



**INVESTIGATION OF INTER-ORGANIZATIONAL KNOWLEDGE
SHARING THE CASE OF ADDIS ABABA CITY ADMINISTRATION
SECTOR BUREAUS,**

SHIBRU KUMSSA

A THESIS SUBMITTED TO THE DEPARTMENT OF INFORMATION SCIENCE

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**ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES,
COLLEGE OF NATURAL SCIENCES
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By

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DEPARTMENT OF INFORMATION SCIENCE

This is to certify that the thesis prepared by Shibru Kumssa, entitled: *Investigation of inter-organizational knowledge sharing the case of Addis Ababa City Administration Sector Bureaus*, and Submitted to the College of Natural Sciences of Addis Ababa University in Partial Fulfillment of the Requirements for the Degree of Master of Science in Information Science.

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Declaration

I declare that the 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

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List of Acronyms

AACB	Addis Ababa Capacity Building Bureau
AACSA	Addis Ababa Civil Service Agency
AAICTDA	Addis Ababa Information & Communication Technology development Agency
AASB	Addis Ababa Sector Bureau
BSC	Balanced Score card
BPR	Business process Re-engineering
CSA	Central Statistical Agency
DEV'T	Development
ERP	Enterprise Resource Planning
GPT	Growth & Transformation Plan
ICT	Information Communication Technology
ILMS	Integrated Land Management System
IOKS	Inter-organizational knowledge sharing
ITS	Information communication Technology support
KM	Knowledge Management
KS	Knowledge Sharing
MI	Management Institutes
MOU	Memorandum of Understanding
MSME	Micro Small and Medium Scale Enterprise
NVIVO	Non-numeric, Unstructured data * Indexing, Searching, Theory-building
OECD	Organization for Economic co-operation & Development
SPSS	Statistical Packages for spread Sheet.
UDI	Urban Development Indicators
Wego	World electronics organizations.

Abstract

Purpose – The main purpose of this paper is to investigate inter-organizational knowledge sharing practice and the factor that influences inter-organizational knowledge sharing activities among the public sector in Addis Ababa city Administration.

Design/methodology/approach- Data was collected using quantitative and qualitative methods using interview, questionnaires, observation and document review. The data analysis is based on twelve interviews, 186 questionnaires. Interview data collected from vice managers, team leaders, senior experts from nine organizations from Addis Ababa city Administrations. The interpretation of data is based on triangulation method that allows investigating inter-organizational knowledge sharing activities from multiple perspectives’.

.Findings – The paper finds that the practice of knowledge sharing and the factors that influence IOKS were tested using binary logistic regression analysis, correlation analysis, frequency analysis, and thematic analysis. The result revealed majority inter-organizational knowledge sharing among the organization are occurred though formal knowledge sharing than informal and codifications. Furthermore, inter-organizational knowledge sharing among the organization was positively affected by organizational factors, contextual factors, and nature of knowledge. Organizational factors and contextual factors are the dominant factor that influences inter-organizational knowledge sharing activities.

Practical implication- the paper shows that the investigation of inter-organizational knowledge sharing. The results of the study advance prior research in the area of inter-organizational knowledge sharing by shedding light on the determinants of inter-organizational knowledge sharing factors of organizations. In addition to contributing to theory, the findings of the study also yield insights for practice. These insights could be used by organizations in developing realistic environments that are conducive to inter-organizational knowledge sharing.

Conclusion: A trend data analysis on qualitative and quantitative data mixed methods in inter-organizational knowledge sharing has been identified in the studies. Triangulation method can facilitate the integration of qualitative and quantitative

findings to clarify their theoretical proposition on basis of their results. Furthermore the research finding recommends IOKS gap for the city Administration and also identifies future research direction for other researchers and for the municipality.

CHAPTER ONE: INTRODUCTION

Today, in many developed countries competition is based so much on the production and development of knowledge based products and services. As the world moves towards a “knowledge based economy”, inter-organizational knowledge sharing and leverage is one of a strategic method to achieving competitive advantage in rapid changing business environment (M. Cao and Q. Zhang, 2011). In the knowledge era of the network economy, inter-organizational knowledge sharing is one key driving force required to simplify value chain activities and increase operational benefits (Ying_Hueih Chen et al., 2014). Thus, the success of the economy of the future is going to be based on how companies or organizations acquire, use and share knowledge effectively (Birchman-conolly et al., 2005; Nassuora, 2011).

Growing interest in the benefit of inter-organizational collaboration and knowledge sharing has generated a number of studies that explore knowledge sharing at inter-organizational level. However, studies of this nature are still relatively few and there is a need to grow research in the area. In knowledge management research, most attention has been in organizational context. While we recognize that organizational issues are important, increased collaboration among public sector bureaus, and agencies have identified additional knowledge management (KM) and knowledge sharing issues in the inter organizational domain.

The goal of knowledge management has been to leverage both explicit knowledge and tacit knowledge and to reduce the size of the organizational and inter-organizational knowledge sharing gaps. In order to achieve this, a common thread running through many knowledge management initiatives. These lead to ideas about “work as a network of conversions” and “hypertext organization”, Nonaka and Takeuchi (1995).

The government like other non-profit organization has some unique challenges to develop a knowledge sharing capability as compared with industry (Liebowitz, 2001). In many government agencies including public institution, people keep their knowledge close to heart as they move through the rank by this “knowledge is power” paradigm (Liebowitz and Chen, 2004). So having knowledge is similar to holding the competitive power of the new economy. Many researchers and scholars proposed that successful knowledge sharing

involves comprehensive learning processes rather than simple communication processes. As ideas related to development and innovation need to be made locally applicable with the adaptation being done by the ‘incumbent organizations’ for the ideas to be successfully implemented (Cummings, 2003).

This study is focusing on an inter-organizational perspective. It has undergone various stages with aim of discovering how government organization shared their knowledge among each others. The different stages erect upon each other whilst also exhibiting elements of interaction and interdependent. Furthermore, the research also discovered the factor that influences inter-organizational knowledge sharing among the organization in the context of Addis Ababa. The result of the study address inter-organizational knowledge sharing practice, the major factor that influences inter-organizational knowledge sharing activities and what motivate organization to share knowledge in the context of Addis Ababa City Administration.

In spite of the presence of ample literature on knowledge sharing, knowledge sharing is still one of the difficult tasks for organizations (Burgess, 2005). Knowledge sharing is affected by contextual factors. Due to this reason the study requires case study research to identify factors that explains local situations (Ipe, 2003; Bechina & Bommen, 2006).

1.1 Background of the study

The study was undertaken in Ethiopia capital city known as Addis Ababa. The City was established in the beginning of 1887/1888. It is a self governing city with its own city council. The city council which elected every five years, is accountable both to the city electoral and federal Government. The city administration has a decentralized organizational structure. It has 14 sector bureaus, 49 agencies, 10 sub cities, and 116 weredas with total employees greater than 66,790 (AACSA, 2014). The organizational structure of sector bureaus at head office, sub cities and weredas are almost similar except the number of employees and the professional qualification.

The city has gotten the right of self-governance just like other region of Ethiopia (proclamation No.7, 1992). Accordingly, some of the main objectives of the city Administrations were protecting the security of the population, providing good governance for the populations, providing social and economical service for the populations,

developing the infrastructure for the population, provide educational and information service, and performs other regulatory facilities.

Furthermore, the city administration sets long and short term objective like Growth transformation (GPT) to maintain rapid growth of social, economic, and technological need of the population by implementing well structured one window service delivery system through developing infrastructure, system for good governance, and rapid service delivery method. To achieve the above object the city administration use different management tools like BPR, BSC, and supporting tools like IT to enhance the service delivery. In general, the city public sectors provide two major activities. The first categories are those sectors that provide service to the customer and the second categories are those sectors that provide both service & infrastructural development for the customer. Even though, there is limited study concerning the inter organizational knowledge sharing among the public sector in the context of Addis Ababa city Administration, the research studied in other countries show that there is a need for organizations to work jointly, co-operatively and consistently to solve problem (Brown & Woolcock, 2004; Mitchell & Shortell, 2000). Thus, this study is conducted to see the practice of inter organizational knowledge sharing in the context of Addis Ababa.

1.2 Problem Statements

Addis Ababa is the capital city and the only metropolitan model of urban centers in the country. It has an ever increasing demand for information and communication services. At present, urban communication and information in the city is growing relatively at faster rate according to Urban Development Indicators (UDI) study of Addis Ababa (2010). However, the study did not include knowledge sharing and inter-organizational knowledge sharing among the sector bureaus. To this effect, designing appropriate urban development policies, strategies, programs, and plans are relevant to overcome all social, economic, and governance problems of the city. Thus, it requires relevant data, information, and knowledge to implement its program and plans.

Furthermore, there is limited local and global research on inter-organizational knowledge sharing among the public sector bureaus (Lertpittayapoom et al., 2007). But inter-organizational knowledge sharing is becoming important for public sector organization to

support common resource sharing activities. Particularly like our city Administration, one of the methods to foster collaborative work and effective service delivery among the organizations is by inter-organizational knowledge sharing method. Therefore, investigating inter-organizational knowledge sharing across the organization is a crucial factor in the current world.

However, there are problems in conducting inter-organizational knowledge sharing among the public sector bureaus. The main reason why we motivated to undertake this research is that we are working in Addis Ababa city Administration and we knows the city administration has many diversified professional across the organization. But, there is no integration and formal knowledge sharing system among the different organization in the city Administration. Sometimes there is wastage of resource among the organization because of the lack of understanding to manage knowledge and integrated infrastructure. This inspires the researcher to further explore the inter-organizational knowledge sharing practice among the sector bureaus in the city Administration and finally to recommend based on the findings.

1.3 The research Questions:

Q1. How do inter-organizational knowledge sharing among sector bureaus in Addis Ababa occurs?

Q2. How do sector bureau share knowledge in Addis Ababa city Administrations?

Q3. What are the factors that influence inter-organizational knowledge sharing among the sector bureaus in AA? Why organization shares knowledge?

1.4 Research Objectives:

The main objective of this research study is to investigate inter-organizational knowledge sharing among public sector in Addis Ababa city Administration and finally to recommend or propose the solution for the gap observed during the study.

1.4.1 Specific Objectives of the research

Based on the general objective, the research specifically aims to:

- Assess inter organizational knowledge sharing practice among the sector bureaus in A.A. city Administration.
- Pointing out the opportunities that already exist but not fully utilized to promote knowledge sharing.
- Identify the dominant inter-organizational knowledge sharing influencing factors among public sectors in AA City Administration.

1.5 Significance of the study

Knowledge sharing is now a core concern for organization and is a major area for those involved with knowledge management practices (Hendriks, 1999). The primary outcomes of this study is to provide a better understanding of inter-organizational knowledge sharing practice in the public sector organizations in the context of Addis Ababa city Administration. It also contributes theoretical as well as practical for the development of knowledge management. The significance of the study also extends not only act as an input in the formulation of knowledge sharing policy, but also provides relevant information for government, non – government organizations, policy makers, and researchers to take appropriate decision making and designing appropriate intervention. Finally, specific recommendations are provided through the investigation of inter-organizational knowledge sharing in emphasizing the efficiency and effectiveness of service delivery in the public sector organizations.

1.6 The Scope of the study

The scope of the study was limited to inter-organizational knowledge sharing practices among the public sector organization in Addis Ababa city Administration. It does not include federal bureaus, nongovernmental bureaus, and other private bureaus. Furthermore, the study does not include sub cities and weredas. Therefore, the study mainly focus on, investigating the existing inter-organizational knowledge sharing practices in the city Administration, identifying the factors that influences IOKS activities, identifying the techniques used for KS among the organizations ,and finally identifying why organization initiated to share knowledge across the organizations.

CHAPTER TWO: LITERATURE REVIEW

2.1 Overview

The 21st century is shaping up to be a single-minded society in which the basic economy resource is not the tangible asset like material, labor, and capital, but the intangible asset which is knowledge (Drucker, Ravi, and Kotler, 1999). It is also argued that no single organization has the full range of expertise they need for their survival (Dyer & Singh, 1998). Recently organizations cannot simply rely on internal knowledge; they also need to be exposed to new ideas from the external environment to remain competitive regardless of whether they deliver a product or a service (Matusik et al., 1998).

Knowledge management is a set of practices that enables organizations to better create, understand, and utilize what they know (Karl-Sveiby on Tobing, 2007). It is the art of creating commercial value from intellectual capital. Based on the definitions above knowledge management is part of intellectual capital which really important, particularly in achieving competitive advantage of organization. Thus, the implementation of knowledge management requires sharing process to promote its use (Ipe, 2003).

Knowledge sharing is one of those areas where organizations can leverage knowledge from external opportunities to resolve problems. Interaction and the sharing of knowledge within and across the organization or research group can help in the development of organizational knowledge and improved innovation (Caloghirou et al., 2004). How organizations share knowledge and what motivate organizations to share their own knowledge across the organization is a challenging task despite the presence of ample literature on the topic (Ipe, 2003).

Therefore, this literature review is to assess the existing knowledge on the research topic, confirm the tentative belief of the need for research in this area, and to refine the proposed research questions. Even though the literature review was completed before the data analysis and discussion of the research findings, the researcher has been maintained a continuous update of the emerging literature to incorporate relevant studies. The literature identifies four major primary frame works that can affect successful IOKS implementations, including:

- Inter-organizational knowledge sharing among the sectors

- Factors that influences inter-organizational knowledge sharing among the sectors
- Nature of knowledge among the organizations
- The working environment in which inter-organizational knowledge sharing to occur.

The literature begins with the concept of knowledge, knowledge management and knowledge sharing, inter-organizational knowledge sharing, and factors that influences inter-organizational knowledge sharing activities.

2.2 The Concept of Knowledge

2.2.1 Definitions of Knowledge

The review of the literature in knowledge management, organization theory, and information systems fields explain the existence of various definitions and concept on knowledge. To start with the definitions adopted by a large amount of the research to date, knowledge as “a fluid mix of framed experience, values, contextual information and expert insight that provides a framework for evaluating and incorporating new experiences and information” (Davenport & Prusak ,1998).

Becerra-Fernandez et al. (2004) described that knowledge is justified beliefs about relationships among concepts related to particular phenomena. The growth, availability of new and existing knowledge presents a remarkable challenge and opportunity to organizations effort to compete in a global arena (Brewer and Brewer, 2010). Having clearer understanding of what knowledge is in relation to technically related terms make the conceptualization and application more effective. Hence, knowledge is skill, intuition, and experience that can influence decision making.

Furthermore Davenport and Prusak (2000) define the difference between information and data having meaning that affects the receiver, “think of information as data that makes a difference” (2000, p3). The key problem is the difference between information and data. What may be meaningful information to one person may be unconnected ‘noise’ to another (Davenport & Prusak, 2000).

Galliers and Newell (2001) identified three interesting points. The first point concerned to the importance of context. Data is context free and do not facilitate any requirement for sense-making or learning. However, Information is processed data but still lack the richness of knowledge. The second point is the association between knowledge and sense-

making, the researcher hereby takes action due to the sense we make of a situation. Finally, they distinguish between the system in which data, information, and knowledge are likely to occur.

2.2.2 Knowledge Taxonomy

Researchers classified knowledge into a variety of forms in an attempt to better understand the full scope of the observable fact. The most commonly used categories are tacit and explicit, component and architectural, individual and collective, and private & public etc. In this study the researcher used the Polanyi and Saint-Onge classification. Polanyi (1966) and Saint-Onge (1996) classification of knowledge into two types that is explicit and tacit. Polanyi (1966) summarized the basic nature of tacit knowledge in the phrase “*individual know more than they can explain*”. This is because individual have knowledge that is non-verbalized, intuitive, and unarticulated. Polanyi demonstrates tacit knowledge by giving daily example such as the ability to recognize the face of an acquaintance.

Explicit Knowledge: The explicit knowledge also known as “hard” knowledge .It can be expressed in statistics, words, shared formally and systematically in the form of data specifications, manuals, and so on. Choi and Lee (2003) study identified explicit knowledge as knowledge that can be created, written down, documented ,transferred verbally or through some medium of communication such as emails, telephone or information systems. The words explicit and tacit can be misleading because they imply that they are exclusive. However, explicit knowledge is based on tacit knowledge and is created by externalization (visualization, articulation or codification) of tacit knowledge (Nonaka and takeuchi, 1995). It is the part of tacit knowledge that can be expressed verbally and does not represent the entire body of knowledge (Nonaka and Takeuchi, 1995).

Tacit Knowledge is the personal and context specific knowledge of a person. It is bound to the person and is thus difficult to formalize and communicate (Nonaka and Takechi, 1995).It is obtained through experience, work practices, and can be transferred by observing and applying it (Choi and Lee, 2003).

Barth (2002) defines tacit knowledge as knowledge that exists in people’s mind and is quite difficult to transfer. As a result, it is not possible to separate, store, and distribute the

whole knowledge of somebody in a separate place (Davenport and Donald, 1999; Polanyi, 1996).

2.3 Knowledge and the organization

Knowledge has been recognized as a valuable strategic asset within organizations (Zack, 2000). The concept of knowledge management (KM) is not new to the public sector. Through public policy in particular, politicians and public service workers use knowledge to shape their domestic environment and try to make a difference (Bridgman and Davis, 2004).

2.3.1 Knowledge management (KM)

A literature review on Knowledge management indicates that there are many definitions of KM. For example, KM is the set of processes that seeks to change the organization's present pattern of knowledge processing to enhance both the organization and its result (Firestone and Mark, 2005). Knowledge management also defined as the process of knowledge creation, storage, sharing and application to improve the overall organization performance (Alavi & Leidner, 2001). Argot (1999) and Huber (1991) study presented knowledge management as the process how organizations create, retain, and share their knowledge. Murray and Myers (1997) define KM is the collection of processes that govern the creation, dissemination and utilization of knowledge to fulfill organizational objectives. As we have seen from different literature, there is no single definition which clearly defines knowledge management.

Application of knowledge management can produce many benefits (Alavi and Leidner, 1999). Since people will spend less time for looking information and expertise that resulted in improving efficiency of people, speed up organization innovation, make existing knowledge visible and accessible to knowledge users so as to enhance knowledge retention and reuse (Alavi & Leidner, 2001).

To achieve the above knowledge management benefit, organization should create conducive knowledge management environment, improve organizational culture that enhance collaborative team work, network and virtual organization, learning, research and development, improve knowledge sharing culture, encouragement and promotion for

innovative idea rather than adaptation, emphasis on leadership role rather than administrative position (Alavi and Leidner, 1999).

2.3.2 Knowledge Management process

Many researchers and scholars tried to explain different types of knowledge management process. This process includes knowledge creation, storage, sharing and application (Karadsheh et al., 2009).

Knowledge creation is an organizational, social, and collaborative dynamic process through interaction between tacit and explicit knowledge (Nonaka et al., 2000; Pentland, 1995). It refers to creating new knowledge that does not exist before (Alavi & Leidner, 2001). It deals with integration of knowledge that exist in various sources and extraction of new knowledge from information (Grant, 1996; Karadsheh et al., 2009).

Knowledge storage is a link between the upstream acquisition and refinement phases that feed the repository and downstream stages of product generation. Storage may be physical (file folders, printed information) or digital (database, knowledge management software).

Knowledge storage represents a conscious effort to identify, select, capture, organize, and store relevant knowledge that supports business process (Karadsheh et al., 2009). It also involves creation of meta-knowledge by structuring, indexing, and classifying existing knowledge to facilitate knowledge retrieval and reuse (Karadsheh et al, 2009; Alavi & Leidner, 2001). Meta knowledge is an abstract representation of knowledge and its relationship in the knowledge repository (Kim et al., 2004). It is also named as organizational memory (Alavi & Leidner, 2001).

Knowledge application is making knowledge more active and relevant for the firm to create value (Bhatt, 2001). Knowledge, like information, does not have any value unless it is applied to decisions and actions in a business context having a goal. Knowledge application and use is a complex subject with various aspects (Davenport and Marchand, 2001). Therefore, if organizations fail to locate the right kind of knowledge in the right form, the firm may have trouble in sustaining the competitive advantage (Bhatt, 2001).

Knowledge Sharing is the process of making knowledge available to users (Anumba et al., 2005). The use of e-mail, intranet, newsgroup, and bulletin board supports the distribution process. Knowledge sharing also permits members to discuss, deliberate and interpret

information through many aspects (Bhatt, 2001). Although it is easy to share explicit knowledge within and across the organization, Anumba et al. (2005) expressed that non-IT tools like face-to-face interaction and IT tools like groupware and multimedia tools are the examples of tacit knowledge sharing whereas searching knowledge base and obtaining stored knowledge is an example of explicit knowledge sharing.

The most important factor in knowledge sharing is a supportive organization culture that promotes openness and collaboration to share knowledge (Chu et al., 2011). Interpersonal trust, on job training, mentoring, collaborative communication tools are some of organizational practices that promote voluntary knowledge sharing (Al-Ma'aitah, 2008; Chu et al., 2011). Knowledge sharing also includes communication of new knowledge to potential knowledge users (Karadsheh et al., 2009).

2.3.3 Knowledge Conversion

Nonaka and Takeuchi (1995) propose the SECI (socialization, externalization, combination, and internalization) model of knowledge conversion to explain the process of communications between explicit and tacit knowledge. Nonaka labeled the mode of converting tacit knowledge into tacit as the socialization process, the mode of converting tacit knowledge into explicit as externalization process, the mode of converting explicit knowledge into explicit as combination process, and the mode of converting explicit knowledge into tacit as internalization process (Nonaka, 1994). Nonaka (1994) also argued that new knowledge is essentially created in the transformation between tacit knowledge and explicit knowledge.

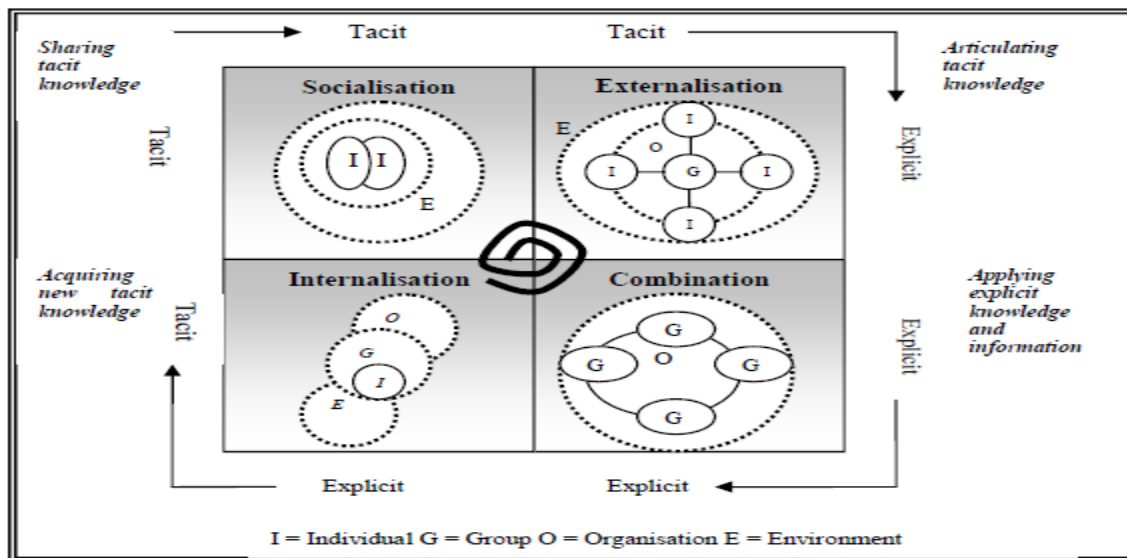


Figure 2.1 Models knowledge creation and sharing Nonaka and Toyama (2003)

The **socialization** process converts existing tacit knowledge into new tacit knowledge through shared experiences. It takes place through everyday social interaction and cultural processes linked to ongoing organizational activities (Martin-de-Castro et al., 2008). Socialization typically occurs in traditional apprenticeship type of learning rather than through written manuals. It often takes place in informal social meetings outside the workplace, where tacit knowledge such as world views, mental models, and mutual trust can be created and shared during interaction (Nonaka et al., 2000).

The **externalization** process articulates tacit knowledge into explicit knowledge, which occurs when the firm expresses formally its internal rules of functioning or when it explicitly sets written organizational goals (Nonaka et al., 2000). Nonaka and Takeuchi (1995) assumed that “among the four modes of knowledge conversion, externalization holds the key to knowledge creation, because it creates new explicit concepts from tacit knowledge”. When tacit knowledge is made explicit, knowledge is “crystallized” allowing it to be shared with others and to become the basis of new knowledge such as concepts, images and written documents (Nonaka and Toyama, 2003). Documenting the outcomes of dialogue is an effective method to articulate ones tacit knowledge and converting it into explicit knowledge. Reporting the outcomes of discussions during the training programs

between trainees each other and with their trainers, is an example of documenting dialogue.

The **combination** process converts already explicit knowledge into more systematic sets of knowledge. Through combination, explicit knowledge is collected from inside or outside the organization and then combined and edited. The new explicit knowledge is then shared among the members of the organization. Creative use of computerized communication networks and databases can facilitate this mode of knowledge conversion.

The **internalization** process recycles explicit knowledge back into tacit knowledge, suggesting that we internalize explicit knowledge. Through internalization, explicit knowledge is shared throughout the organization and converted into tacit knowledge by individuals. Internalization is closely related to “learning by doing” and/or organizational learning (Nonaka and Takeuchi, 1995). For example, training program can help trainees to learn new skills and understand more about their organization and themselves. By reading documents or manuals about their jobs and the organization, trainees can also internalize the explicit knowledge written in such documents to enrich their tacit knowledge base.

2.3.4 Hedland and Nonaka’s model

Knowledge sharing process is complicated and complex, more elaborated version of Nonaka’s model was developed to the four model levels of agents of knowledge in the organization. Hedland and Nonaka’s (1993) improved Nonaka’s model of KM and they categorized knowledge into four domains: individual, group, organizational and inter organizational. To conceptualize on individual knowledge, organizations need to turn it into organizational knowledge. Hedland and Nonaka’s (1993), knowledge transfer is very difficult and complicated. Hence a more explained version of Nonaka’s model was developed to describe the agents of knowledge in organizations.

Level of KS	Articulated	Tacit knowledge
Individual	Knowing calculus	Cross cultural negotiation skills
Group	Quality circle's documented analysis of performance	Team coordination in complex work
Organization	Organization chart	Corporate Culture
Inter organization	Supplier's patents and documented practice	Customer's attitudes to products and expectations

Table.2.1.Hedlund and Nonaka's knowledge management model

In this respect, inter organizational source of knowledge includes other individual or organizations in the outside environment like customers, competitors, and government sectors.

2.4 Knowledge Sharing (KS)

Literature review on knowledge sharing indicates that there is no all inclusive definition of knowledge sharing. Various researchers have defined knowledge sharing from their own point of view. Some researchers even considered knowledge sharing, knowledge transfer as exchangeable terms and defined them interchangeably. For instance, knowledge sharing is the ways in which knowledge may be shared between individuals, groups, or organizations (Connelly & Kelloway, 2003). In the recent year, there is an increasing attention by the researcher and practitioners' knowledge sharing at the inter-organizational level (Luna-Reyes & Garcia, 2008; Willem & Buelens, 2007; Nieminen 2005, Wijk et al., 2008, Cummings & Teng 2003). Knowledge sharing is an intentional act in which knowledge is externalized by knowledge owners and internalized by knowledge seekers (Ipe, 2003). Knowledge externalization is a process of presenting personal knowledge in the form of framed information by way of socialization and codification (Hendriks, 1999). The objective of knowledge sharing is to create new knowledge by combing existing knowledge with new knowledge or to exploit the existing knowledge in a better way (Antonova et al., 2011). It is a means and a process by which individuals and groups

communicate their knowledge unconsciously or deliberately to their mutual benefit. The process of knowledge sharing involves both the creation and the transfer of knowledge through different artifacts, such as documentation or communication, among entities. Knowledge sharing occurs at different level such as at individual, project team, and group, organizational and inter-organizational.

Knowledge sharing at individual level occurs through a voluntary act that can create new experience or understanding for the knowledge sharing recipient (Van Vuure, 2011). Willem (2003) states that knowledge sharing occurs between at least two parties and is mutual process that allows the reshaping and sense-making of the knowledge in the new context.

Knowledge sharing at the team level, project teams can be particularly useful in the field of knowledge sharing through the timely integration of knowledge across organizational boundaries. Knowledge sharing at team level often depends on the informal interaction between the members of a project and their leader (Jansen van Vuuren, 2011). Recognizing team level experience of network building, organizations may be able to impact those antecedents through managerial policy. Another researcher, Fedor et al. (2003) examined the impact of factors related to KM on the responses of project group members involved with product process development. They found that knowledge sharing is often dependent on the informal interaction between project group members, leadership, and organizational support.

In organizational context Bartol and Srivastava (2002) define knowledge sharing as “individuals sharing organizationally relevant information, ideas, suggestion, and experts with one another”. In their study they found four main mechanisms for individuals to share knowledge in organizations:

- “ through contributions to organizational databases,
- through formal interactions within or across teams or work unit,
- through informal interactions among individuals, and
- Within voluntary forums such as communities of practice.”

At the inter-organizational level, much of the theory derives from the technology transfer literature and the strategic management literature (Tang, 2008). Tang (2008) study identifies knowledge sharing to occur through contractual inter organizational relations and fails to notice the fact that knowledge is shared through informal interaction as well as through more formal channels. However, the studies detailed in the knowledge transfer literature mainly related to the movement of domain knowledge between two organizations and focus on formal rather than informal mechanisms and structures (Ipe, 2003).

2.4.1. Knowledge sharing Activities

Different scholars have investigated knowledge sharing practices in different time with different context. Jacobs and Roodt (2007) summarize knowledge sharing practices as shown in Table 2.2.

Knowledge sharing Activity	Author
Employee Suggestions/ideas programmes	Bartol & Srivastava, 2002
Face-to-face interaction	Chua,2003
Information gathering, social events, dialogues, collective reflections	Yang&Wan,2004
Mentoring Programmes	Gupta et al.,2000; Yang & Wan,2004
Training	Husted &Michalova,2002; Yang & Wan, 2004
Schedule meeting within or across teams	Bartol & Srivastava, 2002
Workshops, Seminars, conferences, team building exercise, written report	Gupta et al.,2000

Table 2.2 Knowledge sharing activities (adapted from Jacobs & Roodt, 2007)

2.4.2 Approach to knowledge sharing Activities

There are a number of approaches that can be used to share knowledge in organizations. Hansen et al. (1999) presented two distinct, opposing knowledge management strategies codification and personalization. Codification of knowledge obtained through everyday troubleshooting, organization, and labeling. It ensures the uniform various re-use of explicit knowledge in decision making, which in turn, justifies the intensive investment of

the strategy requires. Therefore, organizations using this strategy should encourage staff to use and contribute to knowledge repositories.

Personalization disseminates tacit knowledge to create unique solutions for strategic issues that lack an appropriate standard. It is accomplished by facilitating communication amongst individuals, who are directed by questions regarding to the type of solution required and who may be aware of it. This leads to an increased frequency and improved quality of communication and, by its personal character, requires only minimal investment (Hansen et al., 1999).

2.5 Knowledge sharing in the public sectors

Many previous researches focus on knowledge sharing in private organization rather than public sectors. The main debate in the literatures are whether private knowledge sharing approach applied to public organizations. Milner (2000) study identified that there is some private organization that have similar knowledge sharing approach to the public sector organizations, and there is also private organization that have different knowledge sharing approach in terms of culture and outlook .In the public sector, organizations work within government parameters, and there is the additional presence of a sector culture, as well as an individual organization culture.

Willem & Buelens (2007) study identifies the public sector organizations are knowledge intensive and require effective knowledge sharing to leverage and exploit their knowledge assets. Until now, managing knowledge has historically been an area of difficulty for the sector (OECD, 2003). As a result, Bate & Robert (2002) reported, there is little published public sector based knowledge management research. The literature reviews discovered that public sector organization focus on the need to measure and manage explicit and existing knowledge than tacit knowledge sharing and development (Jorgensen, 2004).

Public sector organizations are not only sharing knowledge internally but also there is a drive that enforces public sector to share knowledge across the sector organizations. The major driving force that initiates the sector bureau to share their knowledge among the other organization is the evolution of technology. In fact, public sector organizations play a key role in facilitating the cultural, economic, and technological situation conducive for the development of knowledge economies (Hearn & Rooney, 2002). In doing so, there is a

new challenges arise that cut across policy and service areas and cannot be solved by the single-organization (Brown & Woolcock et al., 2004; Mitchell & Shortell, 2000; Waddock, 1991). They require new approaches that see individual organizations working co-operatively and consistently as a unified sector where knowledge sharing both within and between organizations is taken as the norm. Despite acknowledgement of the growing importance of inter-organizational knowledge sharing, research that explores the dynamics of knowledge sharing in this context remains limited (Tang, 2008).

Lips (2008), study identified greater collaboration of government service with the concept of joined up government (JUG). The study examined the importance of JUG as a provision of better service to the citizen, better coordination in government, more cost efficient, work through sharing resources, reduce duplications of effort & output, and innovation through new ways of working and sharing knowledge.

2.6 Inter-organizational Knowledge

Inter-organizational knowledge is the exchange of knowledge between organizations. Organizational knowledge is defined as ‘the potential members of an organization who have developed to draw distinctions in the process of carrying out their work, in particular concrete contexts, by enacting sets of generalizations propositional statements whose application depends on historically evolved collective understanding and experiences’ Tsoukas & Vladimir (2001).

Government organizations, also referred to as public sector organizations, are characterized by a social focus on honesty, fairness and equity rather than competitive advantage and profit that are the predominant characteristics of business organizations (Willem and Beulens 2005). Another differentiating characteristic is a focus on processes rather than output (Mintzberg, 1989). In general, different researcher explains the characteristics organization in different context. There is no one definition that explains the characteristics of inter-organizational knowledge. On this research paper, the researcher uses the term organization and public sector interchangeably.

2.6.1 Inter-organizations Knowledge Sharing

Inter-organizations knowledge sharing is the process of mutual learning between organizations. This process can be considered as being composed of learning between individuals from different companies and of organizations (Chen et al., 2006). According to Lee (2001), inter-organizational knowledge sharing also refers to knowledge sharing activities or disseminations between the provider and receiver. It is one of the key driving forces required to streamline value chain activities and maximize operational benefits. The two or more organizations exchange the knowledge that each be deficient in but desired to gain through the collaboration. Inter-organizational knowledge sharing started from an individual level, and then escalated to the group and then organizational levels (Lertpittayapoom et al. (2007).

Van Der Meer (2013 & 2014) conducted a study on knowledge sharing in inter-organizational collaboration. They used mixed methodology to examine inter-organizational knowledge sharing collaborations. According to this, inter-organizational knowledge sharing flows both horizontal and vertical through different level of interaction between participants. That means 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 the study most top level management 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).

Inter-organizational knowledge sharing has attracted many researchers and practitioners including (Easter by-Smith et al., 2008; Van Vuuren, 2011; Seyyedeh et al., 2009). Through an extensive review of related literature; there are different dimensions of inter-organizational knowledge sharing practice among the organizations namely, 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.

Walker (2004) identified the propagation of inter-organizational collaboration in the government sector is increasing. Indeed, collaboration has received government attention through a range of initiatives including the State Services Commission (SSC). Review of the Centre (SSC, 2001); and the Pathfinder Project (SSC, 2003), and most recently the development of New Zealand's evolving approach to JUG, which it defines as a system of world class State Services serving the government of the day and meeting the needs of New Zealanders (SSC, 2006). New Zealand's approach to JUG concluded in the identification and development of six key development goals. One of these goals was defined as "New Zealand public sector organizations working together, sharing information, resources and responsibilities to achieve defined outcomes" (SSC, 2006). Thus, it is intended specifically at helping collaboration and sharing across the sector through a broad spectrum of approaches including ongoing partnerships between organizations, shared programmes of work, and discrete projects tasked with specific goals and finite timeframes. The predominant approach to the achievement of this goal advocates that public sector organizations focus on the use of ICT tools to facilitate knowledge sharing.

Rindha et al. (2013) had done research on inter-organizational knowledge sharing in Micro-small and medium scale Enterprise (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. Based on the study, organizations need channels to facilitate their knowledge exchange in the inter-organizational knowledge sharing activities. Therefore, 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.

Grotenhuis and Weggeman (2002) distinguish between a “knowledge source” and a “knowledge receiver” in the knowledge sharing process from the benefits of intra organization and inter organizations point of view. The study found that sharing of valuable knowledge within and across the organization results in: avoids re-inventing the wheel, reducing redundant work, reduces the cost of inventions, creates knowledge with the help of experts and experienced individuals, provides the right direction to the dedicated intelligent people, and then makes them experts in the future, causes firms to inform universities to frame their research workers based on their needs; and solves problems at the primary stage which saves time, money, and man power (Parekh, 2009).

Tang (2008) investigate knowledge sharing at inter organizational level. The study discovered that inter organizational relation and overlook the fact that knowledge shared through formal systems like Knowledge sharing policy, performance measurement system, clear communication channel, Intranet technology, training, internet technology, flexible organizational structure and informal interaction or channels like face to face interaction, personal relationship, social event, and conducive working place. Thus, the process of knowledge sharing involves creation, transfer of knowledge through artifact such as communication among entities and different kinds of documentation.

Lertpittayapoom et al. (2007) 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. After the team members discussed knowledge transferred to organization and finally to the inter-organizational level. The interesting observation from this study is that 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. This study also identified the acquisition of knowledge by entity; knowledge also comes from the interaction among entities. That means interaction among individual, group, organizations and inter-organization can be the means for knowledge sharing and creations according to this study.

Hendricks, 1999; Hoof, 2009 and Turban 2006 study found that the emergence of the internet and ICT infrastructure results in the creation of a number of software applications and technologies including extranet, web service portal, internet-based discussion groups, electronic meetings. Intranets play major role in bridging the gap of time and space between members of knowledge communities to support inter-organizational knowledge sharing. An organization's portal can be connected to another organization's portals to allow multiple portal searching. Search of this portal yields knowledge that is derived from different sources. This enhances the search capability and certainly expands the scope of knowledge (St Onge, 2001).

Beeby and Booth (2000) study identified that the effectiveness and efficiency of inter-organizational collaboration through knowledge sharing can be enhanced with the advancement of information technology. However, apart from the technological perspectives many researchers agreed that technological challenge is less complex when compared to the challenges in organizational and political aspects (Nonaka, 1994) as more complicated issues like trust, motivations, reciprocity, and involving policy need to be solved before implementing the technologies.

Chen et al. (2014) identified that relational drives and shared values as major antecedent of inter-organizational trust and consequently leading to inter-organizational knowledge sharing. Inter organizational trust is the foundation for cross organizational data exchange and knowledge sharing. As a result organization that seeks to capture, business opportunity through inter organizational knowledge sharing and data exchange should endeavor to develop the bounded business relationship and mutual trust. The study implication suggest two significant point .The first implication shows that the business partners should place more effort in building shared values and develop stored business partners. The second implication show the relation between knowledge sharing highlights the impact of trust on inter-organization knowledge sharing. Because of the complexity of the relationship

between the organizations involved, inter-organizational knowledge sharing relationships depend on trust building between them (Akbulut et al., 2009; Canestraro et al., 2009; Gil-Garcia et al., 2010; Landsbergen and Wolken, 2001; Luna-Reyes et al.,2007b;Pardo et al.,2004).

Table 2.3 Summary Related Literature

No.	Title	Author	Method	Objective	Key finding
1	IOKS in the Public Sector: The Role of Social Capital and ICT.	Sally Jansen van Vuuren (2011).	Multiple-case, multi-method.	To better understand the dynamics of knowledge Sharing and the roles that social capital and ICT play in knowledge sharing.	The developments of a conceptual framework that consist of six important factors those are: collaboration design, leadership, the perceived ease of use and perceived usefulness of ICT, and individual technical ability.
2	A frame work for inter organizational knowledge sharing: Managerial influences.	Rosemary Van Der Meer (2012)	Multi Case study Literature review.	To test the applicability of inter organizational KS framework in organizational context.	The implication of the finding is that existing frame work need modification to be applied in organizational context.
3	Analysis of inter-organizational KS needs among micro, Small and Medium enterprise with traditional market	Rindha Deviana Sari, Imam Suyadi, Srikandi Kumadji (2013)	Questionnaire survey Literature review	To investigate and analysis inter organizational knowledge sharing among MSMEs in Indonesia.	Traditional market is influenced by seller relationship whether in the form of frequency of interaction or closeness were notably denser to inter organizational KS. MSMEs IOKS. The empirical results reveal the urgency of IOKS sharing with in

No.	Title	Author	Method	Objective	Key finding
					traditional market the better the organizational performance can be achieved.
4	Inter and Intra organizational barriers to sharing knowledge in extend supply chain	Richard J Barsa, Gillian Foster, Svetan Ratchev, Kulwant Pawar, Frithjot Weber & Micheal (2000).	Literature review Case Study	The major objectives were to Outline barriers to knowledge sharing.	-Majority of KS barriers are concerned with people issue. More emphasis should be given to on how to best enable people to participate in KS than on technological solutions.
5	Theoretical perspective on effective inters organizational knowledge sharing.	Nongkran Lertpittayagoom, Souren Paul, Peter Mykytyn,Jr.(2007)	Multi Case study Literature review	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.	IOKS could be observed from the knowledge that flow from one level to another, such sharing occurs at each level. Starting from individual, to group, to organizational level. IOKS comes from the interaction among the entities (individual in the same group, among the group and organization).IOKS is the acquisition of organizational knowledge through the escalation of learning

No.	Title	Author	Method	Objective	Key finding
					achievement from individual to group and organizational level.
6	Success factors of inter organizational knowledge sharing: A proposed frame work.	Fatemeh Nooshin Fard, Leila Nemati-Anaraki (2012)	Literature review Developing Conceptual framework.	To determine the determinant factors influencing inter & intra- organization KS in order to offer a frame work.	After investigating the researcher developed inter and intra-organizational knowledge frame work which influences IOKS.
7	Whatdrives organization to share knowledge with their supply chain partners	Seyyedeh Narges (2010)	Literature Review Both Qualitative Quantitative	To identify the key drivers of the intention of an organization to share knowledge with its supply chain partners.	Proposed conceptual model. Besides the conceptual model two another factors will also affect intention to SK (types of knowledge and expected benefit from knowledge sharing).
8	Knowledge sharing in Inter organization collaboration	Rosemary Van Der Meer (June,2014)	Mixed method & literature	The aim of this research is to find a method to examine IOKS.	IOKS flow both horizontal and vertical through different level of interaction between participants.

2.7 Research Gap

In spite of the presence of ample literature on knowledge sharing, knowledge sharing is still one of the difficult tasks for organizations (Burgess, 2005). Knowledge sharing is affected by contextual factors. Due to this reason, the study requires case study research to identify factors that explains local situations (Ipe, 2003; Bechina & Bommen, 2006). Therefore, this study is concerned with an inter-organizational knowledge sharing case study research for the case of Addis Ababa sector bureaus. The study investigates the public sector organization current knowledge sharing practices and the factors that influences inter-sector knowledge sharing for a case of Addis Ababa city Administration.

2.8 Theoretical Framework

The literature review shows that, the framework for knowledge research has mainly been within a single organization. But currently, there has been an increasing in collaboration between organizations, particularly those involving government organizations in the relationship. This increase inter-organizational domain has identified a complex relationship with knowledge sharing concerns.

There is a concern with knowledge sharing in organizations from the basis of this research mission. To investigate them, frameworks gave as a suitable lens to structure and analyze the knowledge sharing activities. Conceptual frameworks build on the literature provide clear links between the literature and the research concepts (Smyth, 2004). Frameworks can contribute to the trustworthiness of the study making the findings more meaningful and generalizable (Polit and Tatano Beck, 2004). A framework can provide a common language that gives consistency and clarity in the discussion of the findings which, in turn, can make the work more accessible to others (Polit and Tatano Beck 2004; Smyth, 2004).

This framework considers the present literature; both from the intention and cognitive way in which knowledge is shared among inter organizational members. The frame work also identifies a possible relationship between social relation, ICT, organizational factors, contextual factors, nature of knowledge, and cultural proximity among the organizations. This research aims to determine inter-organizational knowledge sharing practice in public sectors in Addis Ababa and to conceptualize framework for factor influencing IOKS. The

aim of the study is to evaluate the theoretical framework like the causal theory to show what motivates organizations to share knowledge between them in the context of Addis Ababa sector bureaus. The framework identifies the public sector as the over-arching context for the study

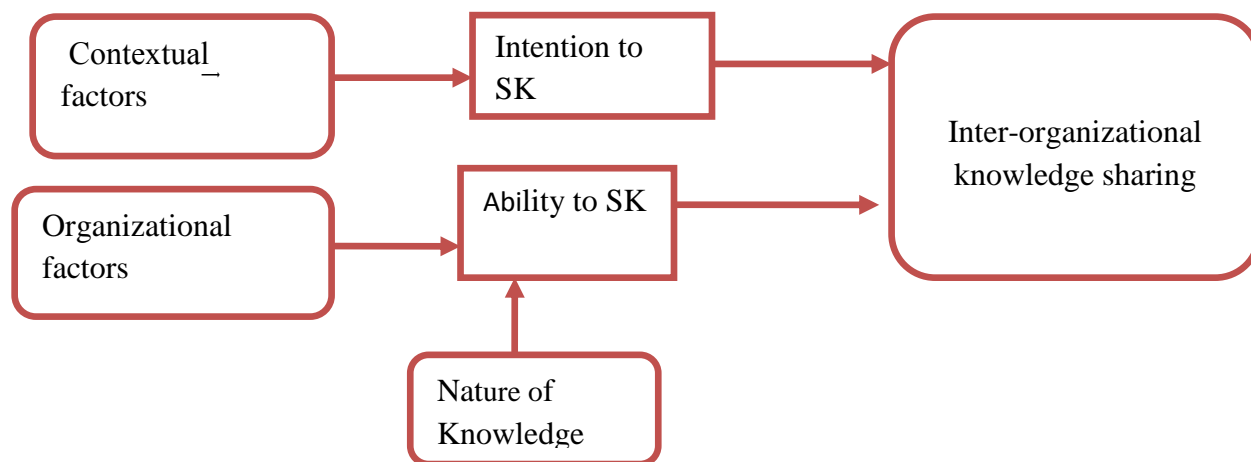


Figure 2.2 Modified version of *factors affecting IO knowledge sharing* (adopted from Seyyedeh et al. 2009)

2.8.1 Factors that influence inter organizational knowledge sharing

Different scholars classify the influential factors into different categories. But for this research the researcher used the Seyyedeh (2010) classification. The major factor can be categorized in to contextual factors, organizational factors, and the nature of the knowledge (Seyyedeh, 2010).

2.8.1.1 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, dependency, 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 can be explained as follows.

- **Interdependency and Power**

Organizations are dependent to one another when their interactions and collaboration are vital to remain in a determined environment (He et al., 2006). The concept of interdependency is related to the division of power between two or more organizations (Nieminen, 2005). Previous literatures identified that interdependency between organizations can be created as a result of environmental difficulty. Wood and Gray, (1991) argued that, in complex environment organizations tend to start collaboration activities with other organizations to reduce the complexity of the environment. Organizations are dependent to one another when their interactions and collaboration are crucial to continue in a single-minded environment (Wang & Daneshgar, 2007). The high level of interdependency will minimized the risk of opportunistic behavior .Because both organization parties will identify the importance of each other to perform the supply chain activities. Furthermore, the interdependence will guide to anticipated future cooperation (Heide and Miner, 1992). Finally, the earlier research conclude that the more the interdependency the organization the more the knowledge sharing among the organizations (Heide and Miner, 1992).

- **Cultural Proximity and Shared Values**

Culture is defined as a collection of parameters such as beliefs, values, assumptions, and interpretations of events shared by social collectives such as groups, nation and organizations (Abou-Zeid, 2004). Organizations have cultural proximity when they share the same or close culture based on factors including language, norms, values, meanings, and beliefs. Cultural proximity facilitates knowledge sharing for two reasons. First, cultural proximity helps in identifying the earnings and values of partner's behavior (Simonin 1999). Secondly, it removes the barriers for understanding partners. These barriers include the lack of confidence in the language that results in knowledge ambiguity and causes even codified knowledge remains inaccessible.

As sharing tacit knowledge needs more face to face interactions between two parties the role of organizational and national culture is more critical in sharing tacit knowledge (Hau and Evangelista, 2007). Similarly, cultural proximity and shared vision as cognitive dimensions of social relationship facilitate knowledge sharing by promoting mutual

understandings and by providing crucial connecting mechanisms between two organizations parties (Wijk et al., 2008).

- **Tie strength**

Previous researchers identified that positive prior experience leads to an expectation about positive future interactions. The frequency of interactions and communication will be increased and will result in creating strong tie between organizations partners. Close relationship between organizations partners will lead to greater knowledge sharing (Wijk et al., 2008). The role of strong tie and prior experience between two or more organizations are addressed in the literature (Hansen 1999, Wijk et al., 2008). The literature review of the past study identified that tie strength empirically applied to inter-organizational knowledge sharing by creating close relationship among the sector.

- **Trust**

Trust in organizational point of view can be defined simply as a belief that one organization acts in consistent manner and will perform in accordance with expectations and interactions (Spekman et al., 1998). The concept of trust is highly related to risk and protectiveness of knowledge. The previous studies identify that lower inter-organizational trust will result in higher risk of losing critical knowledge due to leakage or opportunistic behavior of partners. This leads to organizations to be more protective of their knowledge as a result there is less intention to share knowledge.

Trust among organization is developed through face to face communications, working within teams or across teams, and chat between employees will be the beginning for the development of trust and foundation of virtual creative work (Holste and Field, 2010). In inter-organizational contexts the foundation that trust is builds on two associated groups: process-based trust and institutional based trust. Process-based trust reflects the partner's reliability, predictability, honesty, and ability to perform desired tasks within the relationship (Sevensson, 2004). On the other hand institutional trust is based on the organization's certificate, ability and willingness to develop the mutual relationship (Parkhe 1998, Child 2001). Literature review of the past study identify that there are various factors required for enhancing trust in a relationship including common social,

cultural framework; common experience; and the prior relationship with the organizations (Nieminen, 2005).

2.8.2 Organizational Factors

Various factors are related to the characteristics of the organizations which either share knowledge with, or acquire knowledge from other organizations. Factors such as organizational intention to learn, absorptive capacity, ICT supports, age, size and geographical location of organizations indicate different characteristics of source and recipient organizations. On top of these cooperative activities will also provide an avenue for organizations to expand their professional networking. However, complexity of knowledge sharing can increase because when 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 (D. Lazer and M.C.Binz-Scharf, 2004).

- **Absorptive Capacity**

The concept of absorptive capacity was theoretically presented by Cohen and Levinthal, (1990) as ‘an organization’s ability to recognize the value of new external knowledge, assimilate it, and apply it to commercial end. Based on this concept, Lane et al. (2001) found supports for the influence of an organization’s absorptive capacity on its ability to understand new knowledge held by its partner. Similarly knowledge base will help to bridge the gap between high experts and less experts’ organizational members, which is one of the barriers to the ability to share knowledge (Hinds and Pfeffer, 2003). Thus, absorptive capacity facilitates the ability to share knowledge between organizations.

- **Geographical proximity**

Geographic proximity is defined as the geographic distance between two or more organizations. Organizations in the same city or area have more geographical proximity than organizations which are located in dispersed city or countries. Geographic proximity encourages face-to-face communication and brings companies together (Knoben & Orelemans, 2006). As a result it creates strong link between organization that result in

high level of richness in interaction and facilitate the exchanges of tacit knowledge (Knoben & Orelemans, 2006).

- **ICT Infrastructure and IT usages**

The technological perception concerns on how the use of IT is believed to aid in sharing knowledge across the organization. Information technology has the potential of acquisition, storage, processing, retrieving, and transferring knowledge (Reychave and Weisberg, 2010) and enables expertise to share their knowledge despite the geographical distance.

The existence of ICT equipment and tools assist knowledge sharing in different forms such as 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).

- **Intention to learn**

The concept of learning intent focuses on the level of effort that the organization makes for the purpose of learning and creating significant awareness (Hau and Evangelista, 2007). Different scholars identified that intention to learn is observed as a critical factors in getting an external knowledge (Cummings and Teng 2003; Smith et al., 2008). As a result, learning intent facilitates the ability to share knowledge.

2.8.3 Nature of knowledge

Various literatures expressed the nature of knowledge in terms of tacitness or explicitness of knowledge. The nature of knowledge is a variable that is influenced by knowledge sharing (Nonaka, 1994). Tacit knowledge is the types of knowledge that is implicit in nature in the individual's mind, and does not have a numerical or linguistic form. Although tacit knowledge constitutes the major part of what we know, it is difficult for inter-organization to fully benefit from this valuable asset. This is because tacit knowledge is inherently intangible and difficult to capture, store, and disseminate it. Knowledge sharing is positively influenced by the tacitness and explicit knowledge

.Knowledge is transferred in a better efficient in explicit way than tacit knowledge (Chen, 2004). Explicitness of knowledge provides easier way to transfer and communicate knowledge. Thus, explicitness of knowledge will facilitate the ability to share knowledge across the organizations where as tacit knowledge hard to share across the organization (Dick Stenmark, 2001).

Conclusion

This chapter has reviewed previous literature on knowledge, KS process, knowledge taxonomy, inter-organizational knowledge, IOKS processes, the factors that influence IOKS, and the research gap in the present literature. Different scholars at different time defined the concept of knowledge in different ways based on different perspectives. This concept of knowledge is a debate among the scholars. Some scholars said the concept of knowledge is an absolute truth and can be obtained from the observations. But other scholars said that the concept of knowledge is the justified belief among the organization or peoples.

Knowledge sharing refers to the attitude as well as the willingness of the organization to continuously share information and knowledge with business partners. The activities of knowledge sharing required active involvement of knowledge donations and knowledge receiver. The knowledge donation externalizes the owner knowledge for sharing purpose and the receiver knowledge is internalization of knowledge for private as well as organizations purposes.

IOKS is the knowledge exchange between two or more organizations. Knowledge sharing takes place directly through interactions and indirectly through document analysis and experience sharing. IOKS investigates the experience between participants from several different organizations. Most of the previous literature on inter-organizational knowledge sharing done on industry based relation and only few literature focus on public sectors.

In spite of the presence of ample literature on inter-organizational knowledge sharing, knowledge sharing is still one of the difficult tasks for organizations. Inter-organizational knowledge sharing is affected by contextual factors. Due to this reason the study requires case study research to identify factors that explains local situations.

CHAPTER THREE: METHODOLOGY

3.1 Overview

Research methodology is the core of the research process to carry out the research (Yin, 2003). It is an overall roadmap of the research process. It includes the research standard, procedure, data collection instruments, data analysis methods, and data interpretation. As a result, this step needs much attention on choosing the appropriate method which can provide the desired output.

3.2 Research design

Research design is the blue print or plans of procedure that cover the decision from a wide assumption to detailed methods of data collections (Creswell, 2009). Previous scholars used different types of research methodology depending on the kinds of the problem situations, the existing knowledge, and the resource availability. Accordingly, in this study we used a mixed research approach both quantitative and qualitative research methods. Mixed research methodology was selected basically to gather all the relevant information that might support each other. It is significant in exploiting the validity and reliability of the findings.

To conduct this research, we used self administrated questionnaires to collect quantitative data from target population. Furthermore, interview, participatory observation, and document reviews were used to collect qualitative data. The analysis and interpretation of mixed research approach is based on triangulation methods (Jick et al., 1978).

3.2.1 Case study method

A case study approach (Benbasat et al., 1987; Yin, 1994) is appropriate for this study as it intends to unravel the dynamics of knowledge sharing in an organizational setting. Knowledge sharing is a dynamic process (McInerney et al., 2002) involving a number of actors in the same business surrounding. Therefore, a case study approach allowed us to obtain rich descriptions of the dynamics of inter-organizational knowledge sharing as well as the holistic view of the sharing activity in order to get the completed results.

The advantage of case study research over traditional quantitative methods is that it does not only verify relationship but also explains the underlying reasons for the observed relationships (Eisenhardt, 1989). Despite the major limitation of a one case study to

generalize the results to other cases or situations, this study has drawn several critical results which can enhance the understanding of knowledge sharing processes at the inter organizational level (Lertpittayapoom et al., 2007).

Thus, the study is basically case study research method due to the following reasons: - the method is qualitative, it investigates multiple realities in its holistic state, it investigates a phenomena in its natural settings, and when the phenomena cannot be studied outside its context, it employs triangulation (“multiple sources of evidence and data collection”), and investigates the properties of a single or few phenomenon (Eisenhardt, 1989; Yin, 2003).

3.2.2 Target Population and study Area

The study populations are the population who are administrated by the city government of Addis Ababa under the different bureaus, agencies, and institutes. The study focused on six sector bureaus, two agencies and one Institute from Addis Ababa City Administrations namely; Capacity Building Bureau, Trade Bureau, Education Bureau, Land Development and management Bureau, Communication Bureau, Micro-small & Medium Enterprise Bureau, Information communication Development Agency, Vital status registration Agency, and Management Institutes. By taking into consideration better Technological infrastructure including (networks, computer, video conference, fax automation system, documentation system), better knowledge transfer and inter-organization communication with the city public sector society, and having bulk number of customers interaction among the city Administration. We select these organizations purposively. With the view to create awareness, inter-organizational knowledge sharing practices, identify factors that influence IOKS.

3.2.3 Sampling Techniques

Sampling techniques is a technique of taking sample from the total population. Collecting data from the whole population is very expensive, time consuming, and resource constraint. Besides, it is not easy to analysis the results. Even the analysis of data requires concentration of effort on a sample to maximize the quality of the research outcome. Accordingly, the following sample techniques of the research are undertaken.

3.2.3.1 Sample selection criteria

From the set of organization listed above in the background of the study, we selected six sector bureaus, two Agencies, and one Institute purposefully selected from the selected sector bureaus, agencies and institutes. The main reason for selecting purposive sampling is that it allows us to select a case based process that illustrate issues of interest in the research and where those features are likely to be present (Silverman, 2005; Denzin and Lincoln, 2000).

We set two rules that full fill the criteria to be participating in the sample. All the employees who have stayed in the organization more than one year work experience, their educational status are greater than or equal to Diploma (10+4) and organizations were selected purposefully.

3.2.3.2 Sample Size

Sample size is very crucial characteristics of any empirical study in which the objective is to make conclusion about a population from the sample taken. Kumar (1996) identified that larger sample size generally leads to increased precision when estimating unknown parameters. Even though, large sample is good for precision it is not the only factors that affect the quality and precision of the results. This principle leads to sample size calculations.

Sample size can be calculated by considering sample error limit of 5% and confidence interval coefficient of 95% (Yamane, 1967), the calculation from the population of 1010 came up 286 samples. Yamane formula as follows:

$$(n=N/ (N*(0.05)^2 +1))$$

Where N total number of populations (1010), n sample size planned to be collected (286).

Two hundred eighty six (286) sample questionnaires surveys were distributed to collect data from AASB. A total of 202 questionnaires were returned (70.6%); of which 16 incomplete and is not complied with inclusion criteria were discarded. The final usable questionnaires were only 186 samples which is 65 %. Babbie (1990) suggested that a

response rate of 60% is good; 70% very good and acceptable for questionnaires response. Hence the response rate for this research is between the acceptable ranges.

Guest et al. (2006) studied how many interview are enough for ultimate efficiency. In their finding 92 % of the total set of codes that they ultimately developed occurred in the first 12 interview. Besides Creswell (1994, p.64) suggest 5-25 interview respondent. Thus, for this research twelve senior employees who are at managerial level and senior staffs were selected for interview purposefully. Those selected respondents are organizational representative or assigned by the organization for interviews purposefully. Each interview will take 2 hour to 2 hour and 30 minutes. Besides, KM related activities and documents within nine organizations were observed and analyzed as part of the qualitative research methods.

Table 3.1 Proportional samples distributed and returned information from the sector bureau for quantitative data collection.

Organization	Organization size (number of employees)	Sample Distributed	Sample returned	Percentage of return
MSME	65	18	13	72
Capacity Building	173	48	39	81
A.A management institute	87	24	11	46
AAICTDA	38	11	11	100
Trade Bureau	145	41	30	73
Civil Acts Registration	82	23	14	60
Education Bureau	267	75	53	70
Land Development management bureau	47	13	10	77
Communication bureau	116	32	21	65
Total	1010	286	202	71.67

Table.3.1 Questionnaires distributed and returned.

3.4 Data collection procedure

3.4.1 Quantitative Data

- **Questionnaires**

Data collection for this study began on a third week of February, 2015, and ended in the fourth week of June, 2015. The primary data for the research was gathered by using self-administered survey questionnaires. The questionnaires was divided into two parts namely part 1 and part 2.

Part 1: comprised questions eliciting demographic characteristics of respondents.

Part 2: comprised of 65 questions designed to determine the attitude of the AASB on the significance of inter-organizational knowledge sharing, organizational target to share knowledge among each others, organizational interdependency and power, cultural proximity and shared values among the organizations, absorptive capacity, organizational policy and strategies to encourage knowledge sharing, organizational geographical distance, information technology infrastructures, factor influences IOKS, social network among the organization, trust and common goal.

Questionnaires can be open ended or closed ended. The open ended question allow respondent to explain their answers to the question by writing sentences or memos where as the close ended questionnaires restrict the respondent to specific answer choice either yes/no/true/false or the ranking scale like Likert scale . In this research, we used questionnaires yes/no and likert scale. A five point Likert scale (1 for strongly disagree), 2 for disagree, 3 for neutral, 4 for agree, and 5 for strongly agree) were used. The respondents were required to state the extent to which they agreed or disagreed with the statements in the questionnaires (Refer Annex-II). Questionnaires are adapted from (Van Der Meer, 2014), (M.T. McLeod, 2010), (Zin , 2013), (Seyyedeh , 2010), and (Vuuren , 2011) in the context of Addis Ababa.

To facilitate data collection process and to ensure high rate of return, questionnaires are distributed for representative of selected organizations, and deliver to each employees who has fulfill the inclusive criteria in the organization from the existing lists are used to identify individuals to whom the questionnaires distributed. From the case of staffs, the representative distributes questioners using simple random technique for each selected case team staffs.

3.4.2 Qualitative Data

Qualitative data were also collected using semi-structured interview from twelve professionals such as Vice Director, senior experts, Team Leaders, IT and GIS specialists, etc. The interview questions were designed to capture the views of those individuals according to the constructs identified which are important for the context of the study (Refer Annex-I). The interview questions were adapted from (Seyyedeh ,2010; Van Der Meer, 2014; Vuuren , 2011) in the context of Addis Ababa .In addition, review of KM strategic and other related documents is also used to gather secondary qualitative data which are important for the research context.

- **Interviews**

Various previous researchers were used interview for case study. Interviews can be conducted through face-to-face, telephone, Skype or any other latest technology application. Face-to-face interviews were selected for this research. It allows a great deal of interaction between the interviewer and the interviewees (Saunders et al., 2003).

Methods of interviewing can be open ended and semi-structured questions as guides (Darke et al., 1998). The motivation for the open interviews is that two fold. Firstly, the respondents and the interviewer interpretation of their answer matched their intent. Secondly, they tried to identify hint that will prove or disprove the inter-organizational knowledge sharing theory. The researcher took twelve interviews from six sector bureaus, two agencies and one institute for the case study data collection. The interviewee respondents are those persons who know the organization in detail and represented by the organizational representative. The respondents were assumed to well know all the organizational functions as a whole. The respondent included in the interview includes; vice director, senior expertise, and senior consultancy as well as project managers related to technology.

Accordingly, the interview data collections were conducted as shown in the table 3.2

Organization	qty	sex		Position of interviewee	Qualification			Date of interview
		M	F		MSC	BSC	Dip	
MSME Bureau	1	√		Team leader	√			17/03/15
Capacity Building Bureau	2	√		Team leader		√		19/03/15
Management institute	1	√		V/Director		√		14/03/15
AAICTDA	1	√		Senior expert		√		24/03/15
Land Development bureau	2	√		Senior expert		√		20/03/15
Trade bureau	1	√		Team leader		√		23/03/15
Communication bureau	2	√		Team leader	√			16/03/15
Education bureau	1	√		Team leader		√		6/04//15
Civil Acts Registration	1	√		Team leader	√			23/03/15

Table 3.2 participant organization for interview

- **Observation**

Ethnography (Participatory observation) is used to gather additional data which cannot be expressed verbally in an interview discussion. The aim of this participatory observation is to understand the situation from the inside and outside organizations. It can also help to verify respondent's bias, values and objective information (Hancock & Algozzine, 2006). In observation, the observer does not interfere with respondents. Observation is performed through natural settings by asking questions or introducing new provocations. The observer can witness connections, correlations and causes of the complex phenomena of social reality (Johnson, 2007).

To collect observation data, we developed an observation checklist. The check list was designed to capture data on interactions among employees in the office, document organization, office layout, usage of ICT, and the general work environment of the office. In this research, we observed by participatory group meeting, social interaction in their natural environment, work flow participation and cross organization project. Finally, observation allows us to develop a connection with the members of the group, build familiarity, and trust that aided in carrying out the interviews.

- **Document Review**

Organizations documents show historical records and events which includes: magazines, training manuals, videos, photos, procedure, minutes, reports, organization policy, rule and regulations, press releases, internet, websites, and others documents which may not be properly recalled by interviewees (Yin, 2003). It is not easy to get these documents from the sector bureaus. Some sector bureaus don't have document management system and very difficult to access the document according to the (Korean E-Office survey, 2012) for Addis Ababa government office.

Besides the above documents, we take notes and asked the interviewee for information not clear in the document parallel to interviewing. These help the researcher for further understanding knowledge sharing practice among the organizations.

3.5. Data Analysis

The data analysis in this thesis was adopted by using the mixed method. The results from the qualitative data analysis led to the quantitative data analysis and vice versa. The inferences were finally drawn based on the results of both the qualitative and quantitative study. It is performed after data collection from the data source and some primary data processing activities. The analysis of data is done according to the research objective. But in some qualitative research, data collection, analysis, interpretation, and reporting are often carried out in parallel, and the result of one activity alter the direction of the others. First, we performed write ups of each case (within cross-case analysis), and then we performed cross-case analysis where we looked for cross case pattern. We sum up the data into themes by pulling together data items (Easternby-Smith et al., 1991).

In this paper interview responses were analyzed and coded using thematic analysis method. It is stored using NVIVO software. Thematic analysis is one method of performing content analysis with the data collected. Content analysis is used to determine the presence of certain words, concepts, themes, phrases or sentences with in texts or set of texts (Berelson, 1952).

Data collected from the inter-organization questionnaires were analyzed separately by using SPSS 20 software. The quantitative data analysis is used for testing and estimating causal relationships using a combination of statistical data correlation, descriptive statistics, and logistic regression. We strictly follow the data quality before data analysis. To do this, we used the different data quality assurance techniques such as feedback collection, Cronbach's Alpha for quantitative data, data cross checking, and missing data determinations.

The result from quantitative analysis and qualitative analysis are integrated using triangulation approaches during the data analysis and discussion directly by comparing quantitative and qualitative forms of evidence to confirm results or identify discrepancies between data sources or to use one form of evidence to expand on the results of others.

Tools

The Data analysis tools used in this thesis are:

- Statistical Package for Social Scientists (SPSS 20) for quantitative data analysis (correlation, regression, and frequency analysis).
- The interview responses were analyzed and coded using thematic analysis method. It is stored using NVIVO software.

Validity

A pilot test was carried out with five organizations to test the data collection instruments before the main survey. This enabled the researcher to check the validity of the data collection instruments and estimate with some accuracy the average completion time. Some organizations in the pilot study were not included in the final sample. To complement the pilot test, this study made use of expert opinion to confirm the content validity of the instrument (Straub, 1989). The feedback was used to improve the data collection instruments by eliminating any ambiguities and inadequate terms.

Reliability

Reliability is attained through detailed explanation of the research procedures and standard data collection instruments to allow other scholars to replicate. The Cronbach's alpha was used to verify the internal data consistency and accuracy of data set. The total number of questionnaires on IOKS variable was seventy three .The average reliability coefficients for this research were 0.792 which is within the acceptable ranges. The coefficient of Alpha-Cronbach's indicating the internal consistency. Cronbach's alpha reliability coefficient normally ranges between 0 and 1. The Cronbach's alpha coefficient equal or above 0.70 is considered as satisfactory (Polit, Back, & Hungler, 2001). For more detail (see Appendix VII).

Conclusion

Finally, this chapter has explained the choice of the research methodology and the research design used to accomplish the research reported in this thesis. The chapter outlines the selection of the sample population, sampling criteria, data collection techniques, and data analysis techniques. In this research we are considering triangulation analysis method. That is interview, questionnaires, and documents have been used to strengthen the reliability of the findings.

CHAPTER FOUR: DATA PRESENTATION AND ANALYSIS

4.1 OVER VIEW

Data presentation is the process of presenting data collected through questionnaires, interviews, observation, and document survey into themes in such way that it can answer the research questions stated in chapter one. This chapter describes inter-organizational knowledge sharing activities, the perception of organization towards inter-organizational knowledge sharing, and the factors that influence inter-organizational knowledge sharing among the different organization in Addis Ababa.

4.1.1 Demographic characteristics of respondents

The demographic distribution of the respondents was presented in the following (Table 4.1). Most of the respondents were male who accounts 77.4 % .The average experiences of the respondents were 3- 10 years.(see Table. 4.1) The details of the respondent are shown below.

Demographic profile		Frequency	Percentage
Gender	Male	144	77.4
	Female	42	22.6
	Total	186	100.0
Age	22-30	91	48.92
	31-40	75	40.32
	41-50	16	8.60
	>50	4	2.15
	Total	186	100.0
Education	college Diploma	9	4.83
	BSC	152	81.72
	MSC	25	13.44
	Total	186	100.0
Position	Officer & IT Assistant	10	5.4
	Senior expert	134	72

Demographic profile		Frequency	Percentage
	Team leader	42	22.50
	Total	186	100.0
Work Experience	<3	23	12.7
	3-10	107	57.5
	11-15	25	13.4
	>15	31	16.5
	Total	186	100.0

Table 4.1 Demographic profile of respondents (Questionnaires)

4. 1.2. Profile of the respondent at organizational level

Organizations which were established in the last 10 years have larger representations/share. They accounted for 47 % and followed by organizations which were established 10 to 30 years experiences 39 %, and the remaining 14 % is greater than 20 years. Majority of the respondent organizations have age range less or equal to 10 years. The participant sectors involved in this study were sector bureaus about 67 %, Agency and Institutes were 33 %. Moreover, the majority of the organization involved in this case study were service delivery organizations which accounted for 94 % and only the remaining 6 % are infrastructure development for service delivery.

Characteristics	Age of organization	Percentage	Frequency
Organization years of establishment	<=10	47	87
	10-20	39	73
	>20	14	26
	Total	100	186
Size of organization (Number of Employees)	<50	30	55
	51-100	22	41
	101-300	37	68
	>301	11	20
Types of organization	Total	100	186
	Service	94	175
	infrastructure development	6	11

Table 4.2 Show organization respondent profile

4.2 Perceptions towards inter-organizational knowledge sharing process.

The perceptions, opinions and attitudes of public sectors organization staff towards inter-organizational knowledge sharing practices were crucial to understand the current situation of knowledge sharing in Addis Ababa public sector bureaus. This information helps us to develop a suitable strategy for more efficient and effective inter-organizational knowledge sharing that suits A.A. public sector organizations. We prepared three questionnaires to investigate the perception of organization towards inter-organizational knowledge sharing. Table 4.3 Perception toward IOKS

Statements		Strongly Disagreed	Dis agree	Neutral	Agree	Strongly agreed	Total
Our sector bureau aware IOKS & shared factual knowledge among the organizations.	F.	-	5	74	89	18	186
	%	-	2.5	39.9	48.1	9.5	100
The importance of IOKS clearing communicated & organizations gets external knowledge through it	F	5	22	69	47	43	186
	%	2.8	11.7	37	25.3	23.1	100
Our organization share knowledge that would help others organization to solve their problem.	F.	22	55	41	43	14	186
	%	12	29.4	28.2	23.1	7.3	100

As in table 4.3 indicates, more than 57.6 % of the respondents were agreed/strongly agreed they heard & aware of inter-organizational knowledge sharing, as compared to 2.5 % who were disagreed /strongly disagreed to the statements. Similarly, about 50 % of the respondents were agreed /strongly agreed there is clear communication among the organizations regarding the importance of inter-organizational knowledge sharing among the organizations as compared to 14.44 %, who were disagree or strongly disagree to the statements. On the other hand, about 41.1 % of the respondents were disagree/ strongly

disagree knowledge sharing did not support problem solving across the organizations as compared to 30.4 % who agreed /strongly agreed knowledge sharing did support inter-sector problem solving (see table 4.3).

In general, the mean of the respondents were about 47.29% agreed or strongly agreed they understand the perception of inter-organizational knowledge sharing. This indicates that there is low to medium IOKS awareness among the organizations from the quantitative respondents.

Moreover, the results of respondents from semi structured interview data show that the target sector bureaus prove that perception, attitudes towards IOKS, and the term they understand “knowledge” is not common in all sectors bureau. Some respondent define knowledge as:

“Know how or awareness of someone to do something”. In this case the respondents have seen knowledge from the understanding of information.

The other participants identify knowledge in the context of inter-organizational knowledge sharing in which they engaged on a wider scale. They think knowledge as:

A self-motivated, experience based, and supporting guide to better understanding or solve problems to make better decision about particular situations.

Therefore, data analyses from semi-structured interview show that public sector organizations have different perceptions and attitudes toward IOKS activities. The interview respondent also supports the quantitative respondents .There is low to medium IOKS awareness among the organizations.

4.2.1 Is knowledge sharing among the organization important?

One of the objectives of this research was to ascertain the degree to which inter-organizational knowledge sharing was considered as an important by the respondents. The result of this study confirmed that about 50.4 % of the respondents were agreement with inter-organizational knowledge sharing is important as compared to 13.6 %, who responded to disagree /strongly disagree to the statement. The results of the analysis are shown in Table 4.4

Table 4.4 Significance of IOKS among the public sector in Addis Ababa

	Frequency	%
Strongly Agree	23	12.7
Agree	70	37.7
Neutral	67	36.1
Disagree	17	8.9
Strongly disagree	9	4.7
Total	186	100

The interview respondent from Addis Ababa education bureau state:

“Knowing something in today’s world is related to having a coin for it. That means if you know you solve the problem or else you pay for the problem“

“We are working together as a team to achieve the same goal, so I think we should not distance ourselves from one another. So, when we share our knowledge, ideas and expertise with one another it helps strengthen the teams, share common resource utilizations, and helps ensure the success of providing the needed support to the service users across the organizations.”

At the individual and organizational level, having know-how of knowledge is crucial as the respondent stated. Firstly, participant exhibits individual ability. Individual knowledge is related to the extent and depth of participants understanding on subject domain in solving problem. Secondly, the participant reveals the extent of knowledge across the organization team and the benefit it gives for inter-sector organization from his personal experience. When members from different sector meet, there is likely to be a discussion that involves a debate on the issues other than accepting. Besides, organization can share and utilizes common resources across the organizations. This shows the width and depth of participants’ in inter-organizational knowledge which is the core process in any knowledge sharing activities.

4.2.2 Inter-organizational Knowledge sharing practice among the sector bureaus.

One of the objectives of this research was to determine the degree to which inter-organizational knowledge sharing was practiced by the target organizations in Addis Ababa. The survey data were presented on table 4.5.

Table 4.5 Practice and willingness of inter-organizational knowledge sharing among the public sector professional in Addis Ababa

Study Variables	Values	(percent)
IOKS1. Inter-sector team work helps in sharing knowledge across the organization.		
	low	93(50%)
	high	93(50%)
IOKS2. There is an organizational willingness and practice to learn from past mistakes and shared their knowledge to other organizations.		
	No	76(41%)
	Yes	110(59%)
IOKS3. There is a practice to share and learn important knowledge obtained from workshops, seminars to other organizations.		
	No	126(68%)
	Yes	60(32%)
IOKS4. Our organizations invests in IT systems that facilitate knowledge sharing across the organizations		
	No	141(76%)
	Yes	45(24%)
IOKS5. Our organization employees are participated in workshops, seminars, panels, within and across the organizations.		
	No	102(55%)
	Yes	84 (45%)

The data analyses of respondents show that, one hundred ten (59%) of the respondents have an interest and willingness to learn from past mistake and shared their knowledge

across the organizations. Ninety three (50%) of the respondents had high levels of interest to share their knowledge with their colleagues through collaborative team work (table 4.5). Sixty (32%) of the respondent had the practice to share important knowledge obtained from workshops, seminars across the organizations. The study results indicate that 45 (24%) of the respondent organizations invest in IT systems to enhance inter-organizational knowledge sharing among the organizations. About 43 (23%) of the respondent organizations were offered incentive to encourage inter-organizational knowledge in Addis Ababa. Furthermore, about 45% of the respondents were participated in workshop, seminars, and panel discussions across the organizations. In general there is low inter-organizational knowledge sharing practice among the organizations in Addis Ababa (see table 4.5).

4.3 Inter-organizational Knowledge sharing Activities

Inter-organizational knowledge sharing is supported by wide ranges of activities within the inter-organizational staff members across the organizations. The activities of knowledge sharing are performed between knowledge donor and knowledge receiver organizationally. At inter-organizational level, it is not routine practice to share knowledge across the organizational members; particularly knowledge sharing at inter-organizational level is more likely to be driven by a problem that requires further clarifications or assistance.

In this study two data analysis method were used to investigate the respondent response. The first method is quantitative data analysis method using SPSS and the second method is qualitative data analysis method using NVIVO software.

4.3.1 Quantitative data analysis of Inter-organizational Knowledge sharing Activities

The quantitative data analysis of the respondents indicate that from the informal inter-organizational knowledge sharing assessment conducted in this study, respondent agreement there is inter-organizational knowledge sharing among the organization through face to face interaction accounted for 91.2% followed by telephone communication which accounted for 85.3%. In addition to this, inter-organizational knowledge sharing among the organization through social networking accounted for 50%

agreement. Hence, this study identify that, face to face interaction across the organizations, telephone communications and social networking were the major informal knowledge sharing practices among the organization for inter-organizational knowledge sharing activities in Addis Ababa.

Furthermore, formal knowledge sharing among the organization occurred through different methods. Some of the methods are mentioned in detail (figure 4.2). Among the formal knowledge sharing mechanisms, document sharing among the organization ranked first which accounted for 63.1% agreement there in inter-organizational knowledge sharing through document sharing. About 53% of respondent indicates that formal knowledge sharing take place through email communication. About 50% of the respondents were agreement with there is inter-organizational knowledge sharing through teamwork, meeting, and on the job training. The study also identify, there is agreement with inter-organizational knowledge sharing among the public sector organization in Addis Ababa through experience sharing (27.8%), fax automations system (10 %) ,and video conferencing service(4%). Moreover, knowledge sharing through codifications was assessed by considering the practice of knowledge documentation, process mapping among the organizations which account about 10 percent of the total IOKS activities (See figure 4.1)

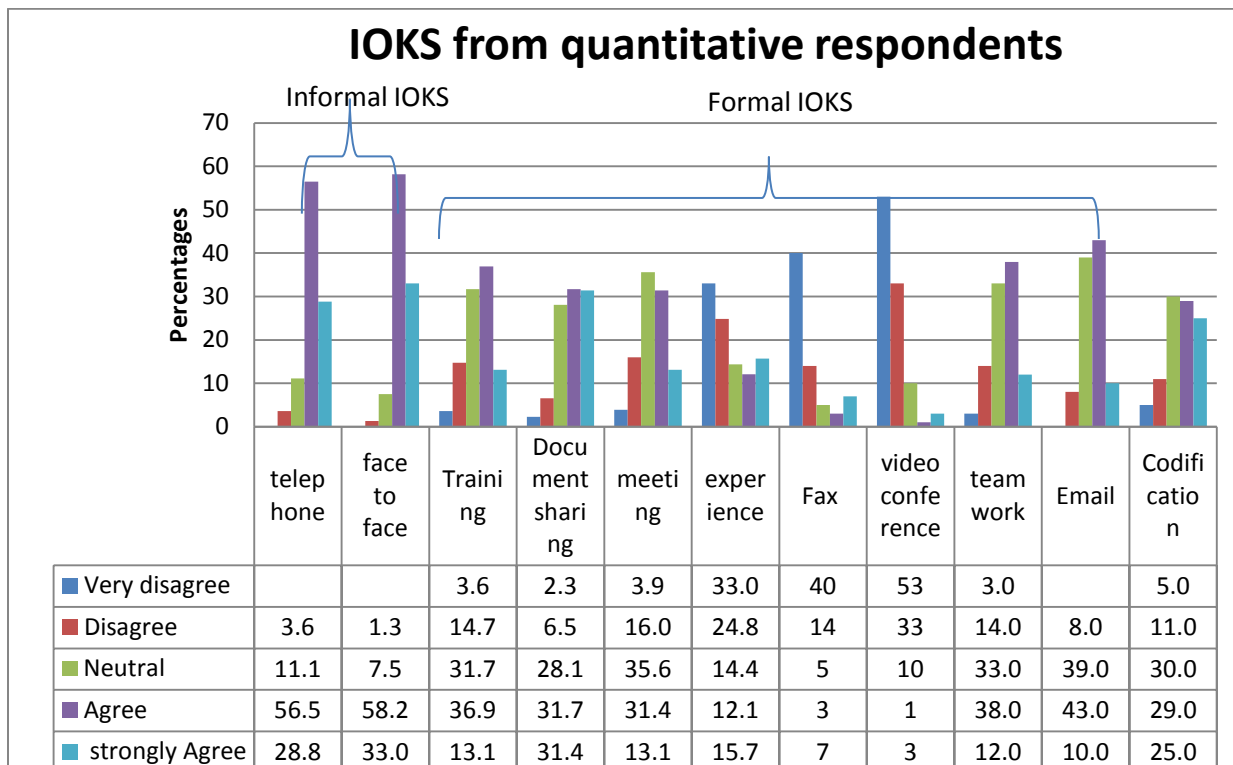


Figure 4.1 quantitative respondents of IOKS Activities

4.3.2 Qualitative Data Analysis of Inter-organizational Knowledge Sharing Activities.

Inter-organizational knowledge sharing activities assessment from semi-structured interview data were analyzed using NVVIO software. The result of the study was presented in the next section on table 4.6.

Inter-organizational Knowledge sharing Activities		Respondents		Reference	
		count	%	count	%
Personification	Formal methods	43	55.1	210	70.4
	Informal methods	16	20.5	60	20.1
	Sub Total	59	75.6	270	90.5
codification	operational user manual, best experience recorded, process map	19	24.4	28	9.5
	Grand total	78	100	312	100

Table.4. 6 knowledge sharing activities from semi structured interview

Table 4.6 shows, personifications is the dominant method of inter-organizational knowledge sharing which accounted for 90.5 % of the total reference made to inter-organizational knowledge sharing activities .The remaining 9.5 % reference made to the different knowledge sharing activities through codification. Thus, majority of knowledge sharing activities among the Addis Ababa sector bureaus were performed through direct interaction through meeting, training, best practice experience sharing, document sharing, through e-mail, and team work among the different sectors in Addis Ababa. These activities can be channeled through face-to-face unmediated communications and face-to-face mediated communication.

Face-to-face unmediated channels of communications includes: meeting, briefing, presentation, discussion, training, conversations, and seminars which accounted for 85.2 % of the total communication channels. Face to face mediated communication channels include: technology facilitated knowledge sharing and enables the customization of such knowledge in real time or near real-time manners, such as video conferencing, email, fax automation systems, voice mail, telephone which account about 14.8 % of the total knowledge sharing among the different sector in Addis Ababa. Hence face to face unmediated channel of communication is the dominant inter-organizational knowledge sharing methods among the organizations in Addis Ababa.

Knowledge sharing practice		Respondent		References	
		Count	%	Count	%
Formal Methods	Meetings	9	15.3	28	9.85
	Documentation/written reports	4	6.8	14	4.92
	On the job training	9	15.3	72	25.35
	collaborative work	9	15.3	39	13.73
	experience sharing	4	6.8	43	15.14
	Email	4	6.8	6	2.11
	Video conferencing	2	3.4	14	4.92
	Fax Automation systems	2	3.4	8	2.81
	Sub total	43	72.9	224	78.83

Knowledge sharing practice		Respondent		References	
		Count	%	Count	%
Informal methods	Face to face	9	15.3	48	16.90
	Telephone	7	11.9	12	4.22
	Sub Total	16	27.1	60	21.12
	Grand total	59	100	284	100

Table 4.7 IOKS through personification.

Formal knowledge sharing method is the dominant knowledge sharing methods among the organization in Addis Ababa that accounted for 78.83 % of the reference made by the personification. The remaining 21.12 % reference made to informal knowledge sharing.

The result both from qualitative and quantitative show personification plays a major role in inter-organizational knowledge sharing activities among public sector organization. The result of the personification in this research is greater than the previous study conducted in the hospitals under Addis Ababa health bureau, which was 56.8% of the respondents practice knowledge sharing using formal and informal knowledge sharing opportunities (Yalow T., 2011). The implication of this study indicates there is less inter-organizational knowledge sharing activities through codifications.

As figure 4.2 indicates both qualitative and quantitative respondent confirmed that organizations share knowledge among each other through on job training, meeting, experience sharing, fax automation systems, video conference, team work, document sharing, email communications, telephone, face to face interactions and codifications. The study result indicates that video conference and fax automation systems are less used for IOKS in Addis Ababa sector bureau.

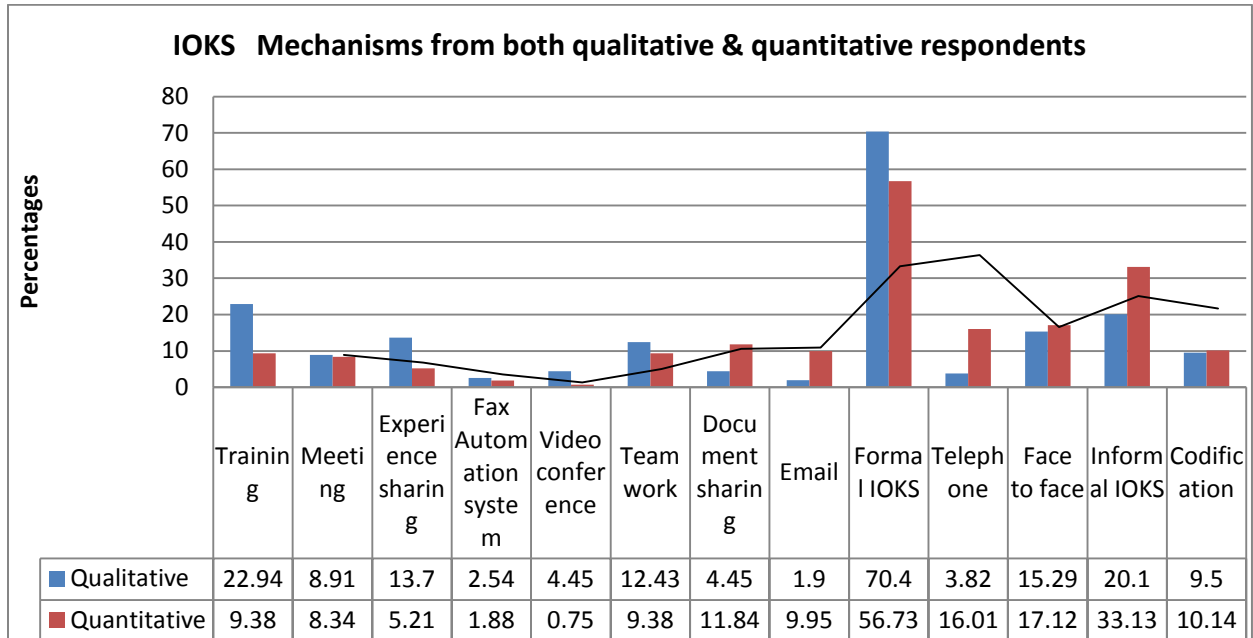


Figure 4.2 show aggregate level of IOKS among the organizations in Addis Ababa.

The summaries of inter-organizational knowledge sharing approach are shown in figure 4.2.1 below. In general formal IOKS stand first, followed by informal IOKS, and lastly codification of knowledge.

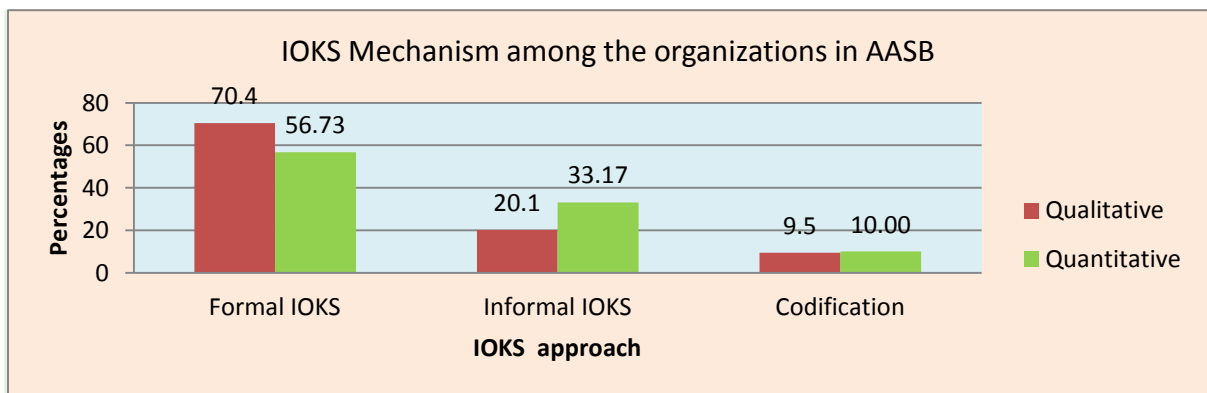


Figure 4.2.1 show aggregate level of IOKS among the organizations in Addis Ababa

4.3.2.1 Informal method of inter-organizational knowledge sharing

This part contains the analysis of the qualitative interview and the questionnaire result focusing on informal knowledge sharing in AASB. This section was analyzed into two parts. In the first part questionnaire results was analyses and then qualitative semi-

interview data was followed. The result of the two data interpreted based on triangulation methods. That means the result obtained from the two data support each other rather than opposing each other (see figure 4.2 and Figure 4.2.1). Informal inter-organizational knowledge sharing occurred through direct face to face interaction, telephone communications, and sometimes through social networking. The detail of informal knowledge sharing mechanism is presented in detail in the next section.

- **Telephone communications**

Public sector staffs were asked to indicate whether they used telephone for inter-organizational knowledge sharing. One hundred fifty nine out of 186 (85.3%) of the public sector staff endorsed higher levels of preference for phone communication and 7 (3.6%) had lower preference for telephone communication, while 20 (11.1%) endorsed a mid range of preference (N=186).

The study of both qualitative (see table 4.7) and quantitative respondent (see figure 4.1 and 4.2) indicates that telephone communication strongly used as a means of inter-organizational knowledge sharing. From the total inter-organizational knowledge sharing activities considered in this research, the aggregate qualitative reference indicate that about 3.82% of the IOKS activities are performed through telephone communications. Besides, the aggregate quantitative data respondents indicates that from total inter-organizational knowledge sharing activities considered in this research knowledge sharing through telephone accounted for 16.01% of the IOKS activities (see figure 4.2). Even though the percentages of the aggregate results obtained from the qualitative and quantitative data analysis are different due to the proportion of sample, the result from both support telephone communication commonly used for inter-organizational knowledge sharing among public sector organizations in Addis Ababa.

4.3.2.2 Formal knowledge sharing methods

The organizational staffs were asked how organizations can share their knowledge formally across organizations. The respondents responses were shown in (see table 4.6 and table 4.7).

The findings show that knowledge sharing methods from organization to organization in Addis Ababa are almost similar as respondents mentioned both from interviews and questionnaires (Figure 4.2). But the level of understanding of knowledge and knowledge sharing are different. The study revealed that from the total IOKS activities considered in this research, the aggregate formal inter-organizational knowledge sharing among organizations accounted for 70.40% of the total interview reference made by IOKS activities (see Figure 4.2). Besides, the aggregate quantitative data from respondents indicates that from total inter-organizational knowledge sharing activities considered in this research, formal inter-organizational knowledge sharing accounted for 56.73% of the IOKS activities (See figure 4.2).

Therefore, the findings of both qualitative and quantitative respondents' data analysis show that the majority of inter-organizational knowledge sharing mechanisms is performed through formal IOKS rather than informal and codifications. The details of formal knowledge sharing methods across the organization in Addis Ababa city administrations are discussed as follows.

- **On the Job Training**

On-the-job training is the process of knowledge acquisition by taking a training course on a particular subject to improve effective work performance. Interview respondents mentioned that traditionally AASB have the practice and the policy that support on-the-job training within and across the organizations. On-the-job training is organized to provide the basic knowledge for the sector that the sector cannot get by any other means. Most of on-the-job training in Addis Ababa city Administration is organized departmentally to all the sectors within the city administration that are working in similar fields. The respondents explained:

“.. Sectors may not possess all the basic working knowledge..... The applications of on-the-job training can encourage sectors in bridging the basic skill gap.....”

The data analysis of the respondent indicates that organizations may not have all the required working knowledge. The skill gap of the organizations is fulfilled step by step through on-the-job training.

Furthermore, the respondents were asked whether there is on the job training across the organization in Addis Ababa city Administrations. The frequency of the respondent data indicates that about 50 % of the respondents were agreed or strongly agreed there is on the job training among the organizations in Addis Ababa. About 31.7 % of respondents were neither agreed nor disagreed about the existence of on the job training across the organizations, and the remaining 18.3% of the respondents disagreed there is no on the job training among the organizations. That means some organizations provides on the job training departmentally across the organization to enhance IOKS in the form of inter-sector project work training and inter-sector departmental based training. But the level and the frequency of inter-sector on the job training is low.

In the same way, organizational staffs were also asked whether or not there is a dedicated budget allocated annually for inter-sector training in support to IOKS. Just over half, 58 % of the respondents were disagree or strongly disagree there is no dedicated budget allocated annually for on the job training. About 9.1% of the respondent agreed or strongly agree there is a dedicated budget allocated for on the job trainings. The remaining 32.9 % of the respondents were neither agree nor disagree to the statement. Therefore, the data analysis of the respondent indicates that majority of the organization do not have a dedicated budget for inter-sector training.

In general, the aggregate study indicates that about 22.94% of the interview references and 9.4% of the quantitative respondent agreed or strongly agreed there is on the job training among the organizations that support inter-organizational knowledge sharing (See figure 4.2). Furthermore the interview respondent also mentioned that there are massive training conducted in the city administration. But, the problems are lack of integration in delivering training service for organizations as well as lack of shared training budget among the organizations.

- **Meeting**

The researcher observed case based participatory observation from October 15, 2014 to April 20, 2015. During this time, 32 meeting session were observed. Some of the meetings are at higher official level and some of the meetings are at the operational level.

Majority of the meetings observed during this time were weekly, monthly, and quarterly work progress report evaluation which accounted for 65.6% of the total meeting. The other kinds of meeting observed during the case study were project based inter-sector meeting which accounted for 25 % of the total meeting. The remaining 9.4% of the meeting is political issue, gender issue, and anti-corruptions. Some of the meeting agendas were repetitive and routine information sharing, some of the meeting agendas were strategic and new information sharing among the organization, very few agenda were inter-sector experience sharing, and knowledge sharing in the form of inter-sector work evaluations. But the dominant part covered by meeting was information exchange across the organization. One respondent explains:

“Organizations adapt the best practice that they get from meeting. Besides, meeting creates a chance for inter-organizational employees’ interactions and knowledge sharing ...”

Interview respondents reported the benefit of meeting as one of the learning and sharing organizational experience. During the meeting organizations explain the good practice, the problem encountered, and the possible method to solve the problems organizationally. Therefore other organizations learn from the good practice and adapt the best practice that they get from meeting.

Therefore, the aggregate finding both from qualitative and quantitative respondents data analysis shows that about 8.91% of the interview references and 8.34% of the quantitative respondent agreed or strongly agreed there is inter-organizational meeting among the organizations that support inter-organizational knowledge sharing (see Figure 4.2). As interview respondents explain, meeting assists both horizontal and vertical flow of knowledge among employees within and across the organizations. Even though some of the case participants had reservation on the value or benefit of meeting, majority of the respondents believe that meeting can act as a forum for inter-organizational knowledge sharing among public sector organizations.

- **Collaborative/Team work/**

Team work is a form of task organizations that involves more than individual person. Team work is a common practice in Addis Ababa sector bureau especially on project

work to facilitate inter-organizational knowledge sharing among the organizations. The quantitative respondents were also asked whether or not there is a team work among the organizations to support inter-organizational knowledge sharing. About 50% of the respondents were agreed or strongly agreed there is inter-sector teamwork and collaboration among the organizations in Addis Ababa. About 33 % of the respondents were neither agree nor disagree about the existence of inter-sector teamwork among the organizations, and the remaining 17 % of the respondents were disagree to the statement. Furthermore the interview respondent explained that, there is a collaboration agreement at higher official level among the sector bureaus. This agreement is conducted under the support of a memorandum of understanding (MOU) that exists between two or more organizations in Addis Ababa. It is a high level agreement that sets out the individual roles and responsibilities of each organization, and outlines guidelines relating to interaction between them. The MOU provides direction at a strategic rather than at operational level. All the activities undertaken within the teamwork are considered to be as a regular activities and no formal funding or resource allocation assigned to the teamwork. Moreover, they assumed to be part of the day-to-day activities. As the school net project manager from Addis Ababa Education Bureau explained:

“Any large or small project consists of team work. The project team are from different sector bureau with the same or different department”

The respondent explained that team members can learn from each other during enduring project and practice on the actual work at site. The finding of the study indicates that from the total IOKS activities the aggregate response indicated that about 12.43% of the interview references, and 9.38% of the quantitative respondent agreed or strongly agreed there is inter-organizational collaborative/teamwork/ among the organizations that support inter-organizational knowledge sharing (see Figure 4.2).

- **E-mail Communication**

E-mail communication act as a knowledge sharing mechanism between organizations. Organizational staffs were asked whether organization used e-mail communications for inter-organizational knowledge sharing. About 53% of the respondents were agreed or

strongly agreed e-mail communications help in knowledge sharing across the organizations, and small number of the respondent disagree and strongly disagreed e-mail communication cannot support IOKS across the organizations in AASB accounted for 8 %. The remaining 39 % of the respondents were neither agreed nor disagreed to the statements.

Furthermore, the finding of the study indicates that from the total inter-organizational knowledge sharing activities, the aggregate data indicates that about 1.9% of the interview references, and 9.95% of the quantitative respondent agreed or strongly agreed email used among the organization for inter-organizational knowledge sharing (Figure 4.2). Even though, the percentages of e-mail communication are small as compared to other factor for IOKS, it has significant impact on knowledge sharing activities among public sector bureaus in Addis Ababa. Therefore, e-mail communications influence positively inter-organizational knowledge sharing among the public sector bureau in Addis Ababa.

- **Social Networking**

Respondents were asked whether or not social networking communication systems (like face book, blogs, Google group, or twitter) are used and positively influence inter-organizational knowledge sharing among different organization in Addis Ababa. About 50%, of the respondent agreed or strongly agreed social networking used for inter-sector information and knowledge sharing among the employees for personal information need. About 33 % of the respondents disagreed or strongly disagreed there is no social networking systems across the organization for IOKS. The remaining 17 % of the respondents were neutral to the statements. Besides, interview respondents mentioned that employees used social networking for personal as well as for organizational knowledge sharing purpose.

Therefore, according to the study findings majority of the social networking occurred between employees across the organization for personal information and knowledge sharing rather than organizational knowledge sharing.

- **Experience sharing**

Upon examination of the questionnaire data, about 27.8%, of the respondent agreed or strongly agreed there is experience sharing among the organizations in Addis Ababa. organizations share knowledge in the form of exhibition, workshop, inter-sector discussion, seminar, and inter-sector collaborative work But, large number (57.8%) of the respondents disagreed or strongly disagreed there is no experience sharing among the organizations in Addis Ababa, and the remaining 14.4% of the respondents were neither agreed nor disagreed about the statements. This is supported from the interviews were some members indicated that the work experience sharing among the organizations supported inter-organizational knowledge sharing. As Addis Ababa Capacity Building Team Leader stated:

“... Actually, there is some practice in Addis Ababa for work experience sharing among the public sector bureaus. For example, our sector bureau collected some best practices from best work accomplished and best problem solver from the city public sector organization. The best experience and practice could be documented and expanded to the other sectors. In this year we have collected experience sharing from federal management institute, federal Trade bureau, Amhara, and Oromia. Besides, Gulele sub city, wereda 9, 13 Bole sub city wereda 8...”

The data analysis of the respondents indicated that there are some experiences sharing practice among the organization in Addis Ababa public sectors. The experience how one organization solves the problems are presented for the other sectors and the other sectors can learn from it. Besides, organization shares knowledge from different locations including federal bureaus. The researcher also asked the respondent, what type of knowledge shared among the organization. The respondents asserted:

“...Work procedures, documentation system, office layout, employees’ responsibility guidance document, working policy documentation, professional best practice recoded and so forth.”

Upon examination of the total data, the aggregate study finding indicate about 13.7% of the interview references (figure 4.2) and 5.21% of the quantitative respondent agreed or strongly agreed there is experience sharing among the organizations that help in inter-organizational knowledge sharing activities. The result of the study was also supported by Jiang et al (2008). Jiang et al (2008) identifies best-practice sharing, corporate newsletters and transfer of employees as some of the knowledge sharing mechanisms among the organizations. Therefore experience sharing is one of the mechanisms for inter-organizational knowledge sharing among the public sector organizations in Addis Ababa.

4.3.3 Codifications

During case study the researcher refers some sector organizations whether or not they codifying their working knowledge in the form of manuals, procedures, drawing, process map, standards, policy and regulations and shared data base. Though, upon examination of the questionnaire data, few organizations, 3 out of 9 (33.3 %) had the practice of codifying their organizational complex project and daily work. While six organizations out of 9 (66.7 %) of the respondent organization never codify their daily work for further reference. The respondents from Addis Ababa Capacity Bureau (AACB), Management Institutes (MI), and Land Development and Management Bureau codify their daily work .Besides, the respondents mentioned that:

“.....collecting knowledge from other sector bureaus are very difficult task. But, our organization prepared check list to collect new knowledge or existing knowledge for reusingIf there is new event, or new practice exist across the organization our organization further explorer the newness of the practice and codify the practice.....”

The data analysis of the respondent organizations shows that, one third of the organization started the knowledge sharing through codification. But majority of the respondents are never started codification of knowledge for inter-sector knowledge sharing. Finally, the finding of the aggregate data study indicates that about 9.5% of the interview references and 10.14% of the quantitative respondent agreed or strongly agreed there is inter-organizational knowledge sharing through codifications (see Figure 4.2). In

general, organization shares knowledge through codification in the form of reports, minute, drawing, process map, and good practice among the organizations in Addis Ababa. But, the extent of knowledge codifications and sharing is very low as compared to the personification.

Summary

The empirical data analysis indicated that there are two method of knowledge sharing activities. Those are personifications and codifications. Personification includes formal and the informal knowledge sharing activities. Formal knowledge sharing is the dominant knowledge sharing activities among organization. It is conducted through scheduled and unscheduled meeting, on the job training, discussion forum, talk show, inter-sector teamwork, seminars, exhibitions, formal experience sharing, document sharing, video conferencing, and so forth. Informal Knowledge sharing activities includes informal relation through face to face interaction, telephone, social networking, and finally inter-organizational knowledge sharing activities performed through codification of explicit and tacit knowledge.

4.4 Factor affecting inter-organizational knowledge sharing

The data analysis was undertaken in two phases, the first phase being the qualitative phase (Semi-structured interview), followed by the second phase which is the quantitative phase (questionnaire). The results of both phases are integrated during interpretation and discussion of the results. For this study the findings from both methods were displayed in tables and graph using one to validate the others.

4.4.1 Semi-Structured Interview Data analysis

The semi-structured interviews were recorded onto digital media with an average duration of 2 hours to 2 hour & 30 minutes with the consent of each participant. The interview records were transcribed into Microsoft word. These transcribed interviews were imported into NVIVO software for coding them. During the coding texts are assigned to categories and themes. Based on the input given to the software, it will generate frequencies of references for each theme.

References are defined as the number of times concepts assigned to a theme which was mentioned by the respondents during interview discussions. References are more accurate figure to indicate the relative importance of one category or theme as compared to other category or them. The semi-structured interview data was analyzed using content analysis to organize the data into general theme. The aim of the analysis is to discover the pattern, concepts, and themes that influence IOKS activities. Upon examinations of semi structured interview, respondents explained that organizational and contextual factors are the main factors that influence knowledge sharing (see Table 4-8). Organizational factor stand the first which accounted for 47.21 % and followed by contextual factors that is 46.35 % reference made to knowledge sharing activities. Even though the percentages of reference referred by respondents on ICT Support and usage, and nature of knowledge less they also influence inter-organizational knowledge sharing activities. The detail of each factor can be described in detail in the next section.

Knowledge sharing factors	Responses		References	
	Count	%	Count	%
Organizational factors	9	29.03	110	447.21
Contextual factors	9	29.03	108	46.35
Nature of Knowledge	5	16.12	7	3
ICT Support and usages	8	25.80	8	3.43
Total	31	100	233	100

Table 4.8 Factor that influences IOKS activities from interview respondents

4.4.1.1 Contextual factor

Contextual factors refer to the situation and atmosphere or feeling of the organization relationship that include factors such as trust, interdependency, tie-strength, cultural proximity and shared values (Nieminen, 2005; Hau and Evangelista, 2007).

Among the contextual factors, trust stand first that influence inter-organizational knowledge sharing accounted for 48.1 % of the references and followed by tie strength which accounted for 39.89 % (see table 4.9). Even though the percentages of reference referred by respondents on interdependency, cultural proximity and shared values are low, they also influence inter-organizational knowledge sharing activities as shown in table 4.9.

Factors that influences the intention to share knowledge among the organization	Responses		References	
	Count	%	Count	%
Trust	9	29	88	48.08
Tie-strength	9	29	73	39.89
Cultural proximity	7	22.58	14	7.65
Interdependency	6	19.35	8	4.37
Total	31	100	183	100

Table 4.9: contextual factor influences IOKS from semi structured interview

. One of the interview respondents explain:

“To be honestly speaking, I trust majority of the employees in my sector, but, I didn’t talk to the other sector which has less interaction. Even I don’t know how competency they are”

Analysis of interview respondent explained that trust refers to the depth and assurance of feeling based on inclusive evidence of the daily interaction between employees who are working together. That is organization that are close working together and having close relation have more trusted to share knowledge across the organization than less trusted.

4.4.1 .2 Organizational factor

Under organizational factors the researcher considers, ICT support and usage, inter organization policy, absorptive capacity, organization intention to learn, geographical proximity, and organizational support. Table 4.10 organizational factors from semi structured interview

Knowledge sharing factors	Responses		References	
	Count	%	Count	%
Organizational support	9	16.67	112	81.63
ICT support and usage	9	16.67	8	5.44
Geographical proximity	9	16.67	7	4.76
Intention to learn	9	16.67	15	10.20
Organization Policy	9	16.67	3	2.04
Absorptive Capacity	9	16.67	2	1.36
Total	54	100	147	100

Table.4.10 Organizational factors from semi structured interview.

From the organizational factors, organizational support stand first that influences IOKS. It accounted for 81.63 % of the references made by IOKS activities. Furthermore,

absorptive capacity, intention to learn, ICT support and usage, policy, and geographic proximity also have significant influences on IOKS activities (see Table 4-10).

4.4.2 Surveying Questionnaire Data Analysis

The resulting survey data was analyzed using descriptive statistical analysis to analyze the survey response with the help of Statistical Package for Social Scientists (SPSS version 20). As well as providing ease of handling large data SPSS 20 is also used to organize data efficiently and in a manageable order. In determining the factors that influence inter-organizational knowledge sharing activities, logistic regression, central tendency, and correlation analysis were commonly used in this research. Firstly, revealing whether the factors (organizational factors, contextual factors, nature of knowledge and individual factors) influence IOKS activities; and if they are, whether the influences are strong enough so that one or more knowledge sharing activities can be used to predict the IOKS activities. Secondly, comparing the predicting power of the difference factor by probability, and identifying comparatively larger predicting power.

4.4.2.1 Organizational Factor

There are a number of factors associated to organizations that influence IOKS. The major factors considered in these sections were organizational policy, organizational intention to learn, absorptive capacity, geographical proximity, organization ICT infrastructure, and usages. Pearson correlation analysis was used to evaluate the strength of association of organizational factors in relation to the ability to share knowledge across the organizations. The study findings show that organizational policy, organizational intention to learn, absorptive capacity, and geographical proximity are positively correlated to IOKS activities with positive correlation coefficients of ($r = 0.693, 0.243, 0.205, 0.204$) respectively and significant at $p < 0.05$ level (See table 4.11). Of these factors, organizational policy has a strong association with IOKS. But absorptive capacity, organizational intention to learn, and geographical proximity have weak associations.

Correlation analysis shows only the association between the dependent variable and independent variable. It does not show how much of the probability of the dependent variable

can be explained by the independent variable. The conclusion of the result can be generalized after binary logistic regression analysis. Table 4.11 The Correlation Coefficient between Organizational factor and IOKS activities

		IOKS	Intention	Absorptive	Policy	ICT	Geography
IOKS	Pearson Correlation	1	.243*	.205*	.693**	-.192	.204*
	Sig. (2-tailed)		.015	.041	.000	.056	.040
Intention	Pearson Correlation	.243*	1	.029	.047	-.159	-.006
	Sig. (2-tailed)	.015		.777	.644	.114	.755
Absorptive	Pearson Correlation	.205*	.029	1	.112	.090	-.110
	Sig. (2-tailed)	.041	.777		.268	.372	.274
Policy	Pearson Correlation	.693**	.047	.112	1	-.222*	.083
	Sig. (2-tailed)	.000	.644	.268		.026	.411
ICT	Pearson Correlation	-.192	-.159	.090	-.222*	1	.005
	Sig. (2-tailed)	.056	.114	.372	.026		.964
Geography	Pearson Correlation	.204*	-.006	-.110	.083	.005	1
	Sig. (2-tailed)	.040	.755	.274	.411	.964	

N =186. Correlation significant at 0.05 level *(2-tailed) Correlation significant at 0.01 level *(2-tailed)

Finding from binary logistic regression Analysis

The analysis showed that binary logistic regression (Omnibus test significance at $p < 0,001$, with chi square of 79.5). We have seen that from the model summary Nagelkerke's R^2 is 0.756, which indicates that the model is good but not great. Cox & Snell's R^2 is the nth root (in our case the 186th of the $-2\log$ likelihood improvement) is 0.549. Thus we can interpret this as about 54.90% probability of the event agreed organizational factor influences IOKS activities is explained by binary logistic model (table 4.12).

The results of binary logistic regression indicated that organizational intention to learn, absorptive capacity, ICT infrastructure, geographical proximity, and organizational support are statistically significant predicting IOKS activity (see table 4.13). The source

of organizational factors such as organizational policy, absorptive capacity, intention to learn, organizational support, ICT indicates that when those factors go up, the willingness of IOKS activities will also rise slightly keeping the other factor constant (B=2.251,β = 1.909 ,B= 4.685, B=1.436 and B=1.083) respectively (table 4.13). Hence organizational factors are one of the most important factors that influence IOKS activity. The binary logistic regression analysis made clear that, the significant relation found in the correlation analysis also holds when other variables are in stake. This shows that there is sufficient evidence found to support the higher organizational policy, absorptive capacity, intention to learn, organizational support, geographical proximity, the higher IOKS activities among the organizations. On the other hand, logistic regression analysis made clear that the significant relation found in the correlation analysis also holds when other variables in stake. But, there is less evidence is found to support the higher ICT usages, the higher IOKS activities among the organizations (see table 4.11 & table 4.13).

Table 4.12 Model summary.

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	49.955a	.549	.756

a. Estimation terminated at iteration number 8 because parameter estimates changed by less than .001.

Table 4.13. Basic results of binary logistic regression

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)		
							Lower	Upper	
Step 1a	Intention	4.685	1.342	12.181	1	.000	108.28	7.799	1,503.44
	Absorptive	1.909	.958	3.971	1	.046	6.749	1.032	44.139
	Policy	2.251	.774	8.448	1	.004	9.495	2.081	43.318
	ICT	1.083	.553	3.832	1	.050	2.954	.999	8.737
	Geography	.554	.278	3.962	1	.047	1.74	1.009	3.001
	Organizational support	1.436	.519	7.663	1	.006	4.206	1.521	11.628
	Constant	-35.04	10.867	10.398	1	.001	.000		

a. Variable(s) entered on step 1: Intention, Absorptive, Policy, ICT, Geography, organizational support

Table 4.14 classification table

Observed		Predicted			
		IOKS influenced by organizational factors		Percentage Correct	
		Disagree .00	Agree 1.00		
Step 1	IOKS is influenced by organizational factors	Disagree.00	57	8	88.6
		Agree 1.00	11	110	90.8
	Overall Percentage				90

a. The cut value is .500

The accuracy classification rate computed by SPSS was 90 per cent which was greater than the proportional by chance accuracy criteria of 68.15 percent. Therefore, the criteria for classification accuracy were satisfied (table 4.14).

Table 4.15: Goodness-of-Fit of organizational factor

- 2 Log Likelihood		Hosmer and Lemeshow Test	
	Chi-square	Df	Sig.
49.955	4.785	8	0.780

As shown in table 4.15 the -2 Log Likelihood of the goodness fit value equal to 49.955 and the significant value for Hosmer and lemeshow test indicate a positive value and greater than 0.05. Therefore, we cannot reject this null hypothesis since the level of significance in our model is 0.780, which is greater than the critical values of 0.05 levels. Therefore, the overall tests imply that our model has a sufficiently good fit when using organizational factors that influences IOKS activities. The details of each organizational factor are shown below.

- **Absorptive Capacity**

This section will check the absorptive capacity of the results. The result from logistic regression show that absorptive capacity of the organization positively influences the

ability to share knowledge across the organizations and encourage inter-organizational knowledge sharing positively at 95 percent confidence level (see table 4.13). It is clear as absorptive capacity increase the chance for IOKS activities also increases by (B=1.909) (table.4.13). The variable is significant with an odds-ratio of 6.749. Implying that a one unit increase in absorptive capacity will increase the probability of IOKS across the organizations by 87% (see table.4.13).The results is consistent with the finding of Balogun and Jenkins (2003). According to Balogun and Jenkins (2003), an organization with greater absorptive capacity has a greater ability to use the knowledge collected.

Furthermore, the variable of absorptive capacity was analyzed using bivariate correlation whether it associate with IOKS across the organization. Both correlation and logistic regression have positive coefficient between absorptive capacity and IOKS activities. This implies that when the absorptive capacity increase the chance for inter-organizational knowledge sharing across the organization rises, it is more willing organization to share knowledge(see table 4.11 and table 4.13).The overall quantitative respondents indicate that absorptive capacity can positively influence inter-organizational knowledge sharing activities.

- **Organizational intention to learn**

Organizational intention to learn is viewed as an important factor in acquiring external knowledge (Barson et al, 2000). Six questionnaires were prepared to identify organizational intention to learn and its significance among the organizations. Organizational opinion, organization learning from past mistake, motivation of organizations to gain new knowledge, and awareness of learning intent were considered in this study.

Organizational intentions to learn were analyzed using binary logistic regression analysis. The results of the study show that organizational intention to learn positively influences the ability to share knowledge across the organizations and significant at 95% confidence level (see table 4.13). It is clear that organizational intention to learn increase the chance for IOKS activities positively by (B= 4.685). The variable is significant with an odds-ratio of 108.2. This is implying that a one unit increase in organizational intention to learn will increase the probability of IOKS across the organizations by 99% (see

table.4.13). The relationship between independent variable organizational intention to learn and the dependent variable IOKS activities are statistically significant at 0.023 for logistic regressions.

The finding adds further evidence to the conclusions from the bivariate correlation analysis that organizational intention to learn positively correlated to IOKS activities .These relations are statistically significant at $p = 0.015$. The overall respondents' response indicates that organizational intentions to learn can positively influences inter-organizational knowledge sharing activities (see table 4.11 and table 4.13).

- **Organizational Policy**

The respondents were asked whether organizational policy and strategy positively influences IOKS activities across the organization in Addis Ababa. Based on the questionnaires, the variable of organizational policy was analyzed using correlation and binary logistic regressions whether it influences inter-organizational knowledge sharing across the organization. Both correlation and logistic regression have positive coefficient between organizational policy and inter-organizational knowledge sharing activities (table 4.11 and table 4.13). This implies that the existence organizational policy and strategy within the organization will increase the chance for inter-organizational knowledge sharing activities across the organization. That means if organization has knowledge sharing policy and strategy, the employees were freely sharing their knowledge across the organizations without any bureaucracy as the interview respondent explained.

The results of the binary logistic regression analysis study show that organizational policy positively influences the ability to share knowledge across the organizations and significant at 99% confidence level (see table 4.13). Since the variable is coded 0 – disagreed IOKS is not influenced by organizational policy and 1- agreed IOKS can be affected by organizational policy. It is clear that organizational policy increase the chance for IOKS activities positively by (B=2.251). The variable is significant with an odds-ratio of 9.495. This is implying that a one unit increase in organizational policy will increase the probability of IOKS activities across the organizations by 90.4% (see table.4.13).

Moreover, the relationship between independent variable organizational policy and the dependent variable IOKS activities are statistically significant at 0.004. Therefore, the overall respondents' response indicates that organizational policy can positively influence inter-organizational knowledge sharing activities as we have seen from the quantitative respondents.

- **Organizational support**

Inter-organizational knowledge sharing is an activity that required resources. We investigated the relationship between the organizational support and IOKS activities achieved on our NVIVO software test. The study result found that from the organizational support, on the job training accounted for 31.06 percent of the total references followed by inter-organizational teamwork which accounted for 23.30 percent and experience sharing which accounted for 21.35 percent of the interview references (see table 4.16).

Knowledge sharing factors	Responses		References	
	Count	%	Count	%
On the job training	8	19.51	32	31.06
meeting	9	21.95	18	17.47
Team work	9	21.95	24	23.30
Incentive	7	17.07	9	8.73
Experience sharing	8	19.51	22	21.35
Total	41	100	103	100

Table 4.16 shows organizational supporting factors from semi-structured interview.

Similarly the variable of organizational support was analyzed using correlation and binary logistic regressions whether it influences inter-organizational knowledge sharing across the organization. Both correlation and binary logistic regression have positive

coefficient between organizational support and inter-organizational knowledge sharing activities (see table 4.11 and 4.13).

Furthermore, the effects of managerial support were measured using several factors that are associated with inter-organizational knowledge sharing activities. The results from binary logistic regression analysis show that organizational support positively influences the ability to share knowledge across the organizations and encourage inter-organizational knowledge sharing positively and significant at $p < 0.05$ level. It is clear that organizational support increase the chance for IOKS by ($B = 1.436$). The variable is significant with an odds-ratio of 4.21. The result implies that a one unit increase in organizational support will increase the probability of IOKS across the organizations by 80.80%. (See table.4.13).

Moreover, the relationship between independent variable organizational support and the dependent variable IOKS are statistically significant at 0.006. Therefore, the overall respondents' response indicates that organizational support can positively influences inter-organizational knowledge sharing activities from both qualitative and quantitative respondents.

- **Technological Factors: Information Technology (IT) support**

IT support refer to the use of proper repository for storing and sharing knowledge and use of a communication medium for communicating and transporting knowledge among the organizations (Alavi, M., 2000). IT service encourages inter-organizational knowledge sharing. The services of ICT include extranet, web service, internet, intranet, e-mail, video conference, participant blogs, participants' online chat, SMS service, online knowledge search engine, knowledge repository and so forth. The study is depicted in figure 4.3

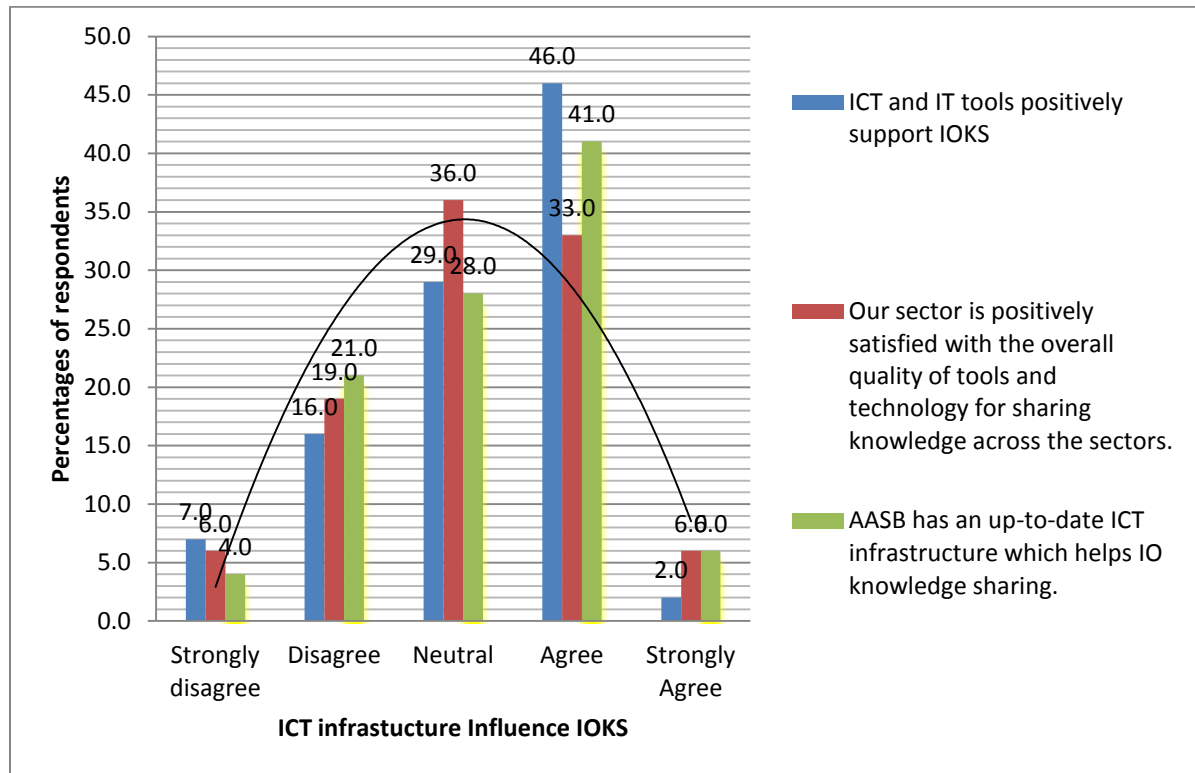


Figure 4.3 ICT infrastructure

As figure 4.3 indicates about 48 percent of the respondents are agreed or strongly agreed ICT infrastructure and IT tools positively influences IOKS activities among the organization in Addis Ababa. Moreover about thirty nine percent of the respondents are satisfied with the overall quality of ICT tools and Technology for IOKS across the organizations, and about 49% of the respondents are agreed or strongly agreed there is up-to-date ICT infrastructures which support IOKS in Addis Ababa.

Similarly, the result from logistic regression analysis shows that organizational ICT usage positively influences the ability to share knowledge across the organizations (see table 4.13). It is clear that organizational ICT infrastructure and IT usage increase the chance for IOKS activities positively by 1.083. The variable has an odds-ratio of positive 2.954. The result indicates that a one unit increase in organizational IT supports will significantly increase the probability of IOKS across the organizations by 74.7% (see table.4.13).

The relationship between independent variable organizational ICT usages and the dependent variable IOKS are statistically significant at 0.05 level .Therefore, the overall respondents' response indicates that organizational ICT usages and IT tools can positively influences inter-organizational knowledge sharing activities from binary logistic regression analysis. This study is supported by previous research (Hendricks, 1999).The study identifies that the existence of ICT infrastructure and IT usage may facilitate the conditions for inter-organizational knowledge sharing by case based reasoning or any other system like by providing web service, internet, intranet, e-mail, video conference, participant blogs, participants' online chat, SMS service, online knowledge search engine, knowledge repository and so forth.

- **Geographical proximity**

Geographical proximity is the geographical distance between public sector organizations. It was analyzed using Bivarait correlation and binary logistic regression. The results from logistic regression coefficient show that geographical distance positively influences the ability to share knowledge across the organizations. It is clear as geographical proximity increase the chance for IOKS activities also increased by (B= 0.554) (table.4.13). The variable is significant with an odds-ratio of 1.74 (see table.4.13). The result implies that a one unit increase in geographical proximity will increase the probability of IOKS across the organizations by 63.5%. This result is supported by previous research (Knoben and Oerlemans, 2006). They approved that geographical proximity foster face to face communication and bring organization together for knowledge sharing.

The variable of geographical proximity has significance relationship between the independent variable and the dependent variable IOKS activities. The binary logistic regression results shows, the variable is statistically significant at 0.047 level, which is less than 0.05 (table 4.13). In addition, the correlation results show that there is positive correlation between geographical proximity and IOKS activities (table 4.11). Hence geographical proximity is statistically significant with IOKS activities in case of Addis Ababa (see table.4.13) from the quantitative respondent. The conclusion can be generalized after the interview data analysis.

4.4.2.2 Contextual factors

The results of Pearson correlations analysis shows that contextual factors such as; cultural proximity, Trust between organizations, interdependency, and tie-strength between organizations are positively correlated to the intention to share knowledge across the organizations with positive correlations of ($r = 0.600$, $r = 0.458$, $r = 0.455$, and $r = 0.388$) respectively. This is significant at $p < 0.001$ significant level for all the variables. The result shows, cultural proximity and shared values score higher on the intention to share knowledge and are therefore more willing to share knowledge across the organizations than organization with less cultural proximity (see table 4.17).

Table 4.17 contextual factor Correlations

		IOKS	culture	Tie-strength	Trust	Interdependency
IOKS	Pearson Correlation	1	.600**	.388**	.458**	.455**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	186	186	186	186	186
Culture	Pearson Correlation	.600**	1	.255*	.350**	.377**
	Sig. (2-tailed)	.000		.010	.000	.000
	N	186	186	186	186	186
Tie-strength	Pearson Correlation	.388**	.255*	1	.152	.108
	Sig. (2-tailed)	.000	.010		.131	.285
	N	186	186	186	186	186
Trust	Pearson Correlation	.458**	.350**	.152	1	.228*
	Sig. (2-tailed)	.000	.000	.131		.022
	N	186	186	186	186	186
Interdependency	Pearson Correlation	.455**	.377**	.108	.228*	1
	Sig. (2-tailed)	.000	.000	.285	.022	
	N	186	186	186	186	186

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

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

Similarly, the relationship between trust, tie-strength, cultural proximity and interdependency, and IOKS activities were analyzed using binary logistic regression. The analysis showed that the data are suitable for binary logistic regression (Omnibus test significance $p < 0.001$).

We have seen that from the model summary Nagelkerke's R^2 is 0.363, which indicates that the model is medium but not good. Cox & Snell's R^2 is the nth root (in our case the 186th of the -2log likelihood improvement) is 0.264. Thus we can interpret this as about 26.40% probability of contextual factor influences IOKS activities is explained by the binary logistic model (table 4.18).

Table 4.18 contextual factor model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	98.878 ^a	.264	.363

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

After running the binary logistic regression analysis we get a model with four variables and one constant that relate to inter-organizational knowledge sharing activities. These variables are trust, interdependency, cultural proximity, and shared value, tie-strength, and one constant.

Table 4.19 Classification Table

Observed	Predicted		
	IOKS influenced by contextual factors		Percentage Correct
	Disagree = 0	Agreed = 1	
IOKS influenced by Disagree = 0	37	28	57.1
Step 1 contextual factors Agreed = 1	17	104	86.2
Overall Percentage			76

a. The cut value is .500

The accuracy classification rate computed by SPSS was 76 per cent which was greater than the proportional by chance accuracy criteria of 68.10 percent, therefore the criteria for classification accuracy was satisfied (table 4.19). This means that we observed 65 cases disagreed IOKS is not influenced by contextual factors and 121 cases agreed IOKS is influenced by contextual factors. Of the 65 observed disagreement our model is correctly predicts 28 and out of the 121 observed IOKS influenced by contextual factors agreement to the model correctly predicts 104. We therefore conclude that IOKS is not

influenced by contextual factors are predicted correctly in 57.10 percent of the cases and IOKS influenced by contextual factors are predicted correctly in 86.2 percent of the cases. This implies an overall percentage of correctly predicted observations of 76 percent.

Table 4 .20: Goodness-of-Fit of contextual factor

- 2 Log Likelihood	Hosmer and Lemeshow Test		
	Chi-square	Df	Sig.
121.146	8.378	4	0.397

As shown in table 4.20 the goodness of fit is not strong .But the sig value for Hosmer and lemeshow test indicate a positive value and greater than 0.05.

Table 4.21 Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for XP(B)	
							Lower	Upper
Trust	.961	.498	3.728	1	.051	2.615	.986	6.936
Cultural proximity	1.715	.506	11.473	1	.001	5.555	2.060	14.982
interdependency	-1.082	.518	4.356	1	.037	.339	.123	.936
Tie-strength	.655	.540	1.475	1	.225	1.926	.669	5.546
Constant	-.936	.387	5.868	1	.015	.392		

a. Variable(s) entered on step 1: Trust, culture, interdependency, tie-strength

Obviously all the binary logistic regression coefficients can have significant values at five percent Except Tie-strength (see table 4.20).

• **Cultural proximity and shared value**

Culture proximity refers to a set of parameters such as assumptions, values, beliefs, interpretations of events shared. Respondents were asked to indicate cultural proximity variables such as language, norm, common beliefs, same or similar cultures, and shared work space among the organizations will positively influence IOKS activities among the organizations. Generally descriptive mean values were low (between 2.34 to 3.10) for all three cultural proximity variables. The average percentages of the respondent agreed

cultural proximity and shared value influences inter-organizational knowledge sharing accounted for 37% agreement with the three statements about cultural proximity among the organizations in Addis Ababa influences positively inter-organizational knowledge sharing (Figure 4.4). Figure 4.4. Cultural proximity and shared value.

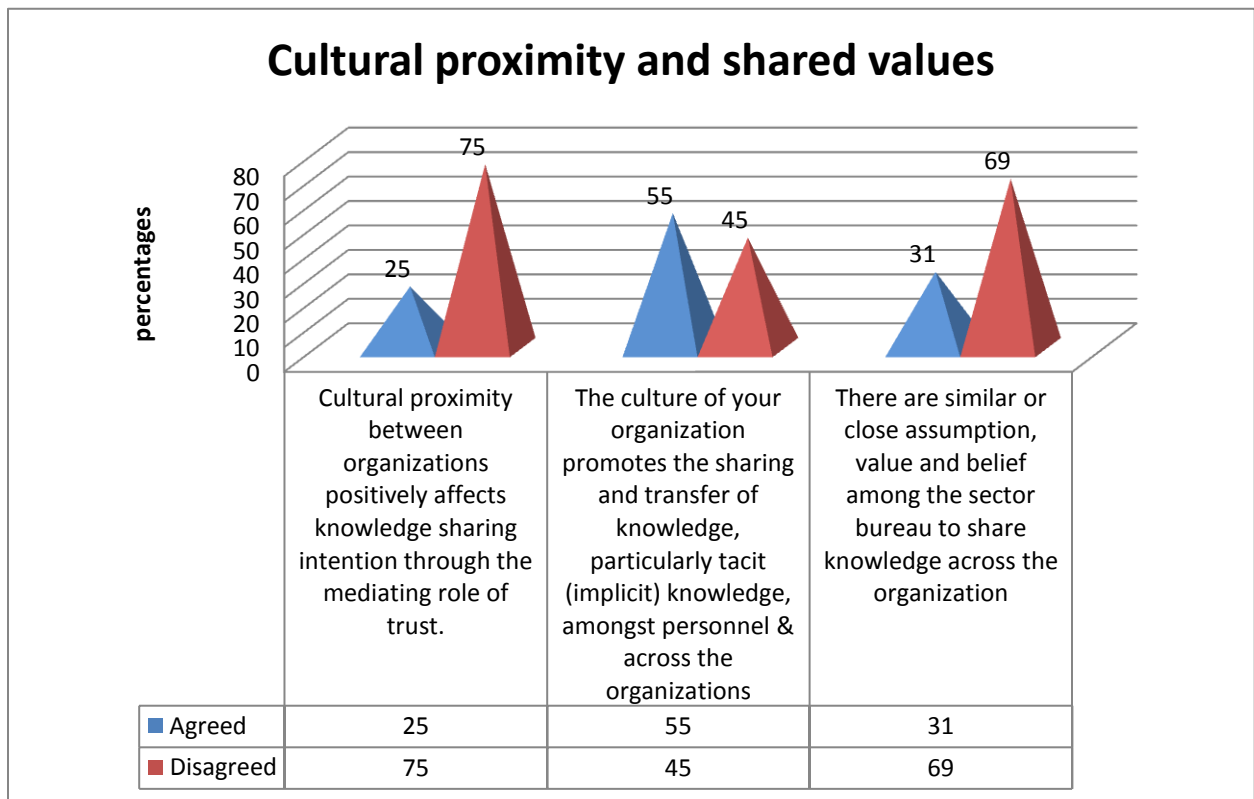


Figure 4.4. Cultural proximity and shared value

Furthermore, the variable of cultural proximity and shared values were analyzed using binary logistic regressions whether it influences inter-organizational knowledge sharing across the organization. The results from the binary logistic regression coefficient show that cultural proximity and shared values positively influences the intention to share knowledge towards IOKS (see table 4.21). The variable is statistically significant with an odds-ratio of positively 5.555 and binary logistic regression coefficient ($\beta = 1.715$, $p = 0.001$). The result implies that a one unit increase in cultural proximity and shared values will increase the probability of IOKS across the organizations by 84.74%. The relationship between independent variable cultural proximity and the dependent variable

IOKS activities are statistically significant at 0.001. This indicates that, there is a relationship between cultural proximity and IOKS. Therefore, the overall respondents' response indicates that cultural proximity and shared values positively influences inter-organizational knowledge sharing activities as we have seen from the quantitative respondents.

• Interdependency

Respondents were asked to indicate interdependency between organizations, cooperative work, distribution of power sharing, inter-organizational interaction, interdependency to reduce risk of opportunities among the organizations, and their agreement with the statements. The results from the analysis indicated that interdependency as a bundle influences the intention to share knowledge among the organizations in Addis Ababa. Generally their mean values were medium to high level (between 3.5 to 3.7) for all three interdependency variables. Overall the frequent mean response was 50.33% agreement with the statement about interdependency among the organizations in Addis Ababa positively influence inter-organizational knowledge sharing (Table 4.22).

Statements	Measures	%	Freq.	Mean	Std. Deviation
Inter-organizational interaction and collaborations including power sharing will positively influence IOKS.	S. disagree	1.0	2	3.5	0.87
	Disagree	11.	20		
	Neutral	35.9	67		
	Agree	41	76		
	S. Agree	11.0	20		
Interdependency will reduce risk of opportunities and influences IOKS positively.	S. disagree	1.0	2	3.7	0.95
	Disagree	10.7	20		
	neutral	24.1	45		
	Agree	43.4	81		
	S. Agree	20.7	38		
Distribution of power and cooperative work will influence positively IOKS among the sector bureau.	S. disagree	0	0	3.5	0.94
	Disagree	15.9	30		
	neutral	33.8	63		
	Agree	35.2	65		
	strongly Agree	15.2	28		

Table 4.22 Interdependency influence IOKS

Furthermore, the variables of interdependency were analyzed using correlation and binary logistic regressions whether it influences inter-organizational knowledge sharing across the organization. The results from both correlations and binary logistic regression coefficient show that interdependency positively influences the intention to share knowledge towards IOKS (see table 4.17 and table 4.21). It is clear that interdependency increase the chance for IOKS activities ($\beta = 1.082$, $p = 0.037$) (see table 4.21). The variable is statistically significant with an odds-ratio of positively 0.339.

Moreover, the relationship between independent variable interdependency and the dependent variable IOKS are statistically significant at 0.037. This indicates that, there is a relationship between interdependency and IOKS activities. Therefore, the overall quantitative respondents' response indicates that interdependency positively influences inter-organizational knowledge sharing activities as we have seen from different method of the quantitative respondents. This study is supported by previous study (He et al., 2006). In their study they found that organizations are dependent on one another when their interactions and collaboration are vital to remain in a competitive environment. They need to assist each other in order to sure that both organizations are not at risk in different situations.

- **Tie-strength**

Tie strength reveal the nearness of the recent and previous relationship between organizations. It exists among the sectors who work together for resources sharing, expertise, and information needs for self interest. Respondents were asked to indicate tie strength between employees across the organizations. About 59% of the respondents were agreed member prior experience and closeness across the organization positively influences IOKS activities. Similarly about 51% of the respondents were agreed strong relationship across the organization will positively influences IOKS activities among the organizations. Furthermore, about 48% of the respondents were agreed inter-sector relation and communications will positively influences trust which intern influences IOKS (see figure 4.5). Almost about half percentages of the respondents agreed with the statements about the effect of tie-strength on inter-organizational knowledge sharing activities.

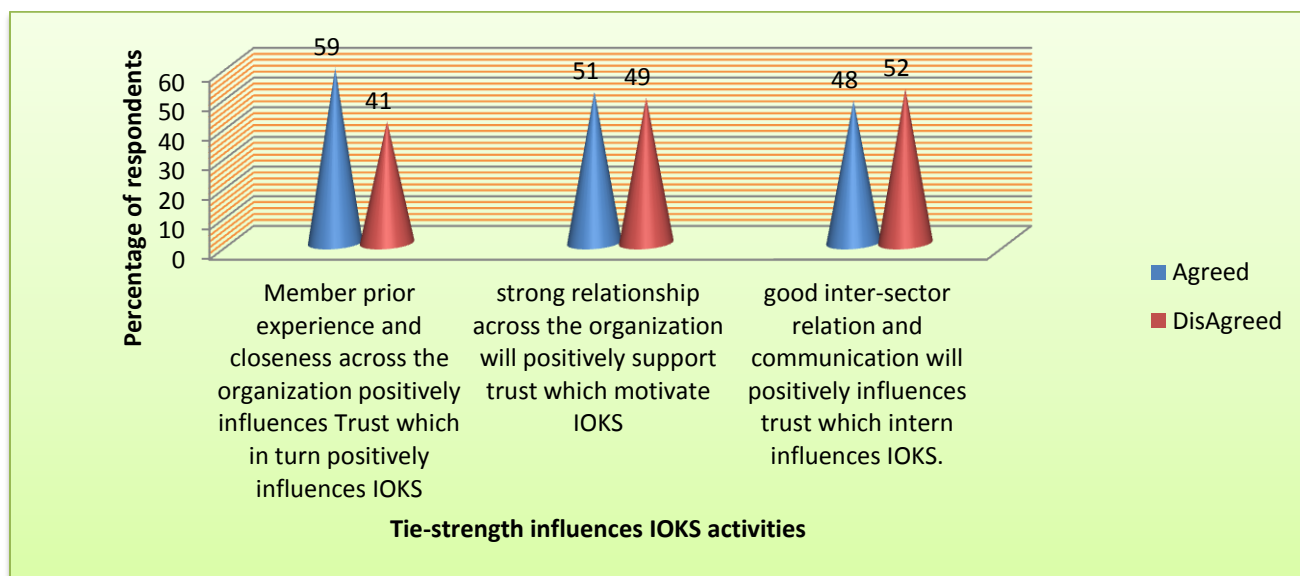


Figure 4.5 Tie-strength influence IOKS

Furthermore, tie strength was analyzed using binary logistic regression. The results from binary logistic regression coefficient show that tie strength positively influences the intention to share knowledge towards IOKS ($B = 0.655$) (see table 4.21). But the variable tie strength is statistically not significant with IOKS activities at 0.05 ($B = 0.655$, $p = 0.225$) (see table.4.21). The relationship between independent variable tie-strength and the dependent variable IOKS are statistically insignificant at 0.05 significant levels. This indicates that, there is weak relationship between tie-strength and IOKS activities. Therefore, the overall quantitative respondents' response indicates that tie-strength slightly influences IOKS activities.

- **Trust**

Respondents were asked to indicate whether public sector organization has trusted among each other and trust influences inter-organizational knowledge sharing activities. The study results show that, about 56% of the respondents were agreement with public sector organizations believe trust build reliability, honesty among the organizations, and influence IOKS. Similarly, about 49 % of the respondents were agreement with social and cultural framework among the organization influences IOKS, and 45% of the respondents were agreement public sector organizations in Addis Ababa trusted to work together. The bundle of the response indicates that, about (49.3%) of the mean of the

respondents were agreement with the statement there are trust among the organizations in Addis Ababa and influences inter-organizational knowledge sharing activities (Figure 4.6). Almost about 50% of the respondent reactions on trust agreed. These indicate that there is less trust among the organization and less influences IOKS activities.

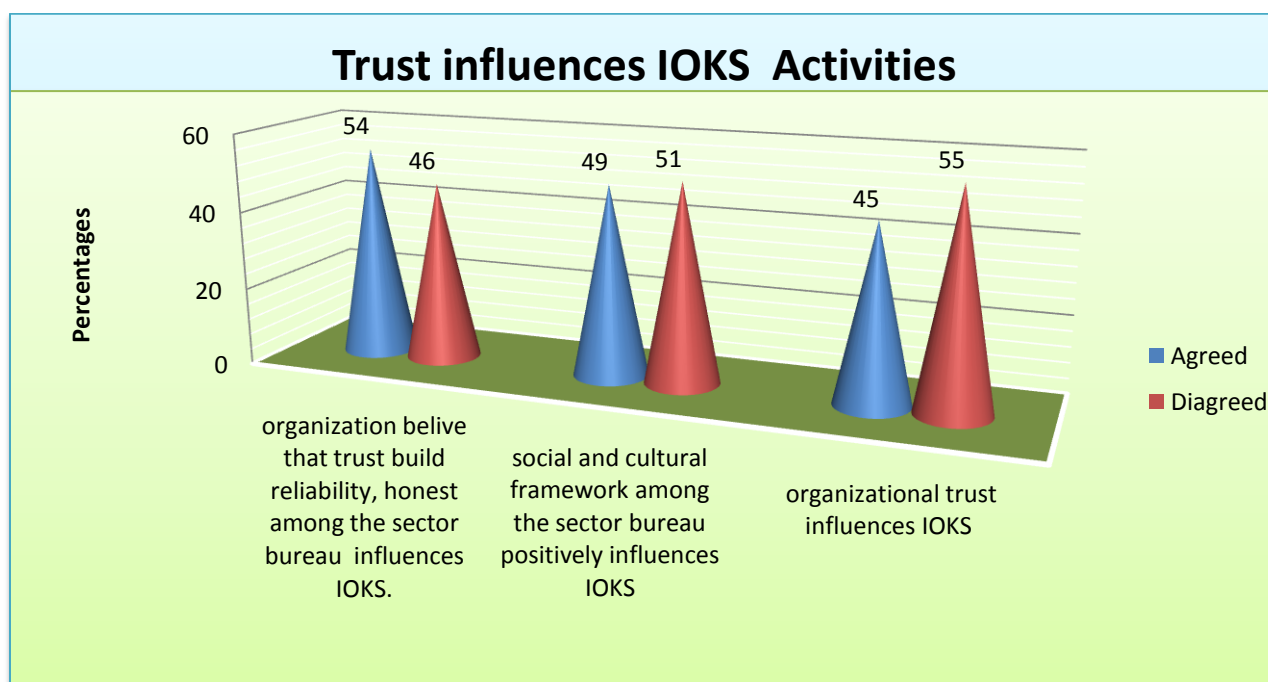


Figure 4.6.Trust influences IOKS Activities

Similarly, trust was analyzed using both correlation and binary logistic regression. Trust between the organizations influences the intention of the organization to share knowledge across the organizations positively and significant at 95% confidence level (see table 4.21). Since the variable is coded 0 – disagree there is no trust among the organizations in Addis Ababa and does not influences the intention to share knowledge across the organization and 1- agreed there is trust among the organizations in Addis Ababa and positively influences the intention to share knowledge across the organization. The variable is significant with an odds-ratio of 2.615 (table 4.21). This study indicates that a one unit increase in trust will slightly increase the probability of IOKS across the organizations by 72.33%. Therefore, the results from frequency analysis, correlation, and regression show that trust positively influence IOKS.

Furthermore, the relationship between independent variable trust and the dependent variable IOKS are statistically significant at 95 percent confidence level. This indicates that, there is a relationship between trust and IOKS. Therefore, the overall quantitative respondents' response indicates that trust positively influences inter-organizational knowledge sharing activities as we have seen from the quantitative respondents.

4.4.3 Nature of Knowledge

The nature of knowledge was assessed in this research whether or not it influences inter-organizational knowledge sharing. The respondent response indicates that 73 out of 186 (39 %) of the respondent agreed explicit knowledge influence inter-organizational knowledge sharing positively. However, only 30 out of 186 (16.1 %) of the respondent agreed tacit knowledge influence inter-organizational knowledge sharing positively among the organization. This indicates that explicit knowledge takes the dominant share in influencing inter-organizational knowledge sharing from the survey questionnaires. Explicit knowledge sharing is through normal channels such as document sharing; email communication, video communication whereas tacit knowledge sharing is embedded through personal and difficult to share. Most tacit knowledge sharing across the organization occurred through inter-sector team work, meeting and group discussions.

The researcher also assessed the nature of knowledge through semi structured interview. Upon examination of interview data the finding indicate that, from the total factors that influences inter-organizational knowledge sharing activities, the nature of knowledge accounted for 2.65% of the reference made by IOKS activities. Hence, the nature of knowledge slightly influences inter-organizational knowledge sharing activities among the public sector bureaus. This is supported by Nonaka and Takeuchi's (1995), indentified that knowledge shared through normal channels such as ICT is likely to be largely explicit in nature, and thus facilitate knowledge that is more easily modifiable and can be more readily held within a storage mechanism (Lam & Lambermont-Ford, 2000).

Summary

Our analysis is entirely based on both quantitative and qualitative data. The analyses were done case by case to investigate the trend of the factors in relation to inter-organizational knowledge sharing. The qualitative data analysis made clear that, the significant relationship found in quantitative data analysis also hold when the variable are in stake. This shows that, there is sufficient evidence found to support organizational factors, contextual factors, and nature of knowledge influences inter-organizational knowledge sharing activities from both qualitative and quantitative data analysis. Therefore, organizational factors, contextual factors, and nature of knowledge influence inter-organizational knowledge sharing activities among the organization in the case of AASB.

4.5 Developing Theoretical Framework

4.5.1 Factor that influence IO knowledge sharing theoretical framework

The empirical data analysis indicates that, there is various inter-organizational knowledge sharing activities. These activities generally classified as formal and informal knowledge sharing methods. For instance, meeting, on the job training, seminar, discussion forum, experience sharing, document exchanges, inter-sector collaborative work, video conference, inter-sector exhibition, personal interaction as organizational wise, and codification are some of the inter-organizational knowledge sharing activities in Addis Ababa. The major factor that influences IOKS activities are identified from semi structured interviews are organizational factors, contextual factors, nature of knowledge, and ICT support (sees Figure 4-7). Besides, these factor also supported by quantitative respondents from binary logistic regression and correlation analysis. But, all factors do not have the same influences. Some factors are stronger than the other factors.

NVIVO 10 Code Matrix tool is used to identify the frequency of association between influencing factors on the one hand and knowledge sharing activities on the other hand for interview respondents. The software counts co-occurrence of concepts that are assigned to influencing factors and knowledge sharing activities as a measure of association. Higher value of frequency indicates the strength of association (see Table 4-24 and Figure 4-7).

	IOKS activities	organizational factors	contextual	Nature of knowledge	ICT support
organizational factors	110				
contextual	74	54			
Nature of knowledge	4	4	7		
ICT support	2	1		8	

Table 4-23. The extent of association between influencing factors and IOKS activities.

As Table 4.23 above shows inter organization knowledge sharing are mainly influenced by organizational factors. The highest frequency value indicates that there are strong association of organizational factors and inter-organizational knowledge sharing activities among the different sector in Addis Ababa.

The study result shows organizational factors also influence contextual factors. Among the organizational factors, organizational support like meeting, on the job training, seminars, and workshop bring together employees from different sector bureaus who are working in different organization to discuss and interact with each others on common agendas. The contextual factor also builds close social relationship among employees in different sector bureau through inter-organizational meeting. In general, there is an association between organizational factors and contextual factors among the members of different organizations in Addis Ababa (See Figure 4-7.a).

Contextual factors are the second important factors next to organizational factors (see Figure 4.7.a and Table 4.23). The final factor that influences inter-organizational knowledge share is the nature of Knowledge. The tacit knowledge sharing among the organization can be obtained by inter sector-team work, meeting, and sometimes by invitation organization on the professional key issue area. But the explicit nature of knowledge can be obtained by document sharing like working procedure, policy, standard, and so forth. The respondent explained that explicit knowledge sharing is the dominant inter-organizational knowledge sharing.

Furthermore, the relationship between factors influencing IOKS activities are identified as independent variable and inter-organizational knowledge sharing activities which is designated as dependant variable can be derived from binary logistic regressions. We were computed a binary logistic regression analysis (See figure 4.7.b, table 4.13). The study results show that there is a positive association between factors that influence inter-organizational knowledge sharing and IOKS activities with the following key finding:

- Organizational factors influences the ability to share knowledge was positively associated with IOKS activities having a binary logistic regression coefficient 1.25, odd ratio of 3.49, with probability of (77.72%).
- Contextual factors influences the intention to share knowledge was positively associated with IOKS activities having a binary logistic regression coefficient 1.121, odd ratio of 3.069, with probability of (75.4%).
- Nature of knowledge influence the ability to share knowledge was positively associated with IOKS activities having a binary logistic regression coefficient 0.204, odd ratio 1.226, with probability of (55%).

In general the ability to share knowledge is the dominant factors that influence IOKS activities with regression coefficient of 1.640 and odd ratio of 5.153, with probability of (83.20%). The binary logistic regression coefficients show the probability between the independent and dependant variable.

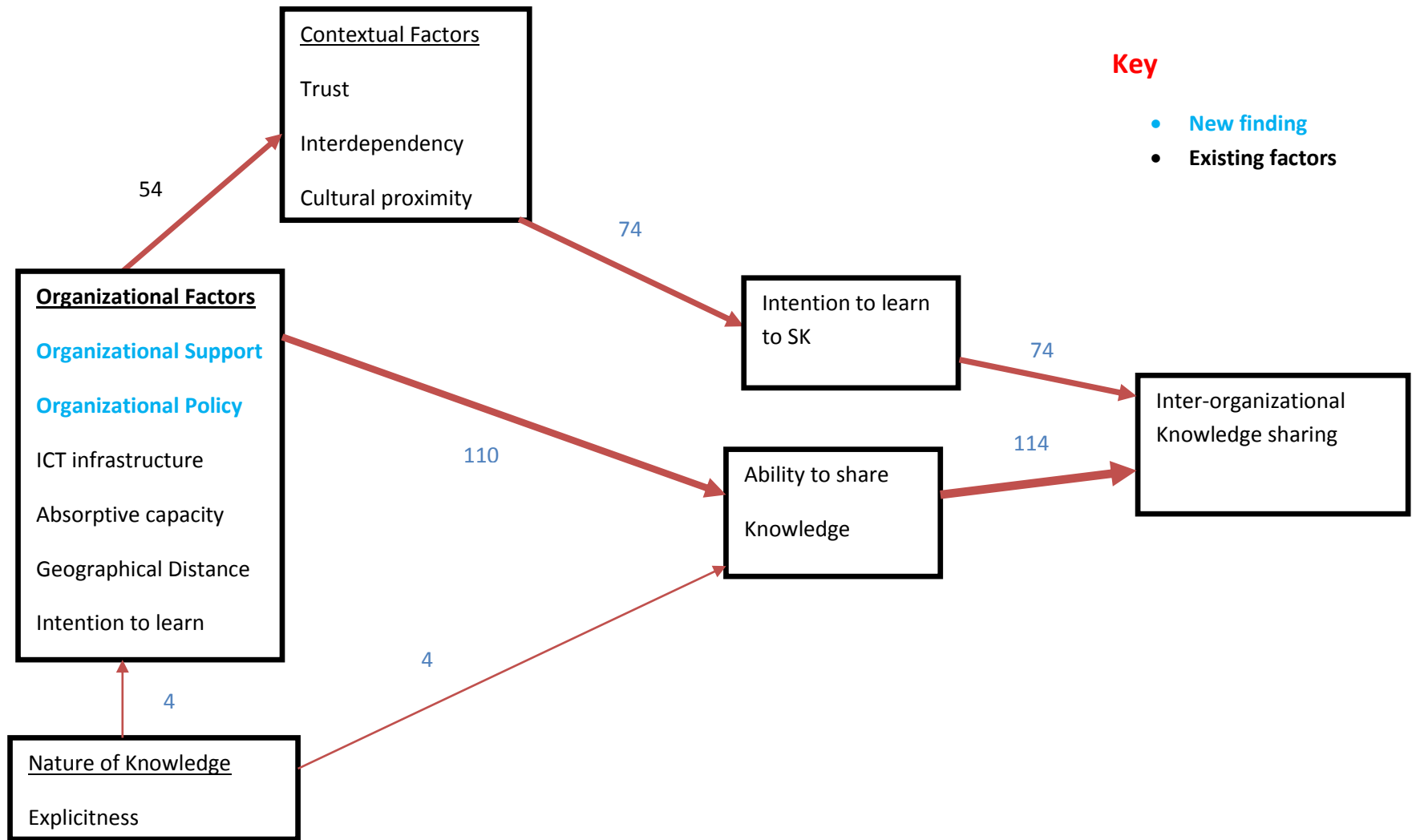


Fig.4.7.A. Factor influencing IOKS Theoretical framework among the organizations from qualitative data analysis

Fig.4.7.b. Factor influencing IOKS Theoretical framework among the organizations from quantitative data analysis

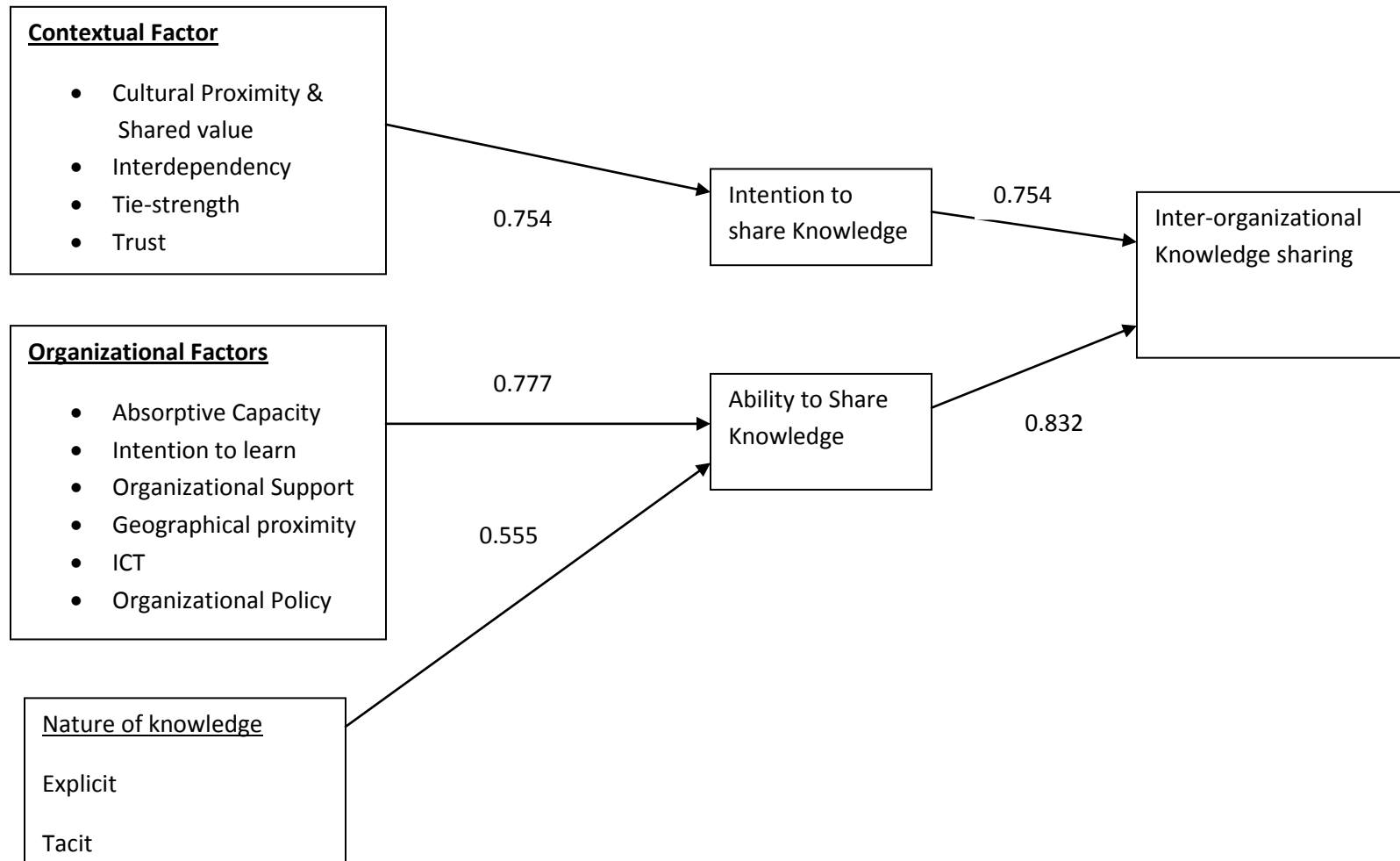


Fig.4.7.B. Factor that influencing IOKS Theoretical framework among the organizations from binary logistic regression analysis.

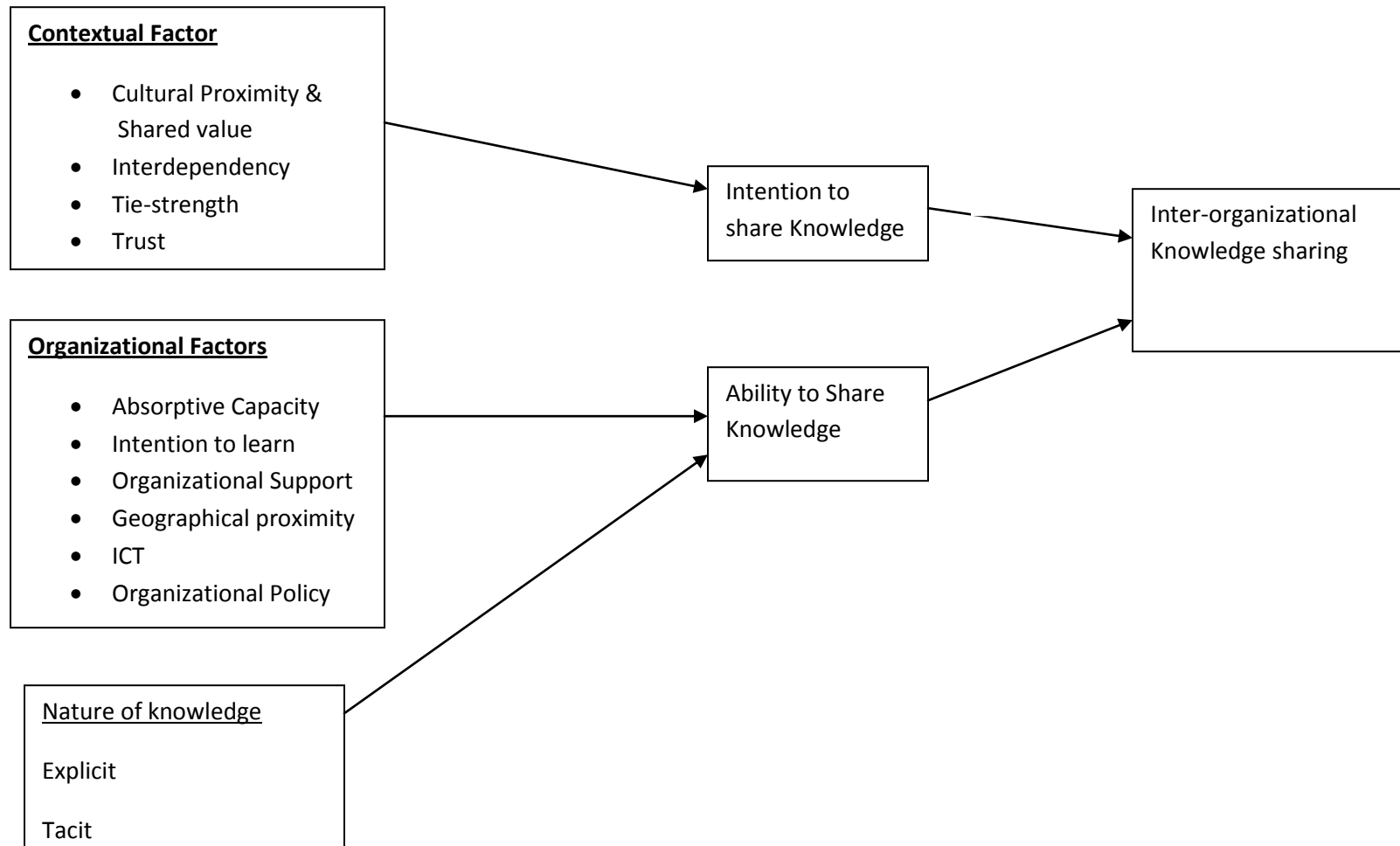


Fig.4.7.C. The combined factor that influencing IOKS Theoretical framework from combined methods

Summary

In this research the major factors influencing inter-organizational knowledge sharing are identified through literature review, quantitative, qualitative experiment and synthesis. A conceptual model was examined qualitatively and quantitatively through twelve interview and 186 surveying questionnaires in AASB. The semi-structured interview results were validating the model constructed in supportive of quantitative data. Furthermore, one new factor is identified. This is incorporated to the modified theoretical frame work. The results of the study finding will provide new insight into factors that influencing IOKS that is useful for organization in particular public sector organizations.

The factors that influence inter-organizational knowledge sharing activities are: organizational factors, contextual factors, and nature of knowledge. Organizational factors are the major factor that influences IOKS activities in Addis Ababa sector bureau. Contextual factors are the second major influencing factors in influencing the inter-organizational knowledge sharing activities in AASB. Furthermore, the nature of knowledge influences the ability of the knowledge sharing among the different organization in AASB.

ICT service is as indicated in literature as one of the factors that influence inter-organizational knowledge sharing in the work place. While ICT provides participants to access to basic communication tools such as email, telephone, more sophisticated collaborative tools such as shared storage systems, and shared workspaces. It helps to overcoming distance, social barriers, reduces knowledge sharing efforts to search, and retrieve knowledge from different sources. However as compared to other factors, ICT services less effect on influencing inter-organizational knowledge sharing activities among the sectors in Addis Ababa.

CHAPTER FIVE: DISCUSSIONS AND IMPLICATIONS

This paper put forward how do organizations share knowledge among the public sector bureaus in Addis Ababa city Administrations, what are the motivating factors that influenced inter-organizational knowledge sharing among the public sector bureaus in the city Administration of Addis Ababa, what are the methodology and methods adopted in this research to evaluate those activities and factors. The chapter provides the overall discussion.

Q1. How do inter-organizational knowledge sharing among sector bureaus in Addis Ababa occurs?

The study finding indicates that majority of the inter-organizational knowledge sharing among the sector bureaus were undertaken through formal knowledge sharing methods such as; on job training, meeting, seminar, discussion forum, teamwork/collaborative work, e-mail communication, video conferencing, and fax automation systems. The Aggregate data shows that knowledge sharing by formal methods covered by qualitative respondents accounted for 70.4% and quantitative respondents accounted for 56.73% (see table 4.6 and Figure 4.2). Moreover, there is also knowledge sharing activities through informal methods like face to face interaction, social network such as face book, and telephone. From the total IOKS activities, qualitative respondents accounted for 20.1% and quantitative respondents accounted for 33.13% of the total IOKS activities (see table 4.6 and figure 4.2).

Finally, knowledge sharing through codification includes; operational user manual, best experience coding, process map, and knowledge articulation (see Table 4.6). From the total IOKS activities, qualitative respondents accounted for 9.5% and quantitative respondents accounted for 10.14% of the total IOKS activities (see table figure 4.2).

This implies that formal inter-organizational knowledge sharing practice is the dominant inter-organizational knowledge sharing methods among the public sector organizations in Addis Ababa. Other researchers also support the idea mentioned as knowledge sharing at inter organizational level performed through formal knowledge sharing methods like knowledge sharing policy, performance measurement system ,clear communication channel, intranet technology, training, internet technology, and flexible organizational

structure (Tang, 2008; Yalow, 2011). Codification of 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 study also identifies why organization share knowledge, and what initiate organization to share their knowledge across the organizations. Based on the study finding, there are many reasons why organization shared their knowledge across the organizations. Some of the reason that the respondent mentioned are; limited resource (resource sharing), work complexity, common work, professional skill gap, opportunity of internet connectivity, information need, best experience sharing, risk minimization, and shared organizational goal and mission.

Furthermore, the study also identifies what are the factors that influence inter-organizational knowledge sharing? As we had seen in the data presentation chapter four the factor that influences inter-organizational knowledge sharing are categorized as contextual, organizational, and nature of knowledge. Each of the factors contributes its significance influence on IOKS. The discussion on each factors are summarized below:

Contextual factors are the atmosphere and the properties of the relationship that include factors such as trust, dependency, and cultural proximity & shared values, and tie strength. From the semi-structured interview results, contextual factors of the data analysis accounted for 46.35 % reference made to IOKS activities. Moreover, the binary logistic regression analysis also indicates that about 36.10% probabilities of the contextual factors influencing IOKS activities. The study was supported by the previous literature that contextual factor influences inter-organizational knowledge sharing among the different organization (Seyyedeh et al., 2009). Therefore, this study results show that contextual factors influences IOKS activities in the context of Addis Ababa. The themes that emerged from the contextual data analysis are summarized below:

Trust was discovered through both questionnaires survey and interview. The qualitative data regarding participants' perception of trust types, trust building, and level of trust in each case were gathered through surveying and interviewing. The study findings show that about 48.08 % of the reference made that influences the inter-organizational knowledge sharing activities were covered by trust from semi structured interviews (see

Table 4.9). That means trust strongly influences inter-organizational knowledge sharing from contextual factors. Furthermore, quantitative data was analyzed using correlation and regression analysis. The result from both regression ($B=0.961$, $\exp(B) = 2.615$, $p = 0.05$) and correlation ($r = .458$, $p = 0.000$) analysis shows that trust is positively influence IOKS (see table 4.17 and 4.21). The result from both qualitative and quantitative respondents' response indicates that trust positively influences inter-organizational knowledge sharing activities. The previous literature also confirmed that trust influence inter-organizational knowledge sharing (Cheng et al., 2008; Yui-Chuin et al., 2014; Van den Hooff et al., 2003).

Similarly, the researcher used to examine the effect of tie-strength among the organizations in Addis Ababa. The existence of strong relationship between two or more organization can influence the inter-organizational knowledge sharing activities between inter-organizational team. From the total interview respondents, tie-strength accounted for 39.9 % of the reference made that influences the inter-organizational knowledge sharing activities (see Table 4.9) Moreover, quantitative data was analyzed using correlation and regression analysis. The result from both regression ($B=0.655$, $\exp(B) = 1.926$, $p = 0.225$) and correlation ($r = .388$, $p = 0.000$) analysis shows that tie-strength is positively influence IOKS (see table 4.17 and 4.21). But the effect of tie-strength is less significant for binary logistic regression. However, the overall quantitative and qualitative respondents' response indicates that that tie-strength positively influences the intention to share knowledge towards inter-organizational knowledge sharing activities.

Likewise, variable of the cultural proximity and shared values were examined using surveying questionnaires and interviews. The result indicated that cultural proximity accounted for 7.65 % of the reference made to inter-organizational knowledge sharing activities (see Table 4.9). Besides, quantitative data was analyzed using correlation and regression analysis. The result from both regression ($B=1.715$, $\exp(B) = 5.555$, $p = 0.037$) and correlation ($r = .600$, $p = 0.000$) analysis shows that cultural proximity and shared values positively influence IOKS (see table 4.17 and 4.21). The implication of this study shows that in both cases of data analysis cultural proximity influences the ability to share knowledge among the organization. The previous literature also confirmed that cultural proximity and shared value facilitate social relationship by

promoting mutual understanding and providing crucial bond among the parties (Wijk et al., 2008; Hau and Evangelista, 2007).

In the same way inter-organizational knowledge sharing is also influenced by interdependency. The data analysis results show that interdependency accounted for 4.37 % of the interview reference made by inter-organizational knowledge sharing activities (see Table 4.9). Furthermore, quantitative data was analyzed using correlation and binary regression analysis. The result from both binary regression ($B=1.082$, $\exp(B) = 0.339$, $p = 0.015$) and correlation ($r = .455$, $p = 0.000$) analysis shows that interdependency is positively influence IOKS (see table 4.21).The previous literature also confirmed that interdependency will reduce risk among the organizations and will guide anticipated future cooperation among the organization (Heide and Miner, 1992; Nieminen, 2005). Therefore, the finding of the respondent indicates that independency and power has significant influence on inter-organizational knowledge sharing in the future in Addis Ababa.

The factors associated to organization including absorptive capacity, intention to learn, organization support, geographical proximity, organization policy, the existence of ICT tools, and technology. From the total IOKS activities considered in this paper organizational factor accounted for 47.21 % of the reference made by inter-organizational knowledge sharing activities from semi-structured interview. Moreover, the binary logistic regression analysis shows about 37.21% of the factors influencing IOKS activities covered by organizational factor. Similarly, the results from binary logistic regression coefficients shows ($B= 1.082$, $\exp(B) = 2.950$, $p= 0.045$). The implication of the result shows that the bundle of organizational factor both from qualitative and quantitative data analysis indicates a positive relationship between organizational factors and IOKS activities. The previous literature also confirmed that organizational factors influences inter-organizational knowledge sharing activities (Easterby-Smith et al., 2008; Albino et al., 1998; Nieminen 2005; Hau & Evangelista, 2007, Wijk et al., 2008, Cummings & Teng 2003).

Organizational support is one of the elements of organizational factors that the researcher used to test its effect on inter-organizational knowledge sharing activities. Organizational support facilitate knowledge sharing activities by arranging the medium and the

atmospheres through which knowledge is shared .The major factor that are considered in this section are on job training, meeting, team work , incentive, experience sharing ,and rewards. From the organizational support, on the job training stands the first that accounted 31.1% of the total references followed by inter-organizational team work which accounted for 23.3 % and thirdly the inter-organizational knowledge sharing which accounted for 21.35 % of the references that influences inter-organizational knowledge sharing activities (see Table 4.10). Furthermore, quantitative data was analyzed using correlation and regression analysis. The result from both regression ($B=1.436$, $\exp(B) = 4.206$, $p = 0.006$) and correlation ($r = .251$, $p =0.012$) analysis shows that organizational support is positively influence IOKS (see table 4.11 and table 4.12). Therefore, the data analysis both from quantitative and qualitative analysis show that organizational support positively influences on IOKS activities.

Likewise, organizational intention to learn is one of the key organizational factors that influence inter-organizational knowledge sharing. It facilitates organization to extract knowledge from external environment. Upon examination of data analysis from semi structured data, the finding shows that organizational intention to learn accounted for 10.20 % of references made by IOKS activities. Furthermore, quantitative data was analyzed using correlation and regression analysis. The result shows that regression ($B= 4.685$, $\exp(B) = 108.28$, $p = 0.000$) and correlation ($r = .243$, $p =0.015$) (see table 4.11 and table 4.13). Therefore, quantitative data analysis also supports the qualitative data analysis, in such a way that both influence IOKS activities positively. The previous literature also confirmed that organizational intention influences inter-organizational knowledge sharing among the organizations (Barson et al 2000; Cummings and Teng 2003; Smith et al., 2008)

Absorptive capacity is one of the organizational factors that influence inter-organizational knowledge sharing activities .From total organizational factors, absorptive capacity accounted for 1.36 % for the reference made by knowledge sharing activities from the semi structured interviews. Furthermore, quantitative data was analyzed using correlation and regression analysis. The result from both binary regression ($B=1.909$, $\exp(B) = 6.749$, $p = 0.046$) and correlation ($r = .205$, $p =0.041$) analysis shows that absorptive capacity is positively influence IOKS (see table 4.11 and table 4.13).Therefore, the data

analysis both from quantitative and qualitative analysis show that absorptive capacity influence IOKS.

Similarly, from the total organizational factors, organization policy accounted for 2.04% of the reference made by the inter-organizational knowledge sharing activities. Besides, quantitative data was analyzed using correlation and regression analysis. The result from both binary regression ($B=2.251$, $\exp(B) = 9.495$, $p = 0.004$) and correlation ($r = .693$, $p = 0.000$) analysis shows that absorptive capacity is positively influence IOKS (see table 4.11 and table 4.13). The previous literature confirmed that political pressure and policy can influences on the knowledge sharing activities in an inter-organizational context. (Rosemary Van Der Meer, 2014). However, the make-up of the inter-organizational group may not determine to what extent that impact is.

ICT infrastructure is the back bone for all the technology based service communications and knowledge sharing. It includes the networking cables, the computers, servers, switches, routers, video conferencing device, and so forth. Some of the common IT service and usages includes information and knowledge portal, website, internet, intranet, e-mail, video conference, participant blogs, participants' online chat, SMS service, online knowledge search engine, knowledge repository and so forth. Upon the analysis of quantitative data and interviewing data, the finding indicates that the mean of the respondents agreed ICT and IT support the ability to share knowledge across the organization in Addis Ababa are categorized in medium level .That is the result from binary logistic regression shows that, ICT infrastructure is positively influences IOKS activities in Addis Ababa ($B=1.084$, $\exp(B) = 2.954$, $p= 0.05$).

Similarly geographical proximity influences the inter-organizational knowledge sharing activities among the organizations in Addis Ababa. It influences the ability to share knowledge accounts 4.76 % of the reference made for knowledge sharing activities. In addition, the result from regression ($B=0.554$, $\exp(B) = 1.74$, $p = 0.047$) and correlation ($r = 0.205$, $p = 0.000$). The data analysis from quantitative respondent shows that absorptive capacity has correlation with IOKS and significance value in both correlations and binary logistic regression analysis (see table 4.11 and table 4.13). The study results

show that the quantitative data analysis support the qualitative data analysis. Hence, geographical proximity might influences IOKS activities in Addis Ababa.

Nature of knowledge: upon examination of interview data the finding indicate that from the total inter-organizational factor that influences knowledge sharing activities the nature of knowledge accounted for 2.65% of the reference that influences IOKS. Majority of knowledge sharing among the organizations occurred through formal methods like meeting, training, discussion forum and so forth. This facilitates tacit knowledge flow among the participant organizations. Tacit knowledge in particular is embedded in the individual's mind, rooted in their direct experiences, skills, ideas and emotions gained through actions and activities. It is difficult to share and hinder knowledge sharing. It does not have a numerical or linguistic form, and therefore it is hard to communicate and formalize. Sometimes knowledge shared among the organizations through the use of ICT tools like email. The Vice Directorate of Addis Ababa Management institute explained:

“Well, individual emotion and organizational culture is a source of knowledge. For example, on seminar or discussion forum when the there is a debate. You can learn some hidden knowledge of the individual due to emotion. You can also share your knowledge freely by interest. Sometimes you can learn from the organizational culture. If the management and employees are socially interactive and good working environment you freely talk to that organization to share knowledge or documents. But if the culture is not good you cannot go to that organization”

The data analysis of the respondent indicates tacit knowledge among the organization is shared through emotion, self interest and culture or the organization. Hence, the nature of the knowledge also influences inter-organizational knowledge sharing activities. The previous literature confirmed that nature of knowledge influences knowledge sharing activities (Nonaka and Takeuchi's, 1995; Lam & Lambermont-Ford, 2000). Therefore, the explicitness of knowledge is the more dominant factors that influence the inter-organizational knowledge sharing in Addis Ababa sector bureaus(see table 4.8).

CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

Research on knowledge management has focused on knowledge sharing within the business (Demarets, 1997; Alavi & Tiwana, 2003). However this research deals with knowledge sharing activities among the different public sector organization in Addis Ababa. This is less investigated research area. It examines how knowledge is shared among the different organization in Addis Ababa public sectors and what are the factors that influence the inter-organizational knowledge sharing activities. Furthermore, it addresses the inter-organizational knowledge sharing gap and also recommended the solutions for the observed gap. Thus, the study finding bring the original values by combining attributes and relational data, which are the characteristics of the participant respondents and information sharing between the organization.

The finding of this research indicates that the inter-organizational knowledge sharing among the different organization in Addis Ababa carried out mostly through formal communication rather than informal methods. Through formal inter-organization knowledge sharing, the knowledge shared is more of explicit in nature in addition to less tacit knowledge. Informal knowledge sharing method among the organization allows organizations to obtain specific knowledge that solves task related problems and decisions. As many researchers discovered knowledge is an intangible asset that is dynamic and cannot be easily shared among the organizations.

Therefore, knowledge sharing is affected by contextual factors. Due to this reason the study requires case study research that investigates the phenomena which is embedded with its context. The study extends to investigate the public sector organization current knowledge sharing practices and the factors that influences inter-sector knowledge sharing.

The study used mixed research method. The method helps to understand the complex phenomena of knowledge sharing among the inter-organization in Addis Ababa. The research identified organizational factors, contextual factors, nature of knowledge, and technological factors as the main factors that influence inter-organizational knowledge sharing activities in AASB.

Organizational factors also influence contextual factor beyond the influence of IOKS. Organizational factors consist of organizational support, intention to learn, absorptive capacity, organizational policy, geographical proximity and ICT usages. Organizational support is the main components of organizational factors that facilitate the inter-organizational knowledge sharing by creating a medium for interactions from semi structured interview data. The researcher considers all factors that influence IOKS give equal attention to create an inter-organizational knowledge sharing activities in AASB. The result of this research makes a contribution to confirm existing knowledge sharing theories to be generalizable across different contexts as this research is done in developing context.

6.2 Theoretical Implication

Even though, there are ample literatures on inter-organizational knowledge sharing in developed countries, inter-organization knowledge sharing remains a challenging task for many public organizations. Previous researchers also explained the limitation of their knowledge sharing to capture the full picture of knowledge sharing factors (see Ipe, 2003; Bechina & Bommen, 2006; Lin et al., 2012). Therefore, this research study intended to contribute new ideas on inter-organizational knowledge sharing practices among organizations in Addis Ababa city Administration.

First, previous research consistently mentioned organizational factors like organization intention to learn, absorptive capacity, geographical proximity and ICT infrastructure influences on inter-organizational knowledge sharing among the organizations. This research identified organizational policy as additional organizational factor that influence inter-organizational knowledge sharing. It has a theoretical contribution to deepen our understanding how policy influences inter-organizational knowledge sharing activities. It can be also used as a theoretical lens to investigate the impact of organizational factors on inter-organizational knowledge sharing by other researchers.

Second, the study contributed to strengthen existing findings on inter-organization knowledge sharing. Most of the previous research on knowledge sharing was conducted with qualitative research methods (Seyyedeh et al., 2009). Conversely, this research used both the qualitative and quantitative mixed research method. Therefore, this research has

a theoretical contribution for analytical generalization to existing claims on inter-organizational knowledge sharing theories.

Third, there is no formal knowledge sharing strategy and policy among the public sector in Addis Ababa to encourage explicit knowledge sharing. But, in some case there is memorandum of understanding (MOU) at top management level between two or more organization for inter-team work and inter-sector on the job training for short period of time. Furthermore, there is a practice of inter-sector experience sharing which is currently more active. Most of the knowledge shared through experience sharing is codified by Addis Ababa capacity building and disseminated to the other sectors. This practice is good to develop inter-organizational capacity building, but it does not promote development of collective inter-organizational knowledge sharing. The study indicates that there is a need for an explicit knowledge sharing strategy to develop collective inter-organizational knowledge base.

Fourth, the study discovered that the presence of ICT tools and technology will not promote inter-organizational knowledge sharing in Addis Ababa unless ICT services are specifically designed to support KM activities. This research study identified, there are different ICT tools that are required to implement inter-organizational knowledge sharing in Addis Ababa. But, utilization of ICT tools for inter-organizational knowledge sharing is at infant stage in Addis Ababa city Administrations.

Finally, the study identify majority of the inter-organizational knowledge sharing activities among the organizations are through formal knowledge sharing activities. But, the level of knowledge codification is very little adapted.

6.3 Recommendations

The implication of this study identified interesting findings that have implications for practice to develop inter-organizational knowledge sharing among the organizations in Addis Ababa.

First, the study found that in Addis Ababa sector bureau there is many ICT infrastructures. But, the existing ICT infrastructure is not properly utilized for inter-organizational knowledge sharing. This is due to lack of technical ability, poor culture to use ICT for inter-organization knowledge sharing, and poor ICT services integration

among the organizations. Therefore, AASB should develop integrated ICT technical ability and the usage for proper inter-organizational knowledge sharing.

Second, majority the current approach for inter-organizational knowledge sharing by AASB is based on traditional knowledge sharing system that promotes reuse of existing knowledge rather than promoting new knowledge creation, assimilation and utilization .Therefore, AASB should develop an overall knowledge management strategy and policy to promote development of shared knowledge and creation of new knowledge that increases inter-organizational organizational capability for innovation and better performance.

Third, there is no monetary incentive system among the organization for the purpose of promoting inter-organizational knowledge sharing. This research recommends that monetary incentives, reward, and recognition have an influences inter-organizational knowledge sharing activities. Moreover, incentives and reward should be proportional to value of knowledge and amount of effort required to share the knowledge across the organizations.

Fourth, absorptive capacity or the practice to gain, assimilate and utilization of inter-organizational knowledge sharing less implemented among the organization in Addis Ababa. There for, we recommend the city Administration if pay attention and give chances for absorptive capacity among the organization for knowledge utilizations.

Fifth, Addis Ababa government organization has no common social networking for inter-organizational knowledge sharing. Therefore, it is good to create IOKS medium using Google group, knowledge portal, or blogs for common knowledge sharing.

Finally, in Addis Ababa city administrations some organizations have large amount of budget for on the job training and some did not have any budget for on job training. Therefore, we can recommend if organizations can shared the budget among the sector bureau and training will be conducted by using e-learning, e-training, and video conferencing facilities. Thus, it aids the organization to reduce its training cost and improve the quality of training by incorporating new online training modules from national and international trainers.

6.4 Future research directions

The study would like to recommend the following research directions for future.

- These study findings are based on a sample size of 186 questionnaires and twelve interview respondents using SPSS and Nvivo software to generate valid results. Future research's should replicate the study findings with a larger sample and different analytical tool, will allow to add more statistical power on the findings.
- Until now there is few studies done in Addis Ababa especially on public health sector. Therefore, this study suggested that cross- organizational studies should be carried out in the future in different sector bureau for comparison purposes.
- Future study carried out on inter-organizational knowledge sharing challenges and opportunities among the public sector in Addis Ababa City Administration.
- Furthermore, future study carried out on developing effective inter-organizational knowledge sharing system among the public sectors in Addis Ababa.

6.5 Limitation of the study

- There is no enough inter-organizational knowledge sharing reference in our country, most of the references and articles foreign articles.
- The researcher conducted interview in Amharic language because most people understand easily and express their verbal expression freely. Furthermore Amharic language is the working language in the office. The researcher translated the Amharic interview discussion into English language. The researcher acknowledges that there might be some bias in the translation.

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Annexes:**Appendix I Interview questions****A. Knowledge sharing Activities**

1. Can you please list how your organization acquire or get external knowledge from other sector bureaus in Addis Ababa? What is your suggestion or comment?
2. Can you please list the major communication channel that your organization most frequently used among the sector bureau for knowledge/information sharing?
3. Do you participate in external training, workshops, Seminar, exhibition arranged by other organizations? A, yes B, No
4. If your answer for question number 3 is yes, what is the expectation of your supervisor or manager to come up with?
5. Can you please list the major factors that influence inters organizational knowledge sharing?
6. Do you please believe that inter organizational KS important for the organ? If yes how?

B. Motivation (Inter-organizational KS need)

1. What motivate your organizations need external knowledge?
2. Can you describe please your organization Perception on the Importance of Knowledge area Variable toward the Inter-Organizational Knowledge Sharing?
3. Can you describe please the effectiveness of inter organizational knowledge sharing? Your suggestion or comment to improve the effectiveness of IOKS.

C. Contextual factors.

1. Can you please explain how your organization's belief about the consistency of its partner's actions influences the intention to share knowledge?
2. Can you please explain how lack of alternative to be substituted with a co-worker that can influence on your organization's intention to share knowledge with that colleague?
3. In your organization do you think that having similar organizational culture with other sector in Addis Ababa that has any effect on level of trust in that partner?

4. Can you please explain your organization put more trust and reliance on its partner with similar values and beliefs?
5. Could you please explain that how frequent and long term relationship with another sector bureau on the intention to share knowledge with that organizations?
6. Can your organization have important social network in other sector bureaus in A.A.? Please list them? How they use it?

Follow up questions

- Is your organization involved in knowledge sharing with other sector bureaus? How?
- Could you please explain more about the factors that are important in your organization in relation to intention to share knowledge with other sector bureaus?

Organizational factors

1. Can you explain please how your organization uses the current technologies to communicate or exchange knowledge among the other sectors? If yes. Please list them.
2. Can you explain please your organization has any clearly stated Km/KS/IOKS related document or guideline for knowledge sharing among AASB? If yes please describe/list them? Any suggestion or comment in this regards?
3. Can you describe please your organizational experience in usage, access and availability of existing ICT tools to share knowledge among AASB?
4. Is your organization is geographical suitable for inter-organization knowledge sharing among other sector bureaus in AA? If no, what is your suggestion?
5. Do you think that your organization have organizational policy that support IOKS among the organizations? If yes, how?
6. Does your organization promote knowledge sharing and transfer particularly tacit and explicit knowledge across the organization? If yes please list some of the culture that good to share knowledge?
7. Could you explain please sharing knowledge among the organization and across the organization recognized and rewarded?
8. Could you explain please manager encourage trust, cooperation and collaboration between team, organizational team and inter-organizational teams? How?

9. Can you please explain/list your organization has a comprehensive methodology that address learning from experience? If yes, How? Your suggestion for improvement.

10. Can you explain please how rewards and recognition systems that would motivate people to share more of their knowledge?

Appendix II. Interview respondents

Sector Name	Age of sector	Interviewee Name	Position of interviewee	Date of interview
MSME Bureau	12	Tilahun Tufa	Team leader	17/03/15
Capacity Building Bureau	12	Haile Tarekegn & Solomon Assefa	Team leader	19/03/15
Management institute	20	Gashaw Shibabaw	V/Director	14/03/15
AAICTDA	6	Tewodros Nigusse	Senior expert	24/03/15
Land Dev't & Mgmt. bureau	20	Temesgen w/yohanis and Tarekegn Yenew	Senior expert Database Adm.	20/03/15
Trade bureau	20	Kedir Ketema	Team leader	23/03/15
Communication bureau	20	Mohammed Sultan & Biruk Menbere	Team leader	16/03/15
Education bureau	37	Yeneget Belete	Team leader	6/04//15
Civil acts Registration	70	Abera Desta	Team leader	14/04/15

Appendix.III. Self Administered Questionnaires

Dear respondent:

Title: **INVESTIGATION OF INTER-ORGANIZATIONAL KNOWLEDGE
SHARING THE CASE OF Addis Ababa CITY ADMINISTRATION SECTOR
BUREAUS**

This study is being conducted as partial fulfillment of Masters of Science in Information Science in Addis Ababa University. It aims to investigate the status of inter-organizational knowledge sharing practice among the sector bureaus in Addis Ababa City Administration. The study is intended to assess the current practices and challenges in knowledge acquisition, representation, sharing and, application among the sector bureaus of Addis Ababa. The data will be use to develop Theoretical framework of the factors that influences IOKS among the Addis Ababa public organization.

I respectfully request your cooperation in completing this questionnaire for the aforementioned purpose. I will assure you that, unprocessed data will not be disclosed to any third part.

I thank you in advance for aviating sacrifice from your precious time to complete these questionnaires.

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Addis Ababa University

School of Information Science

Postgraduate program

Part 1: Participant Demographics: Please circle your response to each of the questions.

1. Your gender?			
1. Male		2. Female	
2. Your age group?			
1. Less than 21 years	2. 21-30 years	3. 31-40 years	4. 41-50 years
5. Above 50			
3. Educational Status?			
1. Diploma	2. Bachelors	3. Masters	4. Doctorate
4. Position in organization?			
1. IT Assistant	2. Officer	3. Senior officer/expert	4. Team leader/dep't Head/case team leader
5. G/Manager	6. CEO		
5. Your experience in an Government organizations (the current or prior)			
1. Less than 3 Years	2. 3 -10 Years	3. 11-15 Years	4. Greater than 15 Years
Organization Demographics			
6. Approximately, what year did your organization begin?			
7. Approximately what is the size of your organization?			
1. less than 10 person	2. 11-50 person	3. 51-100	4. 101-300 5. > 300
8. What is your organization type?			
1. service organization	2. educational institution	3. infrastructure & development provider	

13. There is a practice to share important knowledge obtained from workshops, seminars and panels discussion to other sector bureaus staffs(IOKS3)						
14. Our organization invests in IT systems that facilitate knowledge sharing across the organizations (IOKS4)						
15. Our organization offers incentives to encourage inter-organizational knowledge sharing(IOKS5)						
16. Our organization offers a variety of on the job training across the organization(IOKS6)						
17. Our organization always shares knowledge across the different sector bureau through E-mail(IOKS7)						
18. Our organization always shares knowledge to other sector bureau through documents exchanges (IOKS8)						
19. Our organization always shares knowledge to other sector bureau through regular inter-sector meeting(IOKS9)						
20. There is a practice of experience sharing among the organizations in AASB(IOKS10)						
21. Our organizations used video conferencing service for inter-sector knowledge sharing(IOKS11)						
22. Our organization used Fax Automation Systems to share knowledge among the organizations.(IOKS12)						
23. Our organization always shares knowledge with other sector bureau through Face to face. .(IOKS13)						
24. Our organization always shares knowledge with other sector bureau through Telephone (IOKS14)						

Part 4: Organizational factors (OF)

Key: 1=Very Disagree 2=Disagree 3=Neutral 4=Agree 5=Very Agree					
1. Intention to Learn toward IOKS(ITL)					
25. Our organization is motivated to gain new knowledge and information aiming to enhance IOKS activities.					
26. We shared our work reports and official documents with other organizational members more frequently in the future.					
27. Knowledge sharing among the sectors would help organization not to repeat the same mistake as happened to before.					
28. If our sector shares knowledge across Addis Ababa sector bureau other sector bureau will believe that they are very concerned about their welfare.					
29. Knowledge expertise will share their know how across the sector bureau to increase organizational knowledge.					
30. Sharing our manual, methodologies, and modules across the organizations enhance IOKS activities.					
2. Organizational Policy and strategy toward IOKS(P)					
31. Our organizations have a written knowledge sharing policy which helps always to share knowledge across the organizations.					
32. In our organization there is an integration of knowledge sharing policy with the staff management Systems for IOKS across the organizations.					
33. Knowledge sharing policy is positively communicated to all staff in the organization and across the organization in AASB to support IOKS.					
34. Our organization policy and strategy support inter-sector knowledge sharing.					
3. Geographical proximity toward IOKS(GP)					
35. Our organization share knowledge and communicated mostly with nearer organization.					
36. Our organization share knowledge and communicated mostly with far distance from our					

k.	Enterprise Resource Planning (ERP)						
l.	Knowledge search engines						
m.	Knowledge databases						
A. Cultural proximity and shared value toward IOKS (CPSV)							
44.	Our organizations enjoy more on learning experience that come from working with people of different organizations with different backgrounds.						
45.	The culture of our organization promotes the sharing and transfer of knowledge, particularly tacit (implicit) knowledge, amongst personnel & across the organizations.						
46.	Our organization work well with other organizations from different cultures in AASB.						
B. Tie strength toward IOKS(TS)							
47.	Good inter-sector prior experience, relation and communication will positively influence						
48.	The Members closeness across the organization is positively influence IOKS						
49.	Good inter-relationship across the sector positively supports IOKS and finding innovative						
C. Independency toward IOKS (IND)							
50.	Interaction and collaborations including power sharing will positively influence the intention to share knowledge towards IOKS.						
51.	Our organizations understand interdependency will reduce risk of opportunities and influences IOKS positively						
52.	Our organization distributes power and cooperative work among the employees within and across the organizations.						
D. Trust (T)							
53.	Our organization trusted to work with other organizations to enhance intention to share knowledge.						
54.	Strong tie and prior experience among organizations increase IOKS in Addis Ababa.						

55. Email communication help establishing trust among organizations has positive influence on the knowledge sharing.						
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Part 7: Motivation for Knowledge inter organizational sharing (MFIOKS)						
56. Knowledge sharing can be encouraged if it is clearly linked with rewards.						
57. Knowledge sharing can be encouraged if it is clearly linked with incentive system						
58. Our organizational structures motivate organization to share knowledge						
59. Inter-sector work flow across the organizations motivate organization to share knowledge						
60. Inter-sector meeting motivate organization to share knowledge.						
Benefits of inter-organizational knowledge sharing						
61. Sharing knowledge with co-workers across the organizations improves the likelihood of getting a better work assignment or promotion for organizational members.						
62. Sharing knowledge with co-workers across the organizations will improve effective common resource utilization across the organizations.						
63. Sharing knowledge across the organizations will improve capability and skill of organizational co-workers.						
Nature of Knowledge						
64. There is tacit Knowledge sharing among the organization in Addis Ababa sector bureaus						
65. There is Explicit Knowledge sharing among the organization in Addis Ababa sector bureaus						

Appendix IV: Coding sample

7. Can you please believe that inter organizational KS important for the organ? If yes how? Yes

“... Knowing something in today’s world is related to having a coin for it. That means if you know you solve the problem else you pay for the problem. For example, if you know how to maintain a Nokia mobile, you can maintain your mobile when it failures. If you do not know how to maintain your mobile, you pay for maintenance. Similar to **this having and sharing IOKS will important in risk minimization across the organization. if you work together across the organization the chance of risk I think will be minimum. Because professional from multi sector make discuss and agreed on certain point before decision.** It is better than single organization. Besides, there is knowledge sharing among the participating organization members in which **the less junior professional learn from the senior professional.** For example. In our sector there is 65 School net projects currently running. The project manager and coordinators are AAICTDA, because AAICTDA are more professional around IT technology, we work together, discussion and meeting weekly. We learn from the project during weekly meeting and discussion. For example I did not know the function of VLAN II configuration parallel to VLAN I before. So, such knowledge obtained during the meeting.....” *Any large or small project consists of team work .The project team are from different sector bureau with the same or different department. The team members discussed, learn from each other, share experience, and debate on ideas that are not clear*

Appendix V. Matrix coding

The screenshot shows the NVivo software interface with a matrix coding query result table. The table displays the relationship between various nodes and their associated factors.

	A : organizational factors	B : contextual	C : Nature of knowledge	D : geographical proximity
1 : organizational factors	110	74	4	0
2 : contextual	74	108	4	0
3 : Nature of knowledge	4	4	7	0
4 : geographical proximity	0	0	0	7
5 : ICT support	2	1	0	0
6 : Individual factors	6	5	0	0
7 : Task Characterist	2	2	0	0

Appendix VI Reliability analysis

<u>Research constructs</u>	<u>Number of items</u>	<u>Cronbach's Alpha</u>
Inter organizational knowledge sharing motivations factors	6	0.819
Nature of Knowledge	2	0.712
Contextual Factors		
Trust	3	0.760
Independency	3	0.730
Tie strength	4	0.712
Cultural proximity & shared value	4	0.829
Organizational Factors		
Absorptive capacity	3	0.713
Geographical proximity	2	0.726
Intention to Learn toward IOKS(ITL)	5	0.883
Policy	4	0.885
Usage of Tools and Technologies for IOKS	13	0.905
ICT Support (ITS)	3	0.841
Inter organization Knowledge sharing practice	14	0.839
Importance of IOKS	3	0.810
Attitude toward IO knowledge sharing	5	0.814
IO Knowledge sharing awareness	4	0.703

Appendix VII

1. E-office survey for Addis Ababa city Administration by Korean (2012).
2. Addis Ababa city Administration 2014 yearly Booklet.
3. Addis Ababa city Administration civil service booklet (2014)