001), there is no single technology that comprises knowledge management system. To a certain extent, knowledge management system consists of different sets of technologies. Here under, the different types of knowledge management systems are reviewed.

**Document and Content Management:** Document management indicates the automated control of electronic documents both individual and compound documents, through their entire life cycle within an organization from initial creation to final archiving (Turban et al., 1999). It includes the creation, storage, organization, transmission, retrieval, manipulation, update and eventual disposition of documents (Sprague, 1995). A document management system (DMS) gives functions to store and archive documents, navigate and search documents, for versioning and to

control access to documents (Maier, 2007). Content management system (CMS) supports the organization of information and contents and the publication on the Web (Maier, 2007). Like DMS in the non-Web environment, CMS manage the whole Web publishing process, offer mechanisms for releasing new contents, support HTML generation with the help of templates, standard input and output screens and the separation of content and layout which provides for a standardized look & feel of the Web pages (Horn, 1999).

**Work Flow Management:** It is the operative and technological counter-part of a business process and consists of activities related to one another which are triggered by external events and carried out by persons using resources such as documents, application software and data (Maier, 2007). A workflow management system (WFMS) "defines, creates and manages the execution of workflows through the use of software, running on one or more workflow engines, which is able to interpret the process definition, interact with workflow participants and, where required, invoke the use of IT tools and applications" ( Maier,2007).

**Intranet:** It symbolizes an organization internal ICT platform based on Internet technologies. An intranet consists of a bundle of applications and data bases. Access to the intranet is restricted to a limited group of users (Maier, 2007).

**Groupware**: It is a type of software for the support of work groups and teams. Examples of groupware applications are: electronic discussion groups, electronic meeting support, group support systems, conferencing software, shared screen systems, group calendars, workflow automation, image management or desktop video conferencing (Maier, 2007).

**Data Warehousing**: It is a subject-oriented, integrated, non-volatile, time-variant collection of data in support of management decision processes (Maier, 2007). It is understood that a data warehouse is physically separated from operational systems (transaction processing systems, TPS). TPS and also organization-external data bases are the sources from where data are regularly loaded into the data warehouse. Data are organized by how users refer to it (Maier, 2007).

**Business Intelligence**: Business intelligence signifies the analytic process which transforms fragmented organizational and competitive data into goal-oriented "knowledge" about competencies, positions, actions and goals of the internal and external actors and processes considered (Maier, 2007). The analytic process requires an integrated data basis that is usually

provided by a data warehouse. There are a number of technologies that support this process. They are: decision support system (DSS) technologies, multidimensional analysis (online analytical processing, OLAP), data mining, text mining and Web mining technologies, the balanced scorecard, business simulation techniques, and also artificial intelligence technologies, such as case based-reasoning or issue management ( Maier,2007).

**Group Support Systems (GSS)**: It is an interactive system that merges communication, computer and decision technologies to support the formulation and solution of unstructured problems in group meetings. GSS integrate technologies to support the communication in groups, the structuring of processes by which groups interact e.g., agenda setting, facilitation and information processing e.g., aggregating, evaluating or structuring information (Zigurs & Buckland, 1998).

**Search Engines**: It is a program that can be used to locate web sites, documents or images, either in an organization's Intranet or in the WWW. Search engines apply programs that permanently trace the Web or an Intranet for new Web pages, so-called spiders or robots (Brenner et al., 1998).

**Communication Systems**: They are electronic systems that support both asynchronous and synchronous communication between individuals (point-to-point communication systems) and collectives (multi-point communication systems). Examples for synchronous communication systems are tele-conferencing systems such as text conferencing (chat), instant messaging, audio and video conferencing systems. Examples for asynchronous communication systems are email, and newsgroups (Maier, 2007).

**AI Technologies:** They are technologies that support knowledge management. Most of these technologies have their roots in the field of artificial intelligence. Results from AI research play a crucial role in the development of KMS and provide intelligent functions for KM (Maier, 2007).Examples for AI-based tools for KM are:

**Experience and know-how data base systems** are ordered collections of application solutions, i.e., specialized data base systems that store e.g., experiences, lessons learned, best practices as well as technical solutions (Maier, 2007).

**Case-based reasoning (CBR) systems** provide an approach to solve problems with the help of known solutions for similar problems that has its roots in AI research (Maier, 2007).

**Recommender systems** are extend systems that support information retrieval and give recommendations based on techniques such as test of context correspondence, frequency analysis and agent technologies ( Maier,2007).

**Intelligent software agents** are autonomous units of software that execute actions for a user (Maier, 2007).Intelligent software agents use their intelligence to perform parts of its tasks autonomously and to interact with its environment in a useful manner (Brenner et al. 1998)

**Issue-based information systems** are systems to visualize argumentation that build structured networks of arguments consisting of e.g., questions, opinions, pro and counter-arguments or examples recorded in group decision processes (Maier, 2007).

### 2.3 Knowledge Sharing

Knowledge sharing is the process of making knowledge accessible to others within the organization (Abzari & Teimouri, 2008). As described by Lichtenstein and Hunter (2006), knowledge sharing is a "complex process involving the contribution of knowledge by the organization or its people, and the collection, assimilation and application of knowledge by the organization or its people". Knowledge sharing is one of the most important process in knowledge management (Alavi & Leidner, 2001). The emphasis on knowledge sharing importance is increasing in terms of organizational performance and effectiveness in organizations (Kim & Lee, 2005).

#### 2.3.1 Benefits of Organizational Knowledge Sharing

The sharing of knowledge provides benefits to all to a certain extent than allowing the knowledge to benefit one's self (Davenport & Prusak, 2000). Sharing knowledge within an organization can add the value of knowledge. These benefits include improved customer response times, reduction in development repetition, cost savings through process refinements, increased staff retention, reduction in work load, improvements in innovations and development of new competencies (Pan, 1998; Alavi & Leidner ,1999 ; Dixon, 2000).

Knowledge that is created in the process of carrying out the daily tasks in some new or innovative way can provide great pay-off (Dixon, 2000). In our day to day work activity, we may perform similar task which others perform. This can evade repetition in the development of

solutions and can lead to a reduction in the amount of work performed, save time and costs in daily operations (Dixon, 2000). In organizations, promoting knowledge sharing can contribute to improve employee performance that provides benefits for the workplace in productivity levels and quality of work.

A knowledge exchange system used to record solutions to customer problems provides benefit in employees being aware of innovations developed in other areas of the organizations (Pan, 1998). The exchange of knowledge in organizations can improve organizational learning that in turn can improve processes or services such as the reduction of customer response times. Moreover, this system gives employees a quick search tool to propose solutions for problems raised by customers.

Communication and the sharing of knowledge with external organizations or research groups can help in the development of organizational knowledge bases and improve innovation (Caloghirou et al. 2004). In addition, external collaboration with other organizations can bring in different competencies, knowledge and capabilities that otherwise may be coasty or unavailable (Caloghirou et al. 2004). As a result, communicating other organization provides us to enhance and having better understanding about the competitive world.

### 2.3.2 Knowledge Sharing Model

Nonaka (1994) developed SECI model which includes four forms of knowledge conversion. They are: socialization, externalization, codification and internalization. This model was originally developed for knowledge creation and it is also used to study knowledge sharing processes as well ( Alony et al, 2007).

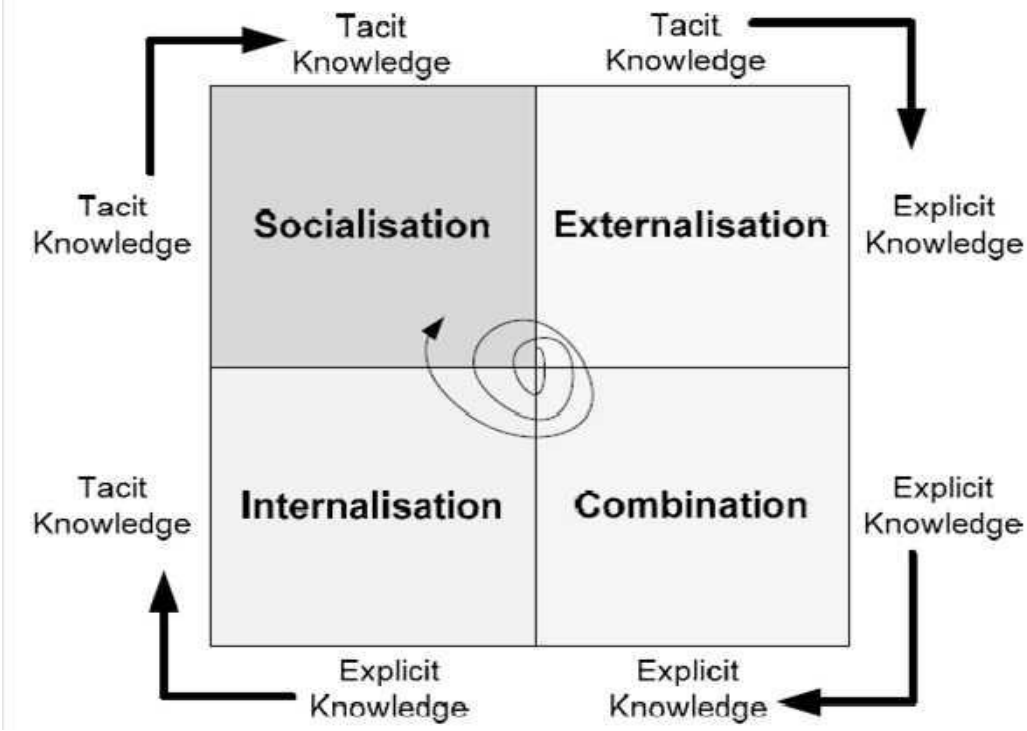


**Figure 2.1** Models of Knowledge Sharing (Nonaka, 1994)

**Socialization** (from tacit knowledge to tacit knowledge): It occurs when tacit knowledge is formed through shared experience between individuals (Nonaka & Konno, 1998). Such conversion may occur through joint activities such as face-to-face interaction (Posner, 2009), and working in the same environment. 'Management by walking around' is an example of non-verbal knowledge transfer based on joint observation (Nonaka & Konno, 1998).

**Externalization** (from tacit knowledge to explicit knowledge): It occurs when an individual's tacit knowledge is translated into understandable forms that can be understood and expressed by others. Knowledge has been successfully transferred when tacit knowledge becomes explicitly stated, often through exchange mechanisms such as two-way dialogue, active listening and the visual description of ideas and concepts (Nonaka & Konno, 1998). According to Posner (2009), the knowledge transfer gap is most obvious when tacit knowledge is converted to explicit knowledge (Externalization).

**Combination** (from explicit knowledge to explicit knowledge): It occurs when individuals or groups exchange and combine their different bodies of explicit knowledge through social

interactions thereby amplifying the explicit knowledge. Nonaka & Konno (1998) explain that this conversion relies on three processes: collecting and combining externalized knowledge; disseminating this knowledge; and revising and re-conceptualizing the explicit knowledge to make it more usable and understandable. Combination examples include academic forums and research processes (Posner, 2009), as well as face-to-face meetings and audio or web-based conversations. Nonaka (1994) connects combination with information processing.

**Internalization** (from explicit knowledge to tacit knowledge): It occurs when recently created explicit knowledge is converted into the individual's or organization's tacit knowledge (Nonaka & Konno, 1998). This process can occur at an individual, group or organizational level. Nonaka & Konno (1998) explain that explicit knowledge can be embodied in action and practice and internalized through "learning by doing". Examples of internalization include workshop, on-the-job training, simulations and experiments. Nonaka (1994) associates internalization with organizational learning and action.

### 2.3.3 Knowledge Sharing Methods

Literature identified a number of methods that can be used to share knowledge in organizations. According to Hansen et al. (1999), there are two different knowledge management strategies. They are personalization and codification. Personalization can be used to distribute tacit knowledge to create unique solutions for strategic issues that lack an appropriate standard. This can be performed by facilitating communication among individuals who are directed by questions regarding to the type of solution required and who are conscious about it. This can lead to an increased frequency and improved quality of communication and by its personal character, requires only minimal investment (Hansen et al., 1999).

Codification of knowledge achieved through everyday troubleshooting, organizing and labeling. It ensures the uniform various re-use of explicit knowledge in decision making that can justifies the exhaustive investment of the strategy requires. As a result, organizations applying this strategy should encourage staff to use and contribute to knowledge repositories.

## 2.4 Inter-Organizational Knowledge Sharing

Inter-organizational knowledge sharing can be considered as a strategic means in attaining competitive advantage in fast changing business environment (Cao & Zhang, 2011). Knowledge

sharing is the core process in leveraging information assets across the business partners with the purpose to recognize the emerging opportunities in marketplace or capture the business value (Ke & Wei, 2007). As per this concept, knowledge sharing enables business partners to identify its emerging advantages in the market place. Moreover, knowledge sharing across the business partners allows the business entities to coordinate the information assets and enhance the operational efficiency.

Literatures have studied inter-organizational knowledge sharing from various aspects. Boer et al. (2011) identify communal sharing, authority ranking, equality matching and market matching as four relational aspects of knowledge sharing. In addition, Boer et al. (2011) argue that effective knowledge sharing take place when the sharing entities use similar relational model with appropriate incentive mechanisms and knowledge management systems.

### 2.4.1 Inter-Organizational Knowledge Sharing Systems (IOKSS)

An IOKSS is one type of inter-organizational system (IOS) (Al-Busaidi, 2013). The concept of an IOS was created initially by Cash & Konsynski (1985) and defined as an automated information system shared by two or more organizations and designed to link business processes (Cash & Konsynski, 1985; Robey, et al., 2008). An IOS can result in several operational, strategic and social benefits for the participating organizations, the government and society (Barrett & Konsynski, 1982; Robey et al., 2008).

There is a continual need for developing nations to take advantage of new technologies for acquiring and disseminating knowledge. Inter-organizational information integration is crucial for digital government (Al-Busaidi, 2013). Partnerships between public and private organizations in specific sectors, especially service or knowledge-based sectors, are vital for the social and economic development of any country and the welfare of the society as well (Al-Busaidi, 2013).

## 2.5 Factors that Promote Inter-Organizational Knowledge Sharing

Many researchers identify factors that promote inter-organizational knowledge sharing. Zhang et al. (2006) examines the dynamics of a knowledge sharing effort in New York State government that involved multiple organizations, divisions and geographically separated offices in the development of the Multi-Purpose Access for Customer Relations and Operational Support

System (MACROS). The study addressed how multiple organizational and technological factors: distributed leadership, alignment of issues and incentives, coordination of a number and variety of groups, trust, technology and implementation strategy interact with the nature of knowledge to influence the knowledge sharing process.

As Zhang et al. (2006) explained, effective leaders are able to promote knowledge sharing through their ability to shape the organizational structures and processes, mobilize the resources, legitimate the changes, and cultivate norms and values in favor of sharing. The authors refer issues and incentives as the motivations and concerns that individuals and organizations have about knowledge sharing in a particular context. In addition , they substantiate the incentive idea in a way that incentive problem is fundamental for the success of knowledge sharing because humans are not likely to be willing to share the relevant knowledge and skills with other unless they gain benefits from the organization.

The number and variety of groups greatly influences the effectiveness of knowledge sharing (Zhang et al., 2006). The growing size and heterogeneity of individuals who share their knowledge could have complicated the processes of communication. Moreover, it could have also complicated consensus building, resources sharing and created problems unless the coordination is strong. Implementation Strategy is also an important consideration in modern information system development (ISD).In relation to information technology, it plays an important role in supporting knowledge management processes. Finally, in relation to nature of knowledge, they explain why the nature of knowledge is a profound factor to be considered in understanding the effectiveness of knowledge sharing based on literature on knowledge management and organizational learning.

Chen et al. (2014) investigates the factors of inter-organizational knowledge sharing. The authors adopt the social exchange perspective and explore the relational factors leading to inter-organizational knowledge sharing in the context of supply chain. In this study, they consider knowledge sharing is a pattern of inter-organizational interaction and outcome of social relationships, this research proposed relational embeddedness and shared value as major antecedents of inter-organizational trust and accordingly leading to inter-organizational knowledge sharing. Moreover, the research identifies and empirically examines two relevant

aspects in trust developing and highlights the impact of trust on promoting knowledge sharing across the supply chain.

According to Chen et al. (2014), the research results suggest that shared values and relational embeddedness play significant role on inter-organization trust. This finding stress on the strategic importance of social and cultural factors in inter-organizational interaction. Additionally, inter-organization trust is the foundation for cross-organizational data exchange and knowledge sharing. Organizations that seek to capture the business opportunity through inter-organizational knowledge sharing and data exchange should make an effort to develop the bonded business relationship and mutual trust.

Seyyedeh (2010) classified factors into different types. In relation to contextual factors, context refers to the situation and the atmosphere in which knowledge sharing take place. Contextual factors are the properties of the relationship that include factors such as trust, proximity, uncertainty, culture and shared values (Nieminen, 2005; Wijk et al., 2008; Easterby Smith et al., 2008; Albino et al., 1998). The characteristics and context of each contextual factor influences inter organizational knowledge sharing.

There are sets of factors that are related to the characteristics of the organizations which either share knowledge with, or acquire knowledge from other organizations. Difficulty of knowledge sharing increases with regard to inter-organizational knowledge sharing occurs due to the fact that different organization possess different operational procedures, control mechanism and work flows. Hence strong and sound policy will help to reduce the resistance if it ever exists (Lazer & Binz-Scharf, 2004).

### 2.6 Knowledge Management System Development

As Moteleb & Woodman (2009) noted and summarized a research methodology concerned with practice that emerged in an 8-year research enquiry into how organizations can effectively develop their knowledge management systems (KMSs).

As Moteleb & Woodman (2009) noted, a fully participative KMS development (KMSD) approach to be carried out by a team from an organization usually aided by external, impartial practitioner-consultants. The resulting KMS belongs to the organization which designed and

originated it. It is carried out either in overlapping phases or in an iterative, possibly agile style. Below the different phases reviewed.

**Phase 1 : Sense-making**

The problematic situation is about making sense of the current and problematic situation in the organization. It is because all parties need to share aims and objectives for the work that is not mentioned in the evaluation criteria. This phase usually precedes the launch of a formal KMSD project and gives its rationale and targets.

**Phase 2 : Envisioning an Improved Situation**

It is concerned with collective visualization of a desired improved situation that clearly addresses the business problems (challenges and/or opportunities) that have resulted from initial conversations in sense-making. The focus here is still on business but from the positive perspective of constructing something new than the negative one of diagnosing problems. Here the team engages in conversations, e.g. in workshops, to envision improved situations and what it means in terms of changing business processes and work behavior. The outcome is an explicit and continuously emerging vision of the improved situations to which an organization aspires. It is continuously emerging because it changes over and over as other phases come into play and ideas about the future are refined.

**Phase 3 : Designing a KMS**

It is where the team proposes how the envisioned improved situation can be represented in a KMS by knowledge agents, knowledge flows and knowledge interfaces. Knowledge agents are essentially ‘active entities’ that are capable of holding and interacting with knowledge. They include people, documents, elements of business, etc. Knowledge flows represent knowledge that is transferred between the active entities, the agents and knowledge interfaces are the points of interaction. The concept of knowledge interfaces includes the medium for potential knowledge flows and the rules (protocols) which constrain them.

**Phase 4 : Exploring IT Options for the KMS**

It is where the team considers potential technologies to partially support the KMS design that has been expressed in terms of knowledge agents, flows and interfaces. Potential technical implementations are considered according to degree to which they are likely to integrate organizational, social and technological aspects of the KMS and according to cost, complexity, availability, etc. The main activities are to engage stakeholders in exploring suitable technologies to support the representation of knowledge agents, flows and interfaces and to decide on a technology strategy of buying, building or integrating IT components and applications to support the KMS.

**Phase 5 : Managing the Evolutionary Potential of the KMS**

It is concerned with ensuring that the KMS evolves in keeping with the changing organizational needs and the changing environment of the organization. Its purpose is not 'technical' in that it is not purely to do with the KMS. It has a monitoring and maintenance function but its purpose is also to detect oncoming changes in apparent 'signals' and 'trends' and to cycle back through the earlier phases of sense making to detect apparent changes, envisioning new work behavior, etc.

### 2.6.1 Knowledge Modeling

Models are used to capture the crucial features of real systems by breaking them down into more manageable parts that are easy to understand and manipulate (Abdullah et al., 2002). Models are very much associated with the domain they represent (Savolainen et al., 1995). That domain will define their practicing communities, modeling languages and the associated tools used. "A model is a simplification of reality" (Booch et al., 1999. The modeling process creating conceptual models of knowledge intensive activities (Schreiber et al., 1999).

The significance of knowledge modeling in knowledge management has been discussed by (Wielinga et al., 1997). They argue that models are vital for understanding the working mechanisms within a knowledge-based system, such as: the tasks, methods, how knowledge is inferred, the domain knowledge and its schemas. Conceptual modeling is central to knowledge engineering (Schreiber et al. 1999). Modeling make easy to the understanding of the source of knowledge, the inputs and outputs, the flow of knowledge and the identification of other

variables such as the impact that management action has on the organizational knowledge (Davenport & Prusak 2000).

In the process of building knowledge management systems, modeling has become an essential aspect (Abdullah et al. , 2002 ). By using the modeling approach, systems development can be faster and more efficient through the re-use of existing models for different areas of the same domain (Abdullah et al. , 2002 ). Therefore, understanding and selecting the modeling technique that is appropriate for different domains of knowledge will ensure the success of the knowledge management system being designed.

### 2.6.2 Ontology for Knowledge Management Systems

Knowledge Management Systems (KMS) contain both explicit and tacit knowledge. Explicit knowledge, more familiar and easily written down, includes data stored in documents. KMSs can also store tacit knowledge which is more difficult to express and includes people's experiences, know-how and expertise. As Takeuchi & Nonaka (1995) articulate, "The more important kind of knowledge is tacit knowledge." Tacit knowledge is more difficult to manage than explicit knowledge. To address those issues a KMS can make use of different technologies (Ribino et al., 2009), such as document based, ontology/taxonomy based and AI based.

**Document based:** technologies for the creation, administration and sharing of different documents (such as doc, pdf, html and so on), managing the explicit knowledge of an organization.

**AI based:** using particular inference engines to resolve peculiar domain problems, the framework based on these technologies generally manipulates tacit knowledge (e.g. Knowledge base system).

**Ontology/Taxonomy based:** technologies using ontologies and classification for knowledge representation. Knowledge concepts are frequently arranged in hierarchical structures, typically related by relationships. Such methodologies act on both explicit and tacit knowledge.

Ontologies are intended to provide an understanding of the static domain knowledge that facilitates knowledge retrieval, store, sharing and dissemination. For KMSs, ontology can be regarded as the classification of knowledge (Guarino, 1997). According to this definition, ontology defines shared vocabulary for facilitating knowledge communication, storing, searching

and sharing in knowledge management systems. Ontologies have shown to be the right answer to knowledge structuring and modeling by providing a formal conceptualization of a particular domain that is shared by a group of people in an organization (O'Leary, 1998; Gruber, 1993).

## 2.7 Related Works

There are different kinds of studies conducted in the area of inter organizational knowledge sharing. In this study, the researcher focuses on studies more relevant to address the objective of the study. Therefore, in this section, related studies concerning inter organizational knowledge sharing are reviewed.

### 2.7.1 Investigation of Inter Organizational Knowledge Sharing

Shibru (2015) investigated inter organizational knowledge sharing among sector bureaus in Addis Ababa. The main objective of the study was to investigate inter-organizational knowledge sharing among public sector in Addis Ababa city Administration and propose the solution for the gap observed during the study. In this regard, the study used exploratory case study research method that allows investigating IOKS influencing factors. The study used data collected using quantitative and qualitative methods using interview, questionnaires, observation and document review.

According to the findings of the study, organizational, contextual, individual, nature of knowledge and task characteristics have direct influences on inter-organizational knowledge sharing activities. In addition, organizational factors and contextual factors are the main influencing factors. Finally, the researcher recommends inter-organizational knowledge sharing gap for the city Administration and also identifies future research direction for other researchers and for the municipality.

### 2.7.2 A Frame Work for Inter Organizational Knowledge Sharing: Managerial Influences

This research was conducted by Rosemary Van Der Meer in 2012. The main objective of the study was to examine inter organizational knowledge sharing collaborations. This research used mixed methodology. The researcher of this study depicted that inter-organizational knowledge sharing flows both horizontal and vertical through different level of interaction between participants. This can confirm that inter-organizational knowledge sharing at top level involves

full group participation. Interaction at top level provides opportunities to bring together all the members to share knowledge from outside expertise (Sanders, 2001),collaboratively address and resolve mutual issues (Manring & Moore, 2006), and offers an opportunity for face-to-faces interaction that can build trust between members and network development for individual knowledge sharing (Manring et al,2003).

According to this study, most top level may not have a strong operational focus rather they acts as a means to organize and develop working group to deal with specific issues as occurred (Manring et al.,2003). Moreover, this study identified that there are different dimensions of inter organizational knowledge sharing practice among the organizations. It includes: mutual relationships, regular meeting, getting advice from friends or counterparts in other organizations, organization practice, sense of togetherness, creativity, positive feeling about knowledge sharing, intention to knowledge sharing, and knowledge sharing behavior.

### 2.7.3 Analysis of Inter Organizational Knowledge Sharing Needs among Micro, Small and Medium Enterprise with Traditional Market

This research was conducted by Sari, Suyadi & Kumadji in 2013. This study analyze inter-organizational knowledge sharing in MSMEs at Indonesia using seven variables namely importance of external knowledge sharing, perception on the importance of knowledge area, area in which insufficient knowledge contributes to costly error or mistake, knowledge sharing activities, social network, constraints of inter-organizational knowledge sharing and effectiveness in leveraging knowledge sharing.

According to the study, organizations need channels to facilitate their knowledge exchange in the inter-organizational knowledge sharing activities. Thus, the current situation and effectiveness of MSMEs' use of both social and electronic networks to facilitate knowledge exchange between organizations to be examined. The study identifies MSME's needs inter-organizational knowledge sharing from another perspective, and also demonstrates their current practices in the area. Therefore, acquiring external knowledge in MSMEs is an important and crucial issued to engage in some external organizational activities.

### 2.7.4 Theoretical Perspective on Effective Inter Organizational Knowledge Sharing

This research was conducted by Lertpittayagoom, Paul & Mykytyn in 2007. The main objective of the study was to understand the process that leads to effective inter organizational knowledge sharing. The process includes sharing of knowledge at multi level individual, group and organization. This study found that there is a knowledge sharing and learning at each level and among the individual, team, organizations, and inter-organization. The knowledge was first gained by the individual level in the form of experience that is transferred to teams and other organizations. First, individual gained knowledge from experience or practice. Then, individual knowledge is shared to team members. Following, the team members discussed knowledge transferred to organization and finally to the inter-organizational level.

According to this study, inter organization knowledge sharing could be observed from the knowledge that flow from one level to another level starting from individual, to group, to organization and finally across the organizations. The study identifies trust among the organization facilitates inter-organizational knowledge sharing. Moreover, this study identified the acquisition of knowledge by entity; knowledge also comes from the interaction among entities.

### 2.7.5 Exploring the Factors of Inter-Organizational Knowledge Sharing

This research was conducted by Chen, Wu, Chien & Shiah in 2014. The main objective of the study was to investigate the factors of inter-organizational knowledge sharing. The authors adopt the social exchange perspective and explore the relational factors leading to inter-organizational knowledge sharing in the context of supply chain. In this study, they consider knowledge sharing is a pattern of inter-organizational interaction and outcome of social relationships, this research proposed relational embeddedness and shared value as major antecedents of inter-organizational trust and accordingly leading to inter-organizational knowledge sharing. Moreover, the research identifies and empirically examines two relevant aspects in trust developing and highlights the impact of trust on promoting knowledge sharing across the supply chain.

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inter-organization trust is the foundation for cross-organizational data exchange and knowledge sharing. Organizations that seek to capture the business opportunity through inter-organizational knowledge sharing and data exchange should make an effort to develop the bonded business relationship and mutual trust.

### 2.7.6 A Framework of Critical Factors to Knowledge Workers' Adoption of Inter Organizational Knowledge Sharing Systems

This research was conducted by Kamla Ali Al-Busaidi in 2013. The objective of this study was to outline the critical factors to knowledge workers' adoption of "public-good" Inter-organizational knowledge sharing systems (IOKSS). This study proposed that the antecedents of knowledge workers' adoption of "Public good" IOKSS in a specific sector are related to personal factors, peers factors, organization factors, system factors and sector factors.

The author proposed a detailed framework that can be used by researchers and practitioners to examine knowledge workers' attitude and adoption of IOKSS and ensure successful deployment of IOKSS. In addition, this study only proposed a theoretical model. Thus, empirical investigations are also needed to verify the effects of these factors. Furthermore, future research should develop or adopt reliable and valid measurements for researcher and practitioners to evaluate this proposed model. Future qualitative studies like case analysis, interviews etc. might reveal some further insights on these factors. However, further quantitative rigorous studies are needed to validate the model and generalize it.

## 2.8 Research Gap

Shibru (2015) studied about investigation of inter-organizational knowledge sharing among Addis Ababa city administration sector bureaus. The main objective of the study was to investigate inter organizational knowledge sharing among public sector in Addis Ababa city Administration and propose the solution for the gap observed during the study. However, this study did not incorporate the issue of inter organizational knowledge sharing platform as an effective knowledge sharing mechanism.

This study has a theoretical and practical contributions. The theoretical contribution is that the study explore factors that promote inter organizational knowledge sharing by reviewing different

inter organizational knowledge sharing studies. This study has also a practical contribution in terms of designing a knowledge sharing platform to promote inter organizational knowledge sharing among member associations in ECCSA.

# CHAPTER THREE
# METHODOLOGY

Doing research might be simple and trust worth, if and only if appropriate and valid methodology is being followed. Research methodology is one of the most important aspect in the research process to perform the research (Yin, 2009). In this part, issues of research methodology which includes research design, case study research method, design science research and design science research methodology are presented.

## 3.1 Research Design

This research used both qualitative case study and design science research methods. The case study research method is used to explore the existing knowledge sharing practice among member associations of ECCSA, where as the design science research method is used to design a knowledge sharing platform that promotes knowledge sharing (March & Smith, 1995; Hevner et al., 2004).

Case study research method is selected for this research in a way to address an intensive study of a system with an aim to generalize across a larger set (Creswell, 2007; Gerring, 2004). According to Yin (2009), case study research is most suitable where the research question is asking "how" and "why". In this research study context, the central research question is to assess "how member associations of ECCSA share knowledge?". In this regard, using a case study approach is appropriate in conducting the research.

This study explores the existing knowledge sharing practice among member associations and design a knowledge sharing platform in the context of ECCSA. As a result, this research selects Ethiopian Chamber of Commerce & Sectoral Associations (ECCSA) as a research case. ECCSA is the only national private sector institution established by government proclamation to represent the private sector of the country. It has 18 members.

## 3.2 Study Area

This study has taken place in member associations of Ethiopian Chamber of Commerce and Sectoral Associations (ECCSA). ECCSA is the only national private sector institution established by government proclamation to represent the private sector of the country.

### 3.3 Target Population and Sampling Method

ECCSA has eighteen members including nine Regional Chambers of Commerce and Sectoral Associations, two City Chambers of Commerce and Sectoral Associations, one National Chamber of Sectoral Associations and six Sectoral Associations organized at national level. Thus, member associations which have offices in Addis Ababa have been taken as a target population for the research.

Concerning the sampling method for interview, the study is applied purposive sampling technique. The rationale behind choosing purposive sampling technique for interview is that it permits the research to select a case based on features or processes that demonstrates issues of interest in the research and where those features are likely to be present (Silverman, 2005; Denzin & Lincoln, 2000). Table 3.1 below presents organizations that participates in the interview session.

**Table 3.1 Participant Organizations for Interview**

| No | Organization | Position of Interviewee | Qty |
|---|---|---|---|
| 1 | Ethiopian Chamber of Commerce and Sectoral Associations | Directorate and Senior Expert | 2 |
| 2 | Oromia Region Chamber of Commerce and Sectoral Associations | Secretary General | 1 |
| 3 | Addis Ababa Chamber of Commerce and Sectoral Associations | Directorate and Senior Expert | 2 |
| 4 | Ethiopian Sugar and Sweet Producers Associations | Secretary General | 1 |
| 5 | Ethiopian Leather Industries Association | Secretary General | 1 |
| 6 | Ethiopian Textile and Garment Manufacturers Association | Secretary General | 1 |
| 7 | Ethiopian Meat Exporters Associations | Secretary General | 1 |
| 8 | Ethiopian Horticulture Producer Exporters Association | Secretary General | 1 |

| | | | |
|---|---|---|---|
| 9 | Ethiopian Pulses, Oilseeds, and Spices Processors Exporters Associations | Secretary General | 1 |
| 10 | Ethiopian National Chamber of Sectoral Associations | Deputy Secretary General | 1 |
| | | **Total** | **12** |

### 3.4 Data Collection Methods

As it is explained by Hopkins (2001), qualitative method allows for more flexibility in identifying factors and practical strategies than the formal, structured quantitative approach and allowed for theory development. These include the use of in-depth interviews, document analysis, corporate literature, websites, articles, magazines and newspapers to provide a basis for extensive and thorough discussion of the research problem. Moreover, qualitative research approach is one of the main approaches of research methodology. It studies about experiences, behaviors and attitudes from the respondents. Therefore, due to the main research question that is related with "how" is addressed well with using qualitative methods. As compared to quantitative research approach, it does not use mathematical and statistical methods. However, qualitative research method uses logic to interpret gathered data.

#### 3.4.1 Interviews

There are different kinds of interviewing techniques: structured, semi-structured and unstructured (Hesse-Biber & Leavy, 2011). Structured interviews involve asking all participants a series of predefined questions and keeping the interview and participant focused on those questions. This method allows for direct comparisons between participants responses. But, it does not allow the participant to allow their own experiences to develop and provide further insights that the researcher may not have considered (Hesse-Biber & Leavy, 2011). Semi-structured interviews involve the development of a set of pre-defined questions that can act as a guide but allow the conversation to remain less rigid. As Hesse-Biber & Leavy (2011) noted, this allows the participants some freedom to talk about issues that interest them and additionally allows the researcher to follow topics raised that may not have been considered in advance. In this regard, this study used semi-structured interview technique.

Interviews can be carried out through face-to-face, telephone, skype or any other latest technology application. Face-to-face interviews were selected for this research. As Saunders et al. (2003) noted, face-to-face interviews permit a sort of interaction between the interviewer and the interviewees.

### 3.4.2 Observation

Observing the groups allows the recognition on the patterns of social interaction in their natural environment (Henn et al., 2009). As Yin (2009) explained, in order to observe the group interactions in real time in a setting that the members of the groups are both familiar with and as a part of the normal operations field notes from direct observation were utilized. According to Marshall (2006), observation can be defined as a systematic viewing of a specific phenomenon in its proper setting or the specific purpose of gathering data for a particular study.

As Kumar (1996) noted, there are two types of observation. They are: participant observation and non-participant observation. Participant observation takes place when the observers are participates in activity of the people being observed in the same manner as its member with or without their knowing that they are being observed. Whereas, non-participant observation takes place when the researcher does not get involved in the activities of the group but observes the activity of the respondents passively.

### 3.4.3 Document Review

There are many methods of data collection usually used in case research studies. Data from two or more sources will help to support the research answers. Therefore, this study also used document review to provide a basis for extensive and thorough discussion of the research problem. The document review includes newspapers, magazines, training manuals, videos, photos, procedure, minutes, reports, organization policy, rule and regulations, press releases and websites.

## 3.5 Methods of Data Analysis

With regard to data analysis methods, it involved the analysis of interviews, observation and documents. The researcher follows formalized procedures to analyze the interview data. Moreover, the researcher uses NVIVO (version 10) software for storing the interview data.

### 3.6 Validity and Reliability

Validity and reliability are the most important issues for qualitative researches. Yin(2003) argue that validity and reliability are not applicable to qualitative research and qualitative researchers concern should be emphasized towards trustworthiness and encompassing issues like credibility dependability, transferability and conformability. Thus, to address such qualitative research issues, the use of formalized and software based procedures using Nvivo software for the analysis and interpretation of qualitative interview data is essential.

### 3.7 Design Science Research

According to Hevner et al. (2004), "design science creates and evaluates IT artifacts intended to solve identified organizational problems". Design science is considered as a sub-strand of a set of constructive research approaches with a common emphasis of the central role of the artifact (Gregor & Jones, 2007). Design science research is understood as a "problem solving paradigm" (Hevner et al., 2004; March & Smith, 1995).

Different scholars developed design science research process models. The researcher of this study used design science research process model which is developed by Offermann et al. (2009).

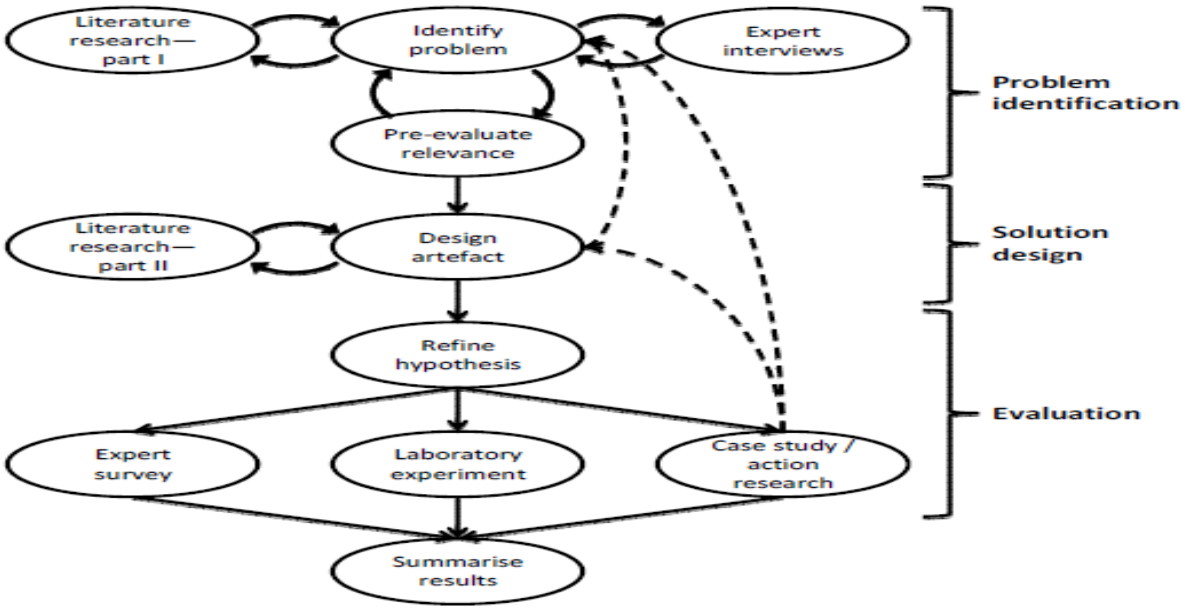


**Figure 3.1** Design Science Research Process (Offermann et al., 2009)

This design science research process model which is developed by Offermann et al. (2009) explained here under.

**Problem Identification**

In this study, the researcher will identify social and technological problems that hinder inter organizational knowledge sharing. In this stage, literature research and expert interviews are the most common tools that can be used to understand the problems thoroughly (Offermann et al., 2009). ECCSA has lack of systems that promote knowledge sharing among its member associations. This study selected National Business Agenda (NBA) Development as a Business Process. ECCSA considers Ethiopian Public Private Consultative Forum (EPPCF) initiative as the pillar of its advocacy service to the private sector. This advocacy service is achieved through National Business Agenda (NBA). NBA Development considered as a business process which includes different activities. The business process is analyzed using a process map technique.

**Solution Design**

In this stage, the solution which is the knowledge sharing platform is designed. The researcher used Drupal content management system (CMS) (**version** 7.43) and MYSQL database to develop a web based knowledge sharing platform. The researcher also used Apache server to deploy the knowledge sharing platform.

**Evaluation**

In this stage, evaluation is performed. According to Offermann et al. (2009), evaluation can be achieved by means of a case study or action research, arranging a broad expert survey and laboratory experiments or simulations. The researcher of this study evaluates the designed knowledge sharing platform using human experts' interview.

# CHAPTER FOUR
# DATA PRESENTATION AND ANALYSIS

This chapter analyzes data which was collected through interview, observation and document review. It also attempts to give answer to the research questions raised in this study. It assesses inter organizational knowledge sharing practice among member associations of ECCSA and explores the contextual factors that promote knowledge sharing. Moreover, the data analysis will help to process raw data into meaningful information.

## 4.1 Inter Organizational Knowledge Sharing Practice

One of the objectives of this study is to assess inter organizational knowledge sharing practice among member association of ECCSA. This research use Nonaka's SECI model to assess inter organizational knowledge sharing practice. This study identifies personification and codification as a main knowledge sharing methods.

### 4.1.1 Personification

The personification method includes formal and informal knowledge sharing methods.

#### 4.1.1.1 Formal Methods of Knowledge Sharing

Formal knowledge sharing method includes; on the job training, meetings, team work, email communications, social networking and experience sharing among member associations.

- **On the Job Training**

ECCSA provides training to its members through Chamber Academy. The Chamber Academy provides on the job training for associations in order to build their capacity in different areas like leadership, governance, advocacy and membership development. As the Planning and Project Coordination Head explained:

> *We may not observe the importance of the trainings immediately; however, there are changes we observed through times. For example, on the advocacy, there were only very few individuals who can advocate to face the government and challenge on few government policies and regulations. However, after we*

*provided the training on advocacy, we produced thousands of individuals who can attend national discussions, dialogue forums and meeting and defend themselves. This is one of the biggest successes our association gained so far from the training.*

The Marketing Division Head also added similar view :

*Chamber Academy usually organizes and provides trainings to all member associations on project preparations and implementations. The department further conducts researches concerning the various issues the associations faced and forecasts the merits and disadvantages of them. This is often done through the provision of various trainings to representatives of the member associations.*

The training also can serve as a means for the representatives of the associations to share their ideas . As the Senior Membership Affairs Expert explained:

*On the training, all member associations send their representatives and have the chance to share their knowledge, experiences, challenges and fears they often come across with other attendees. This helps for member associations to grasp more knowledge on different areas.*

- **Meetings**

ECCSA arranges different meetings in order to share ideas and information among member associations. In ECCSA, mainly there are the general assembly meeting and board of directors meeting. This meeting enables the involvement of all member associations representatives to share and discuss ideas about the chamber activities.

The general assembly meeting is a meeting in which associations hear the annual reports and understand the different activities the chamber performed in the fiscal year. As the Senior Membership Affairs Expert explained:

*One of the major meetings is the general assembly meeting. On this meeting, the associations elect their president. It is also an event where the associations hear*

*the annual reports and understand the different performances the chamber performed in the fiscal year.*

Boards of directors meeting are conducted every 45 days to evaluate the monthly performance of ECCSA. It also serves as a mechanism to share knowledge among members by dealing their respective associations activity. As the Planning and Project Coordination Head explained:

> *There are two types of meetings in the chamber. The first one is the board members meeting. The board members are representatives of the member associations. They attend the meeting here and bring all the knowledge they gained here to their associations. Through such meeting, they share the knowledge to the rest of their members.*

Board of directors meetings also strengthening the association by focusing its strength and weakness from the report. As the Secretary General emphasized:

> *They analyze the weaknesses and strengths of the organization and determine the best ways to the progress of the chamber in the future.*

In this regard, meetings provide an appropriate means to share knowledge and experience among members of ECCSA. It enables them to share their experiences to all members so as to create a common understanding to solve different problems raised in their respective association.

- **Team Work**

Teamwork involves cooperation among member associations. This cooperation helps to set a common goal in which the entire team is working toward. In ECCSA, two or more associations prepare a trade fair. In this case, the associations share their experience in order to accomplish the trade fair in a timely and suitable manner. As the Senior Membership Affairs Expert noted:

> *There is team work especially when trade fair is organized with other member associations. The teams are assigned to specifically accomplish a singly activity so that the whole event can successfully be accomplished. On the event, each team share and discusses the challenges they faced in previous similar events to the other and learns the best solution to be taken for the next one. All the teams exchanges knowledge in all direction to successfully realize the trade fair.*

The Planning and Project Coordination Head also explained similar view:

> *In order to house a trade fair with other associations, the associations form a committee that can share experiences and looks after its success. Therefore, the committee forms various groups of teams that each team takes a very specific task on the event so that any setbacks can quickly be tackled and the whole trade fair will be successful.*

In ECCSA, it is believed that working as a team with other associations promotes experience sharing among associations. This will enhance the strength and ties among members.

- **E-mail Communication**

E-mail is one of the valuable communication tools among member associations of ECCSA. It is a good way to attach and send electronic files such as newsletters and documents in order to share valuable information among member associations. As the Secretary General explained:

> *It is one of the most frequently used tool to our association. We usually use to communicate with other member associations. We used to communicate and share important information with the chamber's officials and other partner associations as well.*

E-mail communication is also important to distribute information to a large number of people quickly. For instance, associations are expected to share information related to different business opportunities to their members. In such situation, using an e-mail as a communication tool enables them to address its information to all members easily. As the Senior Membership Affairs Expert added:

> *There is the trend to use email among associations and to their members as well. They consider e-mail as a necessary tool to communicate with their individual members. Associations effectively use e-mail communication to deliver various information to their individual members.*

It can be realized that e-mail communication is valuable for the sharing of information they want among associations. They can get useful information through e-mail. They also share trade and business opportunities to their members.

- **Social Networking**

Social networking sites such as Facebook and Twitter have become powerful communication tools. Using these channels create easy communication among member associations. It enables members to access important information posted on the page. As the Marketing Division Head explained:

> *Our association already has its own Facebook page and website. Therefore, any information and knowledge the association believes is necessary to the member associations and partner associations is posted on the Facebook page and the websites as well. Thus, any individual who wants information can access the association through these social networking tools and get the knowledge needed.*

The Planning and Project Coordination Head also explained similar view:

> *Our association is essentially using the social media such as the facebook, twitter and Flicker. These social media are helping the association to share and disseminate important information for its larger business community in the form of video, audio and pictures.*

It can be said that social networks are useful means of communication among member associations. It enables to respond to comments in a timely manner. It also enables association to add contents to their page and keep their members up-do-date on all local and international business opportunities.

- **Experience Sharing**

Inter organizational learning becomes possible from both successes (best practices) and failures (lessons learned). Learning in organizations is important because it represents the transition step between the application of ideas and the generation of new ones (Dalikir, 2005). As the Planning and Project Coordination Head explained:

*There are consultative forums twice in a year for best practice sharing in ECCSA with representatives from the 18 member associations. on the meetings we share the best activities we made and the members also share their own. We also share the challenges and how solved them.*

The Marketing Division Head also expressed similar view:

*Experience sharing or best practice sharing is one of the activities the Ethiopian Chamber of Commerce is applying twice in a year. On this program, each member association sends a representative official so that they can share and learn from one another. Member associations often share their best practices on how they can develop a well-trained and educated staff. They share on how they can transfer information to member association.*

Experience sharing provides a means to share lessons in which associations observed as a success or a failure. This practice has its own contribution for the effectiveness of inter organizational knowledge sharing among associations. Associations share different kinds of experience to others. For instance, when a member association organized and launched a trade fair at international or national level successfully, that association share the experience which typical of the association.

#### 4.1.1.2 Informal Methods of Knowledge Sharing

Informal knowledge sharing method includes; face to face interactions and telephone communications.

- **Face to Face Interactions**

Face to face interactions can be used as a knowledge sharing method in order to solve immediate problems arises. As the Senior Membership Affairs Expert explained:

*The representatives of the associations often take the chance of a tea-break to meet up the other representatives to discuss issues face-to-face. And also those associations whose offices are in Addis Ababa prefer to personally attend appointments to talk to the officials in our association face-to-face.*

*Moreover, it usually applied during interactions with representative of all the member associations in addition to dialogue forums and workshops.*

There are occasions in which face to face interaction needed to discusses very important issues. The Secretary General also explained:

*There are some member associations' branch offices on the same building in the Ethiopian Chamber of Commerce and Sectoral Association located. Our association often meet representatives from these offices in the cases it is very important to discuss issues in person. This is one way of the face-to-face meetings with member associations.*

This confirms that face to face interaction among members has an important role to play in order to discuss essential issues that can be occurred in their day to day activity. They engage in face to face interactions to acquire relevant knowledge in order to perform the task. It enables them to get better understanding on the issues.

- **Telephone Communications**

Telephone communication can be used as a method of sharing information among members for different events and occasions. As the Senior Membership Affairs Expert explained:

*We often use phone calls to inform member associations about events and to inform chamber association about meeting schedules and announcements.*

The Marketing Division Head also added similar view :

*Most of the method of communication our organization bases is a telephone communication. For instance, most of the invitations to the workshops and general meets and forums are done through telephone calls. To collect simple information from and to the associations, our organization primarily uses telephone calls.*

ECCSA uses telephone communication to invite all the members to participate in workshops, trade fairs and other events. This sort of communication made easy to address all its members.

### 4.1.2 Codification

ECCSA has a practice to codify different types of manuals and to record best practices. The Resource Center in ECCSA codify different manuals and best practices to make available to all member associations and the business community. As the Planning and Project Coordination Head explained:

> *Yet, in the resource center of ECCSA, we store the knowledge using computer so that anyone can access them digitally. We also store on the website of the association. In contrary, other member associations don't apply the same due to financial barrier and lack of awareness on the technology.*

The Secretary General also expressed similar view:

> *This is often related to the practice of the knowledge and information the association accumulated in its resource center should be stored online so that the larger audience can access them any time. Therefore, the resource center uses the encoded document to disseminate the information to the business community. the reason for codification of the information is that to create easy access to the hardcopy materials.*

The codification practice in ECCSA has been practiced by its resource center. The resource center mostly codify manuals and best practice obtained. The resource center uses the encoded document to disseminate the information to the business associations. As a result, this creates easy access to the documents and the information available in ECCSA. In this regard, codification is one of the mechanisms to promote knowledge sharing in ECCSA. However, codification is not applied by most of member associations to capture and store knowledge.

## 4.2 Factors that Promote Inter Organizational Knowledge Sharing

Many researchers identify factors that promote inter-organizational knowledge sharing. This study identified contextual, organizational, technological and the nature of the knowledge as factors that can promote inter organizational knowledge sharing among members (Seyyedeh et al. , 2009).

### 4.2.1 Contextual Factors

Context is the situation and the environment in which knowledge sharing takes place. Contextual factors include factor like trust (Nieminen, 2005; Wijk et al., 2008; Easterby-Smith et al., 2008; Albino et al., 1998).

- **Trust**

Trust is a belief that one organization acts in consistent manner and will perform in accordance with expectations and interactions (Spekman et al., 1998). Trust can be considered as one of the most important issues among organizations that can promote knowledge sharing. As the Planning and Project Coordination Head explained:

> *It is hard to tell that there is full trust among member associations. Some of the member associations are tougher in knowledge than the chamber itself; however, it is visible to understand on various workshops that these associations share only little of their knowledge. This is mainly not to lose the competition on some common grounds. For instance, there is a chance to share the same donor with other associations and these tougher associations keep their knowledge to look smarter and stronger than others in order to win the interests of the donor organization.*

The Marketing Division Head also expressed similar view:

> *The member associations show a sign of competition with each other however, since all of them need to work together to strengthen their business, there is a little of it. This little competition, on the other hand, brings a sense of mistrust among them. For instance, one member association keeps some business and investment opportunities from other associations which may be more effective for some specific investment areas.*

From the above views, it is difficult to say there is trust among associations in order to freely share knowledge they have. According to the respondents, associations doesn't share information related to donors profile and business and investment opportunities. Associations keep such

information instead of sharing to others. In this regard, it is hard to say there is genuine trust among associations for the sharing of knowledge.

### 4.2.2 Organizational Factors

There are organizational factors that promote inter organizational knowledge sharing includes organizational intention to learn, organizational policy and geographical proximity.

- **Organizational Intention to Learn**

Intention to learn focuses on the level of effort that the organization makes for purpose of learning and awareness of the significance of learning (Hau & Evangelista, 2007). It is a means to get external knowledge. As the Marketing Division Head explained:

> *There is a huge interest of involvement on any activities as far as it supports the basic needs and interests of their associations. Member associations have the willingness even to apply a different procedures and organizational culture. This is often seen on the trade fairs and dialogue forums that the chamber presents. The member associations actively participate in all of them and the next day, they start to organize similar activities and events. This shows the willingness of the member associations' management for a new way to learn from others.*

This is also confirmed by the Planning and Project Coordination Head:

> *Some of the associations may have bigger intention than our association, and some others may have little. However, the reason for the development and strength of our association is mainly its strong intention to learn.*

It can be said that even if we cannot say the intention to learn is applicable in all the member associations, most associations have the interest to apply external knowledge by modifying to their context.

- **Organizational Policy**

Strong and sound policy will help to reduce the resistance if it ever exists (Lazer & Binz Scharf, 2004). As the Planning and Project Coordination Head explained:

*Even if there is no written policy that insists our organization to share knowledge, the proclamation that caused the establishment of our association asserts that associations must share knowledge in any form. However, if there is a policy, knowledge sharing among associations will be a mandatory task.*

The Marketing Division Head also expressed similar view:

*In relation to knowledge and experience sharing, knowledge transfer and a system to learn new practices, there is no specific organizational policy stated.*

According to the respondents, there is no written organizational policy that enforces the sharing of knowledge among associations. In this regard, we can conclude that the existence of organizational policy can promote inter organizational knowledge sharing among associations.

- **Geographical Proximity**

Geographic proximity is the geographic distance between two or more organizations. It encourages face-to- face communication and brings companies together (Knoben & Orelemans, 2006). As the Senior Membership Affairs Expert explained:

*To facilitate the necessity of knowledge transfer from one association to other, geographical proximity is very crucial. For instance those regional member associations that exist in regional states far from Addis Ababa, have little access to the daily business information happened in the capital. However, those member associations that have their offices in Addis Ababa, can access any information necessary on a daily basis from the ECCSA.*

This is also confirmed by the Planning and Project Coordination Head:

*Geographical proximity affect the occurrences of knowledge sharing among member associations of ECCSA. The closer the member associations are geographically the more informed they are on the daily bases.*

Geographical proximity is the geographical distance between member associations of ECCSA. It increases the level of richness in terms of interaction and knowledge sharing among associations.

According to respondents, geographical proximity can promote inter organizational knowledge sharing among associations.

### 4.2.3 Technological Factors

- **ICT Infrastructure and Accessibility**

ICT support in the form of extranet, web service and intranet play major role in bridging gaps of time and space between members of knowledge communities (Hoof, 2004). Technology is considered as one of the components of KM systems to link the members together and support members to use and share knowledge within the KM system (Barson et al., 2000). As the Management Information System Coordinator explained:

> *There is a limited ICT infrastructure among ECCSA and its member association throughout the country. It is limited for the fact that some of the member association that exist in far regional states like Somalia and Gambela have very little internet connection and those closer to the capital have better internet connection. Therefore, we can say that there is the infrastructure but there is very little access to the ICT among the member associations.*

The challenge of capturing, organizing and disseminating knowledge in inter organizational contexts can be facilitated by effective ICT support. ICT not only provides quick and accurate access to databases and stored data but also it creates a link between organizations increasing the connectivity between them by providing internet-based discussion groups or electronic meetings that may finally lead to knowledge sharing (Turban, 2006; Hendriks, 1999). As the Planning and Project Coordination Head explained:

> *There is the accessibility of ICT and its infrastructure. Yet, the infrastructure is mainly web based to our association. It is one of the plans of our association that we should develop a wide area network that may allow us to use video conferences and more. Once this project is completed, the knowledge sharing mechanism will be more effective.*

According to the respondents, the existence of ICT infrastructure and its accessibility can promote inter organizational knowledge sharing among associations. In this regard, ICT

infrastructure contributes a lot for the facilitation of knowledge sharing among associations. Moreover, it will also increase the simplicity to share knowledge.

### 4.2.4 Nature of Knowledge

The nature of knowledge can be viewed in terms of tacitness or explicitness of knowledge. The nature of knowledge is a variable that is influenced by knowledge sharing (Nonaka, 1994). As the Secretary General noted:

> *In our association both the explicit and tacit knowledge exists. However, the tacit type of knowledge inclined in many ways. Even if there is knowledge explicitly reserved for the public to share, the great deal of more knowledge is still inside individuals and is kept away from the public. This knowledge is made out of a long time work experience in the chamber and similar associations. These individuals are providing a huge contribution for the development of the association. However, their knowledge and skill is always invisible to the public.*

The Senior Membership Affairs Expert also added:

> *Explicit type of knowledge is visible to everyone and is applied on a daily basis. For example, the financial and management guidelines, membership recruitment procedures, research and advocacy protocols are some of the explicit knowledge. Whereas, the tacit type of knowledge is mostly kept in the minds of the associations leaders. They mostly doesn't share such knowledge. When they left the associations , they kept the knowledge and experience with them.*

Explicitness of knowledge provides easier way to transfer and communicate knowledge. Consequently, explicitness of knowledge will facilitate the ability to share knowledge across the organizations where as tacit knowledge is hard to share across the organization (Dick Stenmark, 2001). According to the respondent, explicit knowledge promotes inter organizational knowledge sharing among associations. It is the easiest way to share knowledge.

### 4.3 Implications for Knowledge Sharing Platform Design

Effective knowledge sharing takes place when the sharing entities use similar relational model with appropriate incentive mechanisms and knowledge management systems (Boer et al., 2011). The study on ECCSA shows that ECCSA has lack of systems that promote organizational learning. IOKSS is a type of KMS that enables seamless dissemination of individual and organizational knowledge through repositories or networking between two or more organizations (Al-Busaidi, 2013). At this time, organizations are designing and implementing knowledge sharing platforms in an effort to improve their competitiveness, productivity, organizational effectiveness and customer service.

The findings of this study has its own implications to design a knowledge sharing platform. ECCSA promotes inter organizational knowledge sharing among member associations through different formal knowledge sharing methods such as on the job training and meeting. Training and meeting can provide an appropriate means to share knowledge and experience among members of ECCSA. It enables them to share their experiences to all members so as to create a common understanding to solve different problems raised in their respective association. In this regard, the knowledge sharing platform can be used as a means to facilitate inter organizations knowledge sharing among member associations of ECCSA. This platform also provides as a communication platform to support the interactions among- member associations.

NBAs identify laws and regulations that hinder business activity. NBA is a vital tool for the business community to encourage investment and stimulate business activity and economic growth. Developing an agenda mobilizes the business community to use its skills to effect public policy reform by setting legislative and regulatory priorities and clearly communicating them to policymakers. This type of knowledge is tacit in nature and acquired through developing various national business agenda. However, these activities are performed through paper based which is not accessible by others and it is limited to few individuals. Knowledge can be accessible in a way it is stored in a central location using knowledge representation model such as taxonomy. Therefore, the knowledge sharing platform provides a knowledge repository and facilitates inter organizations knowledge sharing among associations of ECCSA.

# CHAPTER FIVE
# DESIGNING A KNOWLEDGE SHARING PLATFORM

Knowledge Management System (KMS) is an integration of technologies and mechanisms that are developed to support knowledge management processes (Becerra- Fernanadez et al., 2004). An Inter organizational Knowledge Sharing Systems (IOKSS) is a type of KMS that enables seamless dissemination of individual and organizational knowledge through repositories or networking between two or more organizations (Al-Busaidi, 2013).

Inter organizational knowledge sharing systems is an automated information system shared by two or more organizations and designed to link business processes (Cash & Konsynski, 1985; Robey, et al., 2008). Designing Inter organizational knowledge sharing platform for business associations provides a variety of importance that promote knowledge sharing among association. This platform aims to provide the sharing of experiences and best practices among business associations. Moreover, it promotes the free exchange of knowledge, data, lessons learned and experience among associations.

The study by ICOS Consulting (2013) pointed out that ECCSA has lack of systems that promote organizational learning. It also shows that ECCSA is not a learning organization that properly documents knowledge and best practices produced internally or obtained from benchmarking visits elsewhere. Moreover, they showed that there is no formal system of sharing knowledge and lessons learned. The aim of this study is to design a knowledge sharing platform that promote knowledge sharing among business associations.

## 5.1 Business Environment

ECCSA's mission is to provide a platform for unified voice of the private sector that can play a leading role in the economy through advocacy, trade and investment promotion and capacity building. ECCSA now considers Ethiopian Public Private Consultative Forum (EPPCF) initiative as the pillar of its advocacy service to the private sector.

The Ethiopian Public Private Consultative Forum (EPPCF) is mandated by a Memorandum of Understanding (MoU) signed in July 2010 between the Ministry of Trade and Industry and the Ethiopian Chamber of Commerce and Sectoral Associations (ECCSA). The MoU is a result of

years of negotiations between the private sector and the government to establish a formal mechanism for Public-Private Dialogue. In a country where the level of mistrust between the private and public sector is deep and relations severely strained, the signing of the MoU and the establishment of the EPPCF represented a major milestone in rebuilding government and private sector relations.

The Forums were conducted along the following specific themes: Tax, Trade Logistics, Public Procurement, Commercial Registration, Business Licensing, Tourism, and Company Formation and Administration. These forums have led to a number of reforms that resulted in significant savings to the private sector and improved business environment.

EPPCF follows research driven process in developing the agenda for dialogue. The EPPCF secretariat engages the private sector continuously to identify pressing issues that warrant a dialogue with the government. A dialogue forum is always preceded with the analysis of a potential issues agenda. Currently, the development of NBA is done in unstructured way.

### 5.2 Knowledge Taxonomy

This study uses Kim et al. (2003) procedures of building the knowledge map which consists of six procedure. The procedures include : defining organizational knowledge, process map analysis, knowledge extraction, knowledge profiling, knowledge linking and knowledge map validation.

#### 5.2.1 Defining Organizational Knowledge

This procedure used to define knowledge ontology that provides a uniform, text based intermediate representation of knowledge. The intermediate representation provides a means of describing knowledge. A national business agenda (NBA) is a vital tool for the business community to encourage investment and stimulate business activity and economic growth. Developing an agenda mobilizes the business community to use its skills to effect public policy reform by setting legislative and regulatory priorities and clearly communicating them to policymakers.

NBAs identify laws and regulations that hinder business activity. They also offer concrete recommendations and reforms to remove these barriers and improve the business climate.

Developing a national business agenda educates members of the private sector on public policies that affect them. The process allows private sector representatives to present the concerns of the business community to government officials in a unified voice and increase the likelihood that the agenda will be adopted.

### 5.2.2 Process Map Analysis

This procedure used to capture and managing knowledge involved in business process. The business process is analyzed using a process map technique. National Business Agenda (NBA) Development is selected as a Business Process. ECCSA considers Ethiopian Public Private Consultative Forum (EPPCF) initiative as the pillar of its advocacy service to the private sector. This advocacy service is achieved through National Business Agenda (NBA). NBA Development considered as a business process which includes 7 major activities.

- **Complaint / Appeal Capturing**

Complaints received from the business community and emerging current issues that are captured from the media are sources of agenda items. The business associations provide pressing issues that warrant a dialogue with the government. It requires knowledge about the current business challenges (issues).

- **Agenda Identification and Selection**

The key individuals involved in developing a national business agenda should meet to form an advisory committee. The committee will ultimately review the draft agenda and provide comments. The more members of the private sector that endorse the agenda, the more seriously government officials will consider it. They need to have knowledge about government policies and strategies in which it highly hinders business doing.

- **Participatory Appraisal/ Ranking Method**

Facilitator distributes meeting agendas and reminds participants that the objective is to identify obstacles, prioritize them and propose recommendations for change. Facilitator lists each obstacle mentioned. Participants rank the obstacles in order of priority. Facilitator identifies

obstacles that were ranked as having the highest priority, organized by issue area. It requires knowledge about ranking business challenges.

- **Conducting a Research**

The NBA undertake the research through survey of the business community across the country. Studies conducted in the area serve as an important source of dialogue agenda. The task force draft the actual business agenda. Therefore, it should be composed of a limited number of people with extensive knowledge of the issues that will be addressed.

The task force will be provided with the views and opinions of the business community and its job is to transform those views and opinions into a professional document. It is possible that, depending on the obstacles identified, there will be a need to organize several task forces. Ultimately, the role of the task force is to build a substantive document that will be presented to the government. The document must identify the obstacles and propose solutions supported by solid studies and data. It requires individual knowledge about the selected business agenda. This knowledge is tacit in nature and acquired through the participation of different business research. It also requires knowledge about policies, legislations, strategies and so on.

- **Obtain Feedback**

Project coordinator distributes the draft NBA to each participating association for review. Each association can choose how it communicates with its members and how it obtains feedback. This can be done by simply e-mailing the document. Or, the association can organize a meeting with members to discuss the issues and solutions that the task force identified. While the first choice is much faster and simpler, the second might ensure greater understanding of the NBA, increased participation, and future commitment from members. Business association leaders should also ensure that the association members, or their designated representatives, are given the opportunity to review the draft document and offer feedback. It requires individual knowledge about the researched business agenda and the sector in which the agenda focuses. This knowledge is tacit in nature and acquired through the participation of different business researches. It also requires knowledge about policies, legislations, strategies and so on.

- **Revision of the Agenda**

Project coordinator and members of the task force incorporate feedback into the draft agenda. This is the point at which comments and suggestions to improve the content of the business agenda are incorporated. It is not the time for disagreements or contradictions on major issues. This is the time for fine- tuning – not changing the substance of the agenda that was identified and agreed upon in earlier meetings. It requires knowledge about organizing and incorporating essential comments.

- **Publication of the Agenda**

Project coordinator prints the final (endorsed) national business agenda in booklet format. Present the National Business Agenda. Project coordinator plans a press conference. It is important to set a clear agenda and decide who is going to discuss which issues. The press conference agenda should be clear and concise. It requires knowledge about booklet publication, organizing and managing a conference.

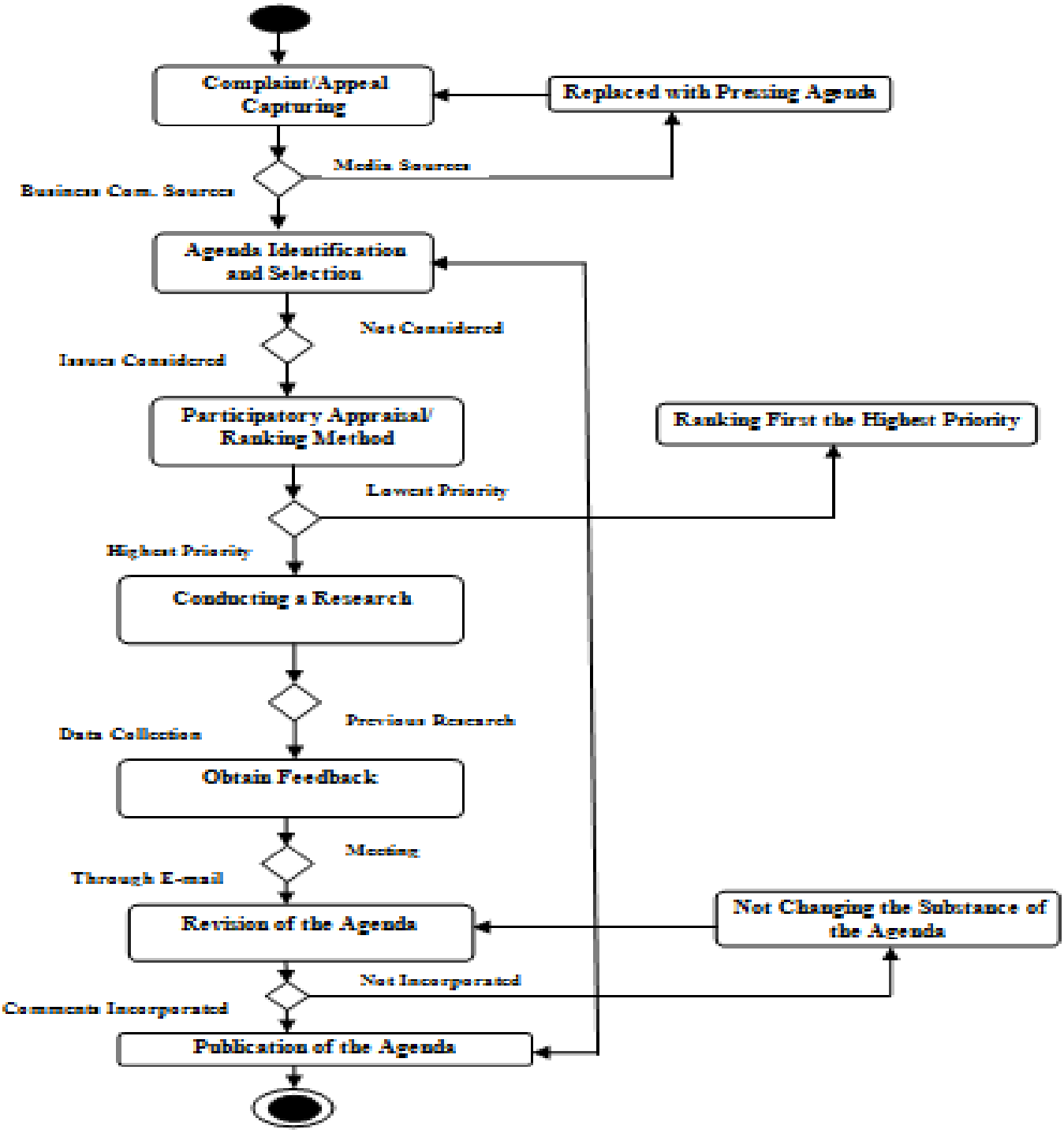


**Figure 5.1 Process Map of NBA Development (Source: Own Survey, March 2016)**

### 5.2.3 Knowledge Extraction

In this procedure knowledge is extracted using a process map. The extracted knowledge is listed as follows (Source: Own Survey, March 2016).

- Government Policy Knowledge : It includes knowledge about industrialization policy , foreign policy which includes Foreign Direct Investment (FDI), etc
- Government Strategy Knowledge : It includes knowledge about Agricultural Development Lead Industrialization (ADLI), etc
- Legislation Knowledge : It includes knowledge about tax, land, bank, access to finance, construction permit, trade and license registration, etc
- Directives Knowledge : It includes detail and specific regulations e.g. customs directive
- Economics Knowledge : It includes knowledge about business, marketing , finance ,etc
- Law Knowledge : It includes knowledge about commercial code ,etc
- Expert Knowledge : This type of knowledge is tacit in nature and acquired through developing various national business agenda
- Research Knowledge : It includes knowledge about stakeholders mapping , interviewing techniques, etc
- Communication Knowledge : It includes knowledge about launching the agenda, announcing to the media, etc

### 5.2.4 Knowledge Profiling

In this procedure knowledge profile is produced from extracted knowledge (see table 5.1 to table 5.9). Knowledge is described using attribute and relationships. Knowledge Profiling helps to connect people with information and connecting people with people using attributes such as keywords, descriptions, importance and people finder attributes such as an expert or author.

**Table 5.1 Government Policy Knowledge Profile**

| | |
|---|---|
| Knowledge ID | NBA-KWG-001 |
| Type | Explicit Knowledge |
| Format | Document |
| Related Knowledge Component | NBA-KWG-002 and NBA-KWG-003 |
| Description | This knowledge is used to know about industrialization policy and foreign policy which includes Foreign Direct Investment |
| Title | Government Policy Knowledge |
| Organization | Research and Advocacy Team |
| Access Right | All |

**Table 5.2 Government Strategy Knowledge Profile**

| | |
|---|---|
| Knowledge ID | NBA-KWG-002 |
| Type | Explicit Knowledge |
| Format | Document |
| Related Knowledge Component | NBA-KWG-001 and NBA-KWG-004 |
| Description | This knowledge is used to refer strategy issues related to agriculture development lead industrialization |
| Title | Government Strategy Knowledge |
| Organization | Research and Advocacy Team |
| Access Right | All |

**Table 5.3 Legislation Knowledge Profile**

| | |
|---|---|
| Knowledge ID | NBA-KWG-003 |
| Type | Explicit Knowledge |
| Format | Document |
| Related Knowledge Component | NBA-KWG-001 |
| Description | This knowledge is used to refer legislation issues of tax, land, access to finance, construction permit, trade and license registration, etc |
| Title | Legislation Knowledge |
| Organization | Research and Advocacy Team |
| Access Right | All |

**Table 5.4 Directives Knowledge Profile**

| | |
|---|---|
| Knowledge ID | NBA-KWG-004 |
| Type | Explicit Knowledge |
| Format | Document |
| Related Knowledge Component | NBA-KWG-002 and NBA-KWG-006 |
| Description | This knowledge is used to refer directive issues related to detail and specific regulations e.g. customs directive |
| Title | Directives Knowledge |
| Organization | Research and Advocacy Team |
| Access Right | All |

**Table 5.5 Economics Knowledge Profile**

| | |
|---|---|
| Knowledge ID | NBA-KWG-005 |
| Type | Explicit Knowledge |
| Format | Document |
| Related Knowledge Component | NBA-KWG-007 and NBA-KWG-008 |
| Description | This knowledge includes knowledge about business, marketing, finance, etc |
| Title | Economics Knowledge |
| Organization | Research and Advocacy Team |
| Access Right | All |

**Table 5.6 Law Knowledge Profile**

| | |
|---|---|
| Knowledge ID | NBA-KWG-006 |
| Type | Explicit Knowledge |
| Format | Document |
| Related Knowledge Component | NBA-KWG-004, NBA-KWG-007 and NBA-KWG-008 |
| Description | This knowledge is used to refer laws like commercial code |
| Title | Law Knowledge |
| Organization | Research and Advocacy Team |
| Access Right | All |

**Table 5.7 Expert Knowledge Profile**

| | |
|---|---|
| Knowledge ID | NBA-KWG-007 |
| Type | Tacit Knowledge |
| Format | Expertise |
| Related Knowledge Component | NBA-KWG-005, NBA-KWG-006 and NBA-KWG-008 |
| Description | This type of knowledge is tacit in nature and acquired through developing various national business agenda |
| Title | Expert Knowledge |
| Organization | Research and Advocacy Team |
| Access Right | All |

**Table 5.8 Research Knowledge Profile**

| | |
|---|---|
| Knowledge ID | NBA-KWG-008 |
| Type | Tacit Knowledge |
| Format | Expertise |
| Related Knowledge Component | NBA-KWG-005, NBA-KWG-006 and NBA-KWG-007 |
| Description | This type of knowledge includes knowledge about conducting a research. e.g. stakeholders mapping, interview technique, etc |
| Title | Research Knowledge |
| Organization | Research and Advocacy Team |
| Access Right | All |

**Table 5.9 Communication Knowledge Profile**

| | |
|---|---|
| Knowledge ID | NBA-KWG-009 |
| Type | Explicit Knowledge |
| Format | Document |
| Related Knowledge Component | NBA-KWG-007 |
| Description | This knowledge is used to refer communication policy and strategy |
| Title | Communication Knowledge |
| Organization | Research and Advocacy Team |
| Access Right | All |

### 5.2.5 Knowledge Linking

This procedure is used to identify new knowledge links and examine and confirm existing link. Knowledge link is represented as an arrow in knowledge map which depicts a navigation path of knowledge. Knowledge map is a type of directed graph contains nodes and links. In knowledge map each node represents knowledge item and the links representing pre and post relationship between knowledge.

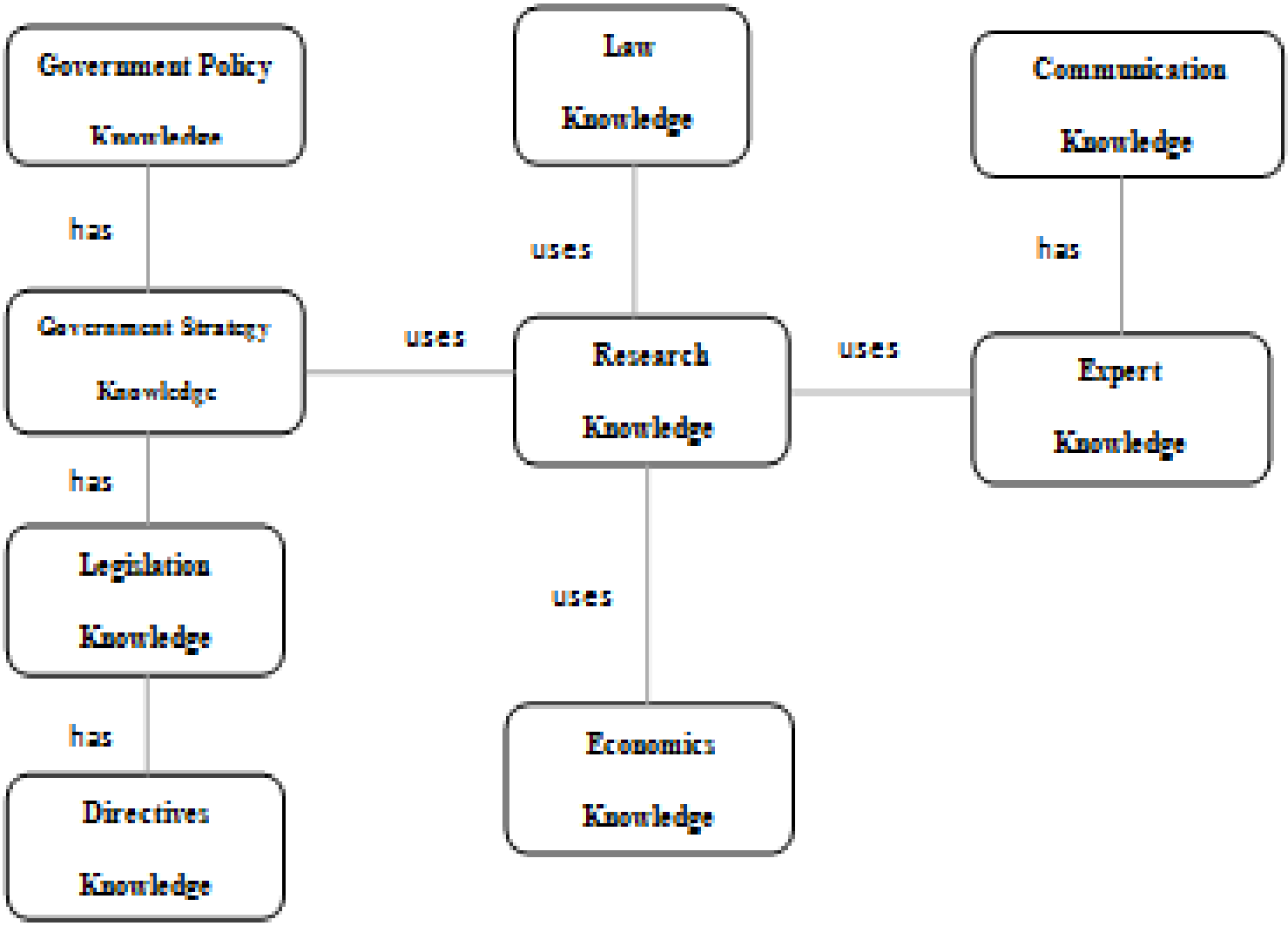


**Figure 5.2 Knowledge Link (Source: Own Survey, March 2016)**

### 5.3 Knowledge Sharing Platform Design

The researcher used Drupal content management system (CMS) (version 7.43) and MYSQL database to develop a web based knowledge sharing platform. The researcher also used Apache server to deploy the knowledge sharing platform. The goal of designing this knowledge sharing platform is to improve efficiency and enhance knowledge sharing among member associations of ECCSA.

#### 5.3.1 Description of the Interface

The knowledge sharing platform has different pages to create easy access to the development of a national business agenda. It includes pages of knowledge base, members, resources, blog and forum. The overall layout of the knowledge sharing platform is shown in Figure 5.3.


Figure 5.3 Overall Layout of the Knowledge Sharing Platform

**The Login Page** is used for system administrator and authorized members representatives to access and use the system. The login page of the knowledge sharing platform is shown in Figure 5.4.


Figure 5.4 Login Page

The Blog Page allows authorized users to maintain a blog. Blogs are a series of posts that are time stamped and are typically viewed by date as similar to view a journal. Blog entries can be made public or private to the site members, depending on which roles have access to view content. The blog is usually used when there is a need for a number of blogs, written by different users, running on one site. The blog page is shown in Figure 5.5.

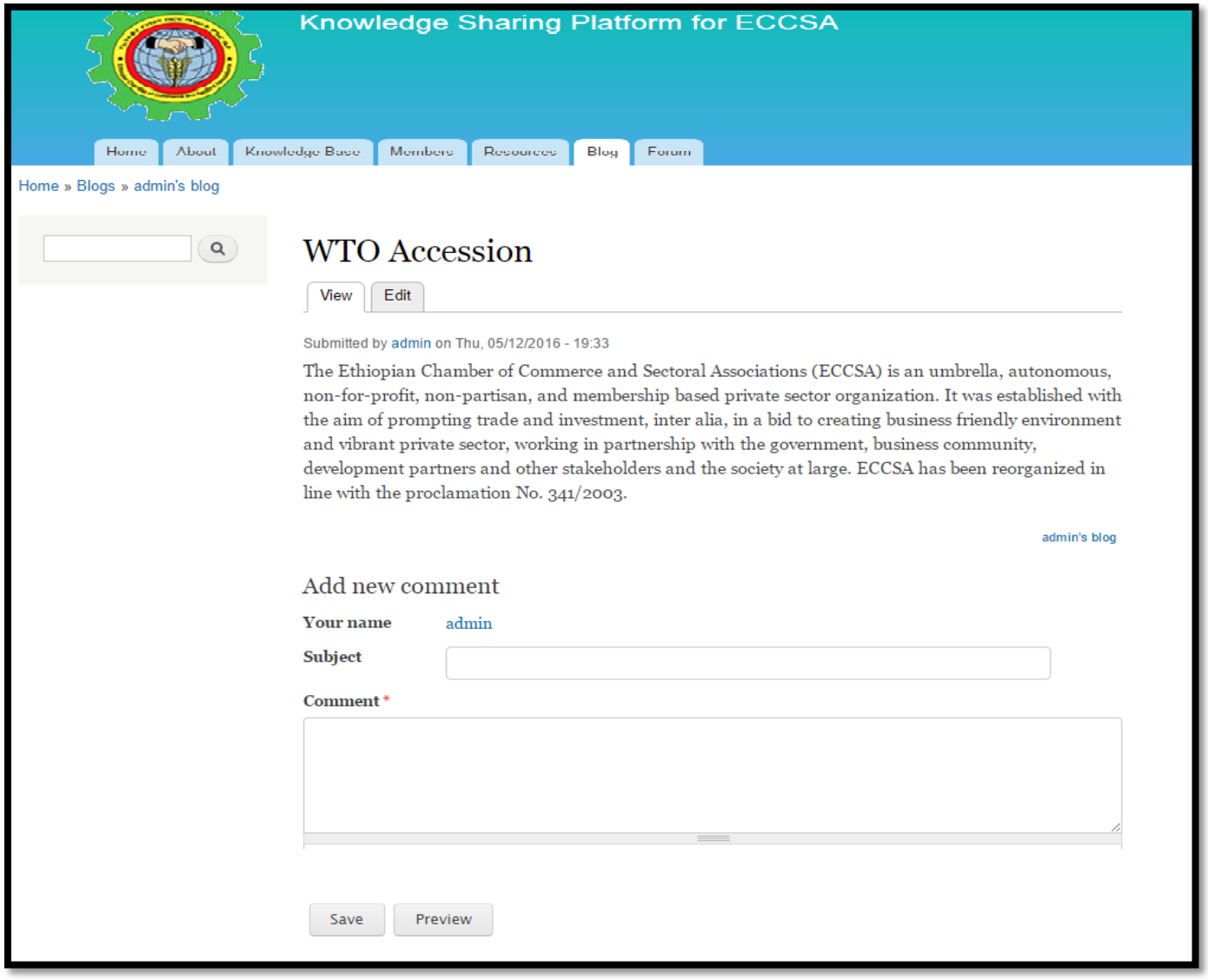


Figure 5.5 Blog Page

**The Different Modules Used**

**Entity Form Module**

The Entity Form module is used to capture complaints/appeals from the business community. The business associations provide pressing issues that warrant a dialogue with the government.

**Knowledge Repository Module**

The Knowledge repository module provides a simple way of managing knowledge as part of the system.

**Forum Module**

The Forum module is used to create discussion boards called **forums** on a site. Forums are very useful because they allow ECCSA members to discuss topics with one another and the discussions are archived for future reference.

**Notification Service Module**

The notification service module provides the features to send new notifications (message) to business association representatives through e-mail.

**Document Management System (DMS) Module**

The document management system module is used to support document revisions/versioning. This module allows us to maintain multiple versions/revisions of the same document. The documents being nodes are fully indexable by the search system. In addition, the module provides its own custom search for documents.

**Membership Entity Module**

The Membership Entity module is used to manage members. It makes possible to keep a historical record of joins, renewals, lapses, etc.

**Search Module**

The search module provides users search for specific content on the site. Users can search for particular words. This module provide searches of different types of data.

## 5.4 Evaluation of the Knowledge Sharing Platform

Evaluation is an essential activity in knowledge management system development and implementation. Artifact evaluation should be seen as important part of the development process to make certain that the developed artifact can bring observed improvement and works in the real environment (Hevner et al, 2004). So, evaluation can be taken place during the development of a knowledge sharing platform with the intention of improving efficiency and enhance knowledge sharing. The evaluation criteria was focused on the issue of easy access and advantages of the knowledge sharing platform. This criteria deals with the easy access of the knowledge sharing platform to facilitate simplicity to member associations in order to share knowledge and the advantages gained from this platform.

The researcher explained the detailed functionality and benefits of the knowledge sharing system. The researcher used human expert to evaluate the efficiency of the knowledge sharing platform. The evaluation data was collected using interviews with member association representatives. The responses for the interview questions in relation to easy access explained as follows.

The development of national business agenda is done in unstructured way and not system based. The knowledge sharing platform provides an easy access to the knowledge resources and facilitate knowledge sharing among member associations of ECCSA. As the Senior Advocacy Expert explained:

> *Benefits of system based national business agenda development follow up creates opportunity for business associations easy access. It also Provides opportunity for users that enables to see what was done, provide feedback and comments, follow the status of the agenda and to know others understanding and opinion on the subject. In addition, the system reduces cost of research ( cost of interviewing, cost of questionnaires preparation, distribution and cost of conducting focus group discussion (FGD). As a result , the system improves the research output, the agenda result distribution and the sharing of information.*

This respondent explained that the knowledge sharing platform provides easy access by enabling business associations to forward comments, feedback and follow the status of the agenda. The Senior Research Expert also explained similar view:

> *Enabling the national business agenda development system based has different benefits. It makes easy access and reduce the huge cost of issue identification of the NBA approach. The system enables diversified information that would be easily prioritized taken as an agenda issue. It provides flexibility to issue gathering and timely distribute the selected business issues and progress of the NBA. Moreover, expertise participation in the national business agenda development is increased.*

This tells us that the knowledge sharing platform can increase the number of participants to forward and enrich the NBA development.

# CHAPTER SIX
# CONCLUSION AND RECOMMENDATIONS

## 6.1 Discussion of the Findings

This study aims to assess inter organizational knowledge sharing practice among member associations of ECCSA, explore the factors that promote knowledge sharing among member associations and design a knowledge sharing platform that promote inter organizational knowledge sharing. The findings of the study discussed as follows.

### 6.1.1 Inter Organizational Knowledge Sharing Practice

According to the interview respondents selected for this research work, the most frequently used inter organizational knowledge sharing method is personification. However, codification is rarely applied for IOKS among the member associations.

With regard to formal methods of knowledge sharing under personification, most of the interview respondents stated that e-mail communication is the most frequently used one on a daily basis. Moreover, the member associations usually apply meetings to efficiently communicate and share knowledge. This finding also supported by other researcher in a way that knowledge sharing at inter organizational level achieved through formal knowledge sharing methods (Tang, 2008). The other researcher also supported this finding that the movement of domain knowledge between two organizations focus on formal rather than informal mechanisms (Ipe, 2003).

On the job training is the other means of communication which is less frequently used than meeting. Similarly, team work and experience sharing are rarely applied formal methods of IOKS among member associations.

In addition to the methods stated above the consultative forum, which is usually organized twice in a year, is highly used to apply the best practice sharing among associations. For instance, when a member association organized and launched a trade fair at international or national level successfully, that association presented the best practices typical of the association on the consultative forum as a lesson for the other member associations.

With regard to informal methods of knowledge sharing under personification, majority of the respondents replied that telephone communication is the most frequently used one. They used telephone communication to inform member associations to participate in trainings, trade fairs, to remind meetings and other notifications. However, member associations rarely use a face to face means of communication to get information from member associations in person. This is often appears to be applied when the offices of member associations are geographically closer to each other.

According to majority of the respondents, codification is rarely applied by most of member associations to capture and store knowledge so that anyone interested can access them digitally. As the respondents explained, the main reason for not codifying knowledge is lack of awareness about the technology and poor infrastructure to efficiently utilize the ICT. This finding also supported by other researcher that codify tacit knowledge required high initial fixed costs, but since messages become reproducible successive operations can be carried out at very low marginal cost (Boisot, 1995). This tells us that the design of a knowledge sharing platform is an important mechanism to promote IOKS among associations.

### 6.1.2 Factors that Promote Inter Organizational Knowledge Sharing

Contextual factor is considered as one of the factors that can promote IOKS. It is the situation and the atmosphere in which knowledge sharing take place. It includes factor like trust. According to majority of the respondents, there is a lack of trust among the member associations to share knowledge. This hinders the effectiveness of initiatives to promote knowledge sharing among the associations. This finding also supported by other researcher that trust can facilitate knowledge sharing and increase effective collaboration among individuals in an organization or among organizations (Dulaimi, 2007).

There are different kinds of factors that are related with organizational factor. It includes factors like organizational intention to learn, organizational policy and geographical proximity. As discussed by most of the respondents, there is a positive organizational intention to learn from other member associations. This, as explained by the respondents, paved the way for most of the associations to effectively utilize the resources and knowledge from other associations. Other researchers also mentioned that organizational intention to learn promotes inter organizational

knowledge sharing among the organizations (Barson et al 2000; Cummings & Teng 2003; Smith et al., 2008)

However, the interviewees believe that there is a barrier on the existence of organizational policy and geographical proximity to promote knowledge sharing among member associations. Some of the respondents stated that their association drafted no organizational policy at all. Similarly, they replied that most of the member associations are geographically too far from each other in order to communicate and share knowledge.

Therefore, the researcher believe that in relation to organizational factor, organizational intension to learn is the most supportive factor to promote IOKS among associations than factors of organizational policy and geographical proximity.

Designing appropriate ICT infrastructure enables and support members to use and share knowledge among associations. However, most of the respondents believe that, in relation to technological factors, ICT infrastructure and its accessibility among the member associations is very poor. They believe that because of lack of awareness and financial limitation the associations can not apply modern and technologically supported IOKS. Therefore, it can be noted that lack of ICT infrastructure and its accessibility affects the IOKS mechanisms. This finding also supported by other researcher that information technology has the potential of acquisition, storage, processing, retrieving, and transferring knowledge (Reychav & Weisberg, 2010).

Knowledge can be transferred efficiently in explicit means than tacit knowledge (Chen, 2004). The responses gathered from most of the respondents' shows that most of the member associations actively utilized individuals' tacit knowledge than explicit knowledge. However, all the respondents agree that there is a huge existence of both types of knowledge in all the associations.

Therefore, the writer of this research work believe that in relation to nature of knowledge, tacit knowledge is more accumulated in the member associations than explicit knowledge. It is also the belief of the researcher that it is more important if the associations set a mechanism to capture and share tacit knowledge in order to promote IOKS among associations.

While discussing all the four factors such as contextual factor, organizational factor, technological factor and nature of knowledge, technological factors are the least applied in all the associations and it is the factor that hinders knowledge sharing among association. This tells us that the associations need to apply technological means and ICT infrastructure to promote IOKS. Other researcher also supported this finding that the employment of ICT among organizations improves their communication (Gouza, 2006). It is also the intention of this research work to find out such problem existed and suggest a solution to overcome the challenges that the associations come across to promote IOKS.

### 6.1.3 Knowledge Sharing Platform Design

Designing and implementing a knowledge sharing platform in ECCSA is an effort to improve organizational effectiveness and members service. This platform enables to create and manage new knowledge and share their knowledge to satisfy their member associations and maintain competitive advantage in the business environment. Therefore, ECCSA should be a learning organization in a way to create, share and apply knowledge that enable members to be competitive in the business environment.

A study on ECCSA depicted the fact that ECCSA has lack of systems that promote organizational learning. As a result, designing a knowledge sharing platform that promotes knowledge sharing among member associations of ECCSA's context is very important. Moreover, this enables the ECCSA to achieve organizational success and promote knowledge sharing among its member associations. This research select national business agenda (NBA) development as a business process. The NBA process illustrated by process map, knowledge profile and knowledge link.

The knowledge sharing platform contains knowledge related to the national business agenda development business process. Moreover, the platform includes different knowledge management tools like discussion forum, web browsing, notification service, search and retrieval and document management system in order to enable the platform more functional.

The evaluation result of the respondents put forward that the knowledge sharing platform promotes knowledge sharing practice among member associations of ECCSA. In addition, the platform enables easy access on the national business agenda development.

## 6.2 Conclusion

This research paper has focused on the knowledge sharing practice, factors that promote knowledge sharing and the design of a knowledge sharing platform through which the Ethiopian Chamber of Commerce and Sectorial Associations and its member associations have to apply in their business activities.

It explores how knowledge is shared among the different member associations of the chamber and what are the factors that promote inter-organizational knowledge sharing. Furthermore, it designs inter organizational knowledge sharing platform that promotes knowledge sharing among member associations.

This research used both qualitative case study and design science research methods. The case study research method is used to explore the existing knowledge sharing practice among member associations of ECCSA whereas the design science research method is used to design a knowledge sharing platform that promotes knowledge sharing. The study helps to explore the knowledge sharing practice among member associations of ECCSA. The research identified organizational factors, contextual factors, nature of knowledge and technological factors as the main factors that promote inter-organizational knowledge sharing in ECCSA.

The finding of this research indicates that the inter-organizational knowledge sharing among the different member associations of ECCSA carried out mostly through formal knowledge sharing rather than informal methods. Through formal means of inter-organization knowledge sharing, the knowledge shared is more of tacit in nature rather than being explicit knowledge. Informal knowledge sharing method among the different member associations allows them to obtain specific knowledge that solves tasks related to problems.

Designing appropriate ICT infrastructure enables and support members to use and share knowledge among associations. However, most of the respondents believe that, in relation to technological factors, ICT infrastructure and its accessibility among the member associations is very poor. They believe that because of lack of awareness and financial limitation the associations can not apply modern and technologically supported IOKS. Therefore, it can be noted that lack of ICT infrastructure and its accessibility affects the IOKS mechanisms.

The study has theoretical contribution by confirming existing findings with new empirical data collected in developing countries context. This study contribute inter organizational knowledge sharing practices among member associations of ECCSA.

This study developed a knowledge sharing platform that promotes inter organizational knowledge sharing among member associations. This research select national business agenda (NBA) development as a business process. The NBA process illustrated by process map, knowledge profile and knowledge link. The knowledge sharing platform contains knowledge related to the national business agenda development business process. It also includes different knowledge management tools like discussion forum, web browsing, notification service, search and retrieval and document management system in order to enable the platform more functional.

The study identify majority of the inter-organizational knowledge sharing practice among the organizations are through formal knowledge sharing methods. But, the level of knowledge codification is very rare to be utilized.

### 6.3 Recommendations

It is highly recommended that the ICT infrastructure that ECCSA and member associations used to apply need to be improved. This can be seen for three main reasons. The first reason is that a well developed ICT infrastructure can facilitate the communication among member associations and even within each association. Second, a well structured ICT can support the knowledge flow among associations. Similarly, the more the ICT infrastructure developed , the better the business associations can access and share knowledge among member associations. Therefore, ECCSA need to improve and facilitate the development of ICT infrastructure to promote knowledge sharing among member associations.

In addition to a well developed ICT infrastructure, ECCSA has to develop a knowledge management strategy. This is directly related to the enhancement of organizational road map that helps to build a well drafted and built KM strategy. Therefore, ECCSA can obtain the effectiveness of its strategic objectives in relation to knowledge management. ECCSA should utilized KMS tools to support its business activities.

Moreover, the less promoted consultative forums in ECCSA should be promoted more in order to enhance the effectiveness of knowledge sharing among business associations. This, on the other hand, can assure other business associations to be motivated for the sharing of knowledge and experiences.

Finally, even though this research work focused on NBA development business process, it can also be applied on other business processes. For instance, it can be applied on business processes of trade and investment promotion and capacity building.

### 6.4 Future Research

The writer of this research work doesn't believe that this research can satisfy the demands on inter organizational knowledge sharing. Therefore, other similar research works will satisfy more question and demands on the area. Thus, it is recommended that other studies on knowledge management and knowledge management system will definitely fill the gap.

Moreover, the researcher would like to recommend ECCSA should implement the knowledge sharing platform in order to fill the gap in sharing knowledge among member associations.

## References


Abdullah, M. S., Benest, I., Evans, A., & Kimble, C. (2002, September). Knowledge modelling techniques for developing knowledge management systems. *In Third European Conference on Knowledge Management:* Trinity College Dublin, Ireland (p. 17).

Abzari, M., & Teimouri, H. (2008). The effective factors on knowledge sharing in organizations, The *International Journal of Knowledge, Culture and Change Management* 8(2), 105-13.

Alam, S.S., Abdullah, Z., Ishak, N.A., & Zain, Z. M. (2009). Assessing knowledge sharing behavior among employees in SMEs : *An empirical study. Int. Bus. Res., 2( 2 ):* 115 - 122.
Alavi, M., & Dorothy, E. L. (1999). Knowledge management systems : *Issues, challenges, and benefits. Communications of AIS 1,* 7:1-37.

Alavi, M., & Leidner , D . E. ( 2001 ). Knowledge management and knowledge management systems: *Conceptual foundations and research issues, MIS Quarterly 25(1),* 107-136.

Al-Busaidi, K. A. (2013). A Framework of Critical Factors to Knowledge Workers' Adoption of Inter-organizational Knowledge Sharing Systems. *Journal of Organizational Knowledge Management,* Sultan Qaboos University, Alkhod, Oman, Article ID 496419.

Albino, V., A. C. Garavelli (1998). Knowledge transfer and inter-firm relationships in industrial districts: The role of the leader firm. *Technovation* 19(1): 53-63.

Alony, I., Whymark, G., & Jones, M. (2007) . Sharing tacit knowledge : A case study in the Australian film industry , *Informing Science Journal,* 10, 41-59.

Argote, L. (2003). Organizational learning : Creating retaining, and transferring knowledge. Norwell, MA: Kluwer.

Assefa, T., Garfield, M., & Meshesha, M. (2014). Proposing a knowledge management system (KMS) architecture to promote knowledge sharing among employees. *Twenty Second*

*European Conference on Information Systems*, Tel Aviv.

Barrett, S. & Konsynski, B. (1982). Inter- organizational information sharing systems, *MIS Quarterly*, 6(4), 93 105.

Barson, R.J., Foster, G., Struck, T., Ratchev, S., Pawar, K., Weber, F., & Wunram, M (2000). Inter-and intra- organizational barriers to sharing knowledge in the extended supply chain, In *Proceedings of the eBusiness and eWork*, pp. 18-20.

Bartczak, S. E. (2002). Identifying barriers to knowledge management in the united states military, *Thesis*, USA: Alabama, Auburn University.

Becerra - Fernandez, I ., Gonzalez, A . , & Sabherwal, R (2004). Knowledge management : Challenges, solutions, and technologies. Pearson Prentice Hall, New Jersey.

Bhatt, G . D. (2001). Knowledge management in organizations : Examining the interaction between technologies, technique and people, *Journal of Knowledge Management*, 5(1), pp.68-75.

Boer, N.I., Berends, H., & Baalen, P. V. (2011). Relational models for knowledge sharing behavior, *Eur Manage J, 29,* 85 – 97.

Boisot, M. (1995). Information space : A framework for learning in organizations, institutions and culture, *Blackwell*, London.

Booch, G., Rumbaugh, J., & Jacobson, I. (1999). The unified modelling language user guide, *Addison Wesley*, Reading, Massachusetts.

Brenner, W., Zarnekow, R., & Wittig, H. (1998). Intelligent software agents foundations and applications, Berlin.

Brown, John & Duguid, P. (1998). Organizing knowledge, Sage Publications, pp.19-40.

Bryman, A. (2008). Social Research Methods, Oxford University Press.

Caloghirou, Y., Kastelli, I., & Tsakanika, A. (2004). Internal capabilities and external knowledge sources: Complements or substitutes for innovative performance, *Technovation*, 24 : 29-39.

Cao, M. & Zhang, Q. (2011). Supply chain collaboration: Impact on collaborative advantage and firm performance, *J Oper Manage*, vol. 29, 163-180.

Carlisle, Y. (2001). Strategic thinking and knowledge management : In managing knowledge An essential reader little S, *Quintas P & Ray T* (Eds.), London : Sage Publications Ltd,122-138.

Cash, J. I., & Konsynski, B. R. (1985) . IS redraws competitive boundaries, *Harvard Business Review*, March-April, 134-142.

Chatzoglou, P., & Vraimaki, E. (2009). Knowledge sharing behavior of bank employees in Greece, *Business Process Management Journal, 15(2),* 245 - 266.

Chen, S., Duan, Y. & Edwards, J.S. and Lehaney, B. (2002).Towards an inter-organizational knowledge transfer framework for SMEs, *In Proceedings of Third European Conference on Knowledge Management MCIL*.

Chen, Y . H., Wu, J. J., Chien, S. H., & Shiah, Y. C. (2014). Exploring the factors of inter-organizational knowledge sharing. *International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering* Vol:8, No:7.

Chua, A. (2003). Knowledge sharing: a game people play, *A Slib Proceedings, 55 (3).*

Creswell, J.W.(2007). Qualitative inquiry and research design: Choosing among five approaches, *Sage Publications*, Thousand Oaks.

Cummings, J. L. & Teng, B.S. (2003). Transferring R & D knowledge : The key factors affecting knowledge transfer success, *Journal of Engineering and Technology Management*.

Davenport, T.H., & Prusak, L.(2000).Working knowledge: How organizations manage what they know, Boston: *Harvard Business School Press*.

Denzin, N. K. & Lincoln, Y. S. (2000). The sage handbook of qualitative research, *Sage*

*Publications*, London.

Dick Stenmark (2001). Leveraging tacit organizational knowledge. *Journal of Management Information Systems*, Vol. 17, No. 3

Dixon, N.M. (2000). Common knowledge: How companies thrive by sharing what they now, Boston: Harvard Business School.

D. Laser & M.c.Binz - Scharf. Maria Christina (2004) . Lending a helped hand : Voluntary engagement in knowledge sharing. *International Journal of Learning and Change*

col.3,No.1.

Dulaimi, M . F. (2007). Case studies on knowledge sharing across cultural boundaries. *Engineering Construction and Architectural Management* , Vol. 14 No. 6, pp. 550-567.

Easterby-Smith, M., Lyles, M.A. & Tsang, E. W. K. (2008) . Inter - organizational knowledge transfer: Current themes and future prospects, *Journal of Management Studies*, 45(4)-690

Fahey, L., & Prusak, L. (1996). The eleven deadliest sins of knowledge management, California Management Review, 40(3), 59-79.

Firestone, J .M ., & Mark W. (2005). Doing Knowledge Management, *Journal of Learning Organization 12*, 2: 1-29.

Frost, A. (2011). Knowledge acquisition, A knowledge management resource website, available at : *http://www.knowledge-managementtools.net/knowledge - cquisition.html, accessed on* December 2015.

Gerring, J. (2004) . What is a case study and what is it good for?, *American Political Science Review*, 98(2), pp 341-354.

Gold, A.H., Malhotra, A., &. Segars, A.H. (2001). Knowledge management : An organizational capabilities perspective, *Journal of Management Information Systems* 18, 1: 185-214.

Gouza, A. (2006) . Key factors of knowledge transfer within university spin-offs, *Journal of Systems and Information Technology*, Vol. 12 No. 1, pp. 161-173.

Gregor, S., & Jones, D.(2007). The anatomy of a design theory. *Journal of the Association for Information Systems*, 8(5).

Guarino, N. (1997) . Understanding, building, and sing ontologies : A commentary to using explicit ontologies in KBS development, *International Journal of Human and Computer Studies, 46*, 293-310.

Hansen, M., Nohria, N., & Tierney, T. (1999). What's your strategy for managing knowledge? *Harvard Business Review*, 77(2), 106-116.

Nieminen H. T. (2005). Successful inter-organizational knowledge transfer: Developing pre-conditions through the management of the relationship context.

Hau, L . N., & Evangelista, F. (2007). Acquiring tacit and explicit marketing knowledge from foreign partners in IJVs, *Journal of Business Research* (60:11).

Henn, M., Weinstein, M. & Foard, N. (2009). A critical introduction to social research, 2nd ed., *Sage Publications*, London.

Hesse-Biber, S.N. & Leavy, P. (2011). The practice of qualitative research, 2nd ed., *Sage Publications*, Thousand Oaks, California.

Hevner, A. R., March, S. T., Park, J., & Ram, S. (2004). Design science in information systems research. *Management Information Systems Quarterly*, 28(1), 75-106.

Horn, T. (1999). Internet - Intranet - Extranet: Potentiale im unternehmen, Munich:Vienna.

Huseman, R., & Goodman, J., (1999). Leading with knowledge. London: Sage.

ICOS Consulting. (2013). Five year (2014/5 – 2018/19) strategic plan of ECCSA. *Published by ECCSA*, Addis Ababa, Ethiopia.

Ipe, M. (2003). Knowledge sharing in organizations: A conceptual framework. *Human Resource Development Review*, 2: 337–359.

Ke, W., & Wei, K. K. (2007). Factors affecting trading partners' knowledge sharing : Using the lens of transaction cost economics and social - political theories, *Electron Commer R A,* 6, 297 – 308.

Kidwell, J .J., Linde K.M.V., & Johnson. S.L. (2000). Applying corporate knowledge management practices in higher education, *Edu Cause Quarterly*, 4: 28-33.

Kim, S., & Lee, H. (2005). Employee knowledge sharing capabilities in public and private organizations: Does organizational context matter? *Proceedings of the 38th Hawaii International Conference on System Sciences*, 1-10.

Kim, S., Suh, E., Hwang, H. (2003). Building the knowledge map: An industrial case study. *Journal of Knowledge Management*, 7 (2), 34-45.

King, W. R. (2006). *Encyclopedia of knowledge management*: IGI Global.

Knoben, J. & L.A.G. Oerlemans (2006). Proximity and inter-organizational collaboration : A literature review. *International Journal of Management Reviews*.

Kumar, Ranjit (1996). Research Methodology: A step by step guide for beginners, First edition , 6 Bonhhill, *Sage Publication*.

Lehner, F. (2000). Organizational memory. Konzepte und Systeme für das organisatorische *Lernen und das Wissensmanagement*, Munich: Vienna.

Leung, N., Lau, S .K., & Fan, J. (2009). Enhancing the reusability of inter organizational knowledge : An ontology-based collaborative knowledge management network, *Electronic Journal of Knowledge Management*, 7(20), 233 – 244.

Lichtenstein, S., & Hunter, A. (2006). Toward a receiver-based theory of knowledge sharing : *International Journal of Knowledge Management, **2**(1),* 24-40

Macintosh, A. (1995). Position paper on knowledge management. Artificial intelligence applications institute. University of Edinburg.

Maier, R. (2007). Knowledge management systems (3rd ed.), Berlin : Heidelberg, Springer - Verlag.

March, S. T., & Smith, G. F. (1995). Design and natural science research on information technology. *Decision Support Systems*, 15, 251-266.

Marshall, C. & Gretchen, B. (2006). Designing qualitative research, 4th edition, Thousands Oaks, *Sage Publication*, pp. 97 – 150.

Miller, W. L., & Morris, L. (1999). Fourth Generation R&D : Managing knowledge, technology, and Innovation, Wiley, Hoboken NJ.

Mircea, M. (2015). Collaborative networks-premises for exploitation of inter-organizational knowledge management. *Informatica Economica*, *20*(2), 57-65.

Moteleb, A. A., & Woodman, M. (2009). Uncovering a KMSD approach from practice : *Electronic Journal of Knowledge Management (eJKM), 7(1),* 123-134.

Mustafa, S. (2006). A new life cycle model for processing of knowledge management. *Second International Conference on Business, Management and Economics in İzmir*, Turkey, 1-9.

Nakkiran, N., & David. A. (2003). An investigation of knowledge management implementation strategies, *Proceedings of SAICSIT*, 24-36.

Narges, S., Farhad , D. & Aybuke , A. (2009). Investigating inter-organizational knowledge sharing intention in supply chain partnership. *ACIS 2009 Proceedings*. Paper 18.

Nonaka, I. (1991). The knowledge creating company, *Harvard Business Review*, 96-104.

Nonaka, I. (1994). A dynamic theory of organizational knowledge creation, *Organization Science, 5(1),* 14-37.

Nonaka, I., & Krogh, K. V. (2009). Tacit knowledge and knowledge conversion: *Controversy and advancement in organizational knowledge creation theory, Organization Science* 20, 3: 635–652.

Nonaka, I., & Noboru, K. (1998). The Concept of "Ba" : Building a foundation for knowledge creation, *California Management Review. 40(3),* 40-54.

Nonaka, I., & Takeuchi, H. (1995). The knowledge creating company : How Japanese companies create the dynamics of innovation, New York: *Oxford University Press*.

Nongkran L., Souren P., Peter M.,Jr (2007). Theoretical perspective on effective inter - organizational knowledge sharing. Information and Communication Technology Mahidol University, Thailand.

Offermann, P., Levina, O., Schonherr, M., & Bub, U. (2009). Outline of a design science research process. *Proceedings of the 4th International Conference on Design Science Research in Information*.

O'Leary, D. (1998). Using AI in knowledge management: Knowledge bases and ontologies. *IEEE Intelligent System*s.

Omur, Y. S., Omur, N., & Engin, D. E. (2009). A study on knowledge management and firm performance in Turkish IT sector, *European and Mediterranean Conference on Information Systems*, July 13-14, Izmir: Crowne Plaza Hotel.

Pan, S. L. (1998). A socio-technical view of knowledge-sharing at Buckman Laboratories, *Journal of Knowledge Management, **2**(1),* 55-66.

Payne, J., & Tony, S. (1994). Demystifying knowledge management, available at: http://www.constructingexcellence.org.uk/pdf/document/KMGuide.pdf. accessed on December 2015.

Polanyi, M. (1967). The tacit dimension, England: London.

Posner, P. L. (2009). The pracademic : An agenda for re-engaging practitioners and academics, *Public Budgeting & Finance, 29(1),* 12-26

Pusaksrikit, P. (2006). How does knowledge management improve the service industry? Jönköping University, Jönköping International Business School, *JIBS*, Business Informatics.

Reychav, I. & Weisberg, J. (2010). Bridging intention and behavior of knowledge sharing. *Journal of Knowledge Management* , Vol. 14 No. 2, pp. 285-300.

Ribino et al. (2009). A knowledge management system based on ontologies, *PhD thesis*.

Richard, J. (2004). A competitive advantage through knowledge creation, Davenport: lowa, St. Ambrose University.

Sari R. D., Imam S., & Srikandi K. (2013). Analysis of inter-organizational knowledge sharing needs among micro, small and medium enterprise with traditional market.

Robbins, S. P. (2003). Communication. In J. Shelstad (Ed.), Organizational behavior, NJ : Pearson Education,Upper Saddle River, 10, 22-41.

Robey, D., Im, G., & Wareham, J. D. (2008). Theoretical foundations of empirical research on inter organizational systems : Assessing past contributions and guiding future directions, *Journal of the Association for Information Systems,* 9(9), 497-518.

Rosemary V. D. (2012). A frame work for inter organizational knowledge sharing: Managerial influences.

Santosus, M., & Surmacz, J. (2008). ABC of knowledge management, retrieved from *www.cio.com/research/knowledge/edit/kmabc.html*. accessed on November 2015.

Savolainen, T., Beeckmann, D., Groumpos, P., & Jagdev, H. (1995). Positioning of modelling approaches, methods and tools, Computers in industry, 25, 255- 262.

Schreiber, G., Akkermans, H., Anjewierden, A., de Hoog, R., Shadbolt, N., de Velde, W.V., & Wielinga, B. (1999). Knowledge engineering and management : *The Common KADS Methodology*, Massachusetts: MIT Press.

Sharma, S.S. (2014). A critical review about knowledge management. *In: Redefining*

*management practices and marketing in modern age*, Patil, D. and Bhakkad, D.D. (eds.)., Atharva Publications. pp. 50-53.

Shibru K. (2015). Investigation of inter-organizational knowledge sharing : The case of Addis Ababa city administration sector bureaus : *MSc Thesis*, Addis Ababa : Addis Ababa University.

Silverman, D. (2005). Doing qualitative research: A practical handbook, 2nd ed., *Sage Publications*, Thousand Oaks, California.

Smith, R.D., & Bollinger, A.S. (2001). Managing organizational knowledge as a strategic asset. *Journal of Knowledge Management*, 5(1), 8-18.

Sprague, R. H. Jr. (1995). Electronic document management: Challenges and opportunities for information systems managers, *in Management Information Systems Quarterly , 19(1),* 29- 49.

Szulanski, G. (1996). Exploring internal stickiness: Impediments to the transfer of best practice within the firm. *Strategic Management Journal, 17*, 27-43.

Tang, L . (2008). Informal inter organizational knowledge sharing: the case of the biotechnology industry, in the 94th Annual Conference of the National Communication Association, San Diego.

Temtim A. D. (2014). Enabling knowledge sharing in the workplace: *Ph.D. Dissertation,* Addis Ababa: Addis Ababa University.

T.R. Gruber, T.R. (1993). A translation approach to portable ontologies: *Knowledge Acquisition, 5(2)*, 199-220.

Turban, E., McLean, E., & Wetherbe, J. (1999). Information technology for management, making connections for strategic advantage, New York.

Van Der Meer, R., Torlina, L. & Mustard, J. (2013a). Inter-organizational knowledge sharing in regional sustainable development communities. *International Journal of Information Technology Management*, 12(3-4), pp252-272

Warkentin, M., Bapna, R., & Sugumaran, V. (2001). E-knowledge networks for inter organizational collaborative e-business. *Logistics Information Management, 14* (1/2) , 149 -163.

Watson, I. (2003). A knowledge management initiative by UK local government. *In, Knowledge Management and Organizational Memories*, Kluwer Academic Publishers, Boston.

Wielinga, B., Sandberg, J., & Schreiber, G. (1997). Methods and techniques for knowledge management: What has knowledge engineering to offer? *Expert System with Application*, 13(1), 73-84.

Wijk, V. R., J. J. P. Jansen, et al. (2008). Inter-and intra-organizational knowledge transfer: A meta analytic review and assessment of its antecedents and consequences. *Journal of Management Studies* 45(4): 830-853.

Zhang, J., Faerman, S.R., & Cresswell, A.M. (2006). The effect of organizational/technological factors and the nature of knowledge on knowledge sharing. *Proceedings of the 39th Hawaii International Conference on System Sciences*, 1-10.

Zigurs, I., Buckland, B. K. (1998). A theory of task/technology fit and group support systems effectiveness in *Management Information Systems Quarterly - MISQ*, 22(3), 313-334.

## Appendix I. Interview Questions

This interview questions are prepared to collect relevant data to explore the existing knowledge sharing practice and factors that promotes IOKS among member associations of ECCSA. Therefore, you are kindly requested to provide as accurate and recent information as possible.

**Your cooperation on the interview would be highly appreciated !**

**Background Information**

1. Would you explain your educational background, your position in the association and your work experience?

**Knowledge Sharing Practice**

1. Have you heard about inter organizational knowledge sharing ? How knowledge is managed/ shared among departments in your association?
2. Do you think your organization acquire external knowledge from other member associations? Please explain ?
3. Have you ever participated in dialogue forums, trainings, workshops, Seminars, exhibitions and trade fairs organized by ECCSA? If your answer is yes, please explain the benefits that you brought to your association.
4. How do you share knowledge with other associations?
5. What are the major communication channels that your organization most frequently used among member associations for knowledge sharing?

**Factors that Promote Inter Organizational Knowledge Sharing**

1. What are the major factors that influence knowledge sharing among member associations?
2. How much do you believe your organization promote knowledge sharing among members?
3. Are you freely exchange knowledge among member associations?
4. Do you think best practices are promoted among member associations?

**Knowledge Sharing Platform**

1. What are the challenges to develop knowledge sharing platform in your association ?
2. What kind of knowledge sharing systems your organization uses to share knowledge?
3. Would you explain your organizational experience in using, accessing and the availability of existing ICT tools to share knowledge among other associations?

## Appendix II. Interview Questions for NBA Development Business Process

1. What are the activities in NBA development business process?
2. What are the knowledge required to perform those activities?
3. What are the business issues considered in performing the business activities?
4. What sort of documents referred to perform those activities?

## Appendix III. Interview Questions for the Knowledge Sharing Platform Evaluation

1. What are the benefits do your association get from this knowledge sharing platform?
2. Does the knowledge sharing platform create easy access ?

**Appendix IV. Observation Checklist**

1. The common knowledge sharing methods used among member associations
2. Are member associations freely exchange knowledge in consultative forums?
3. Are associations managed their document properly?
4. What are the technological means to facilitate knowledge sharing among member associations?
5. Is there a means to promote best practices among member associations?