



Influences of Decentralization on Knowledge Sharing in Tanzanian Local Government Agencies: A Social Perspective

Louise Maria Huisman (S1560344/B0929295)

University of Groningen and Newcastle University

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Supervisors:

Dr. Bartjan W. Pennink

(University of Groningen)

Dr. J.K Rodriguez

(Newcastle University)

Prof. Dr. T.A. Satta

(Institute of Financial Management)

L i e k e H u i s m a n , S h r e e r i j T o w e r , M w i s h o S t r e e t 1 2 E D a r - e s - S a l a a m , T a n z a n i a

Abstract

The aim of this thesis is to explore the relationship between organizational structure and knowledge sharing. It investigates the knowledge sharing process within the government of Tanzania to see if its structure influences this process. This dissertation is based on the expectation that differences in success and satisfaction of knowledge sharing can be based on organizational structure. The concept of social interaction seems to have an enormous influence on this relationship and has therefore also been tested. Hypotheses have been derived from the literature and a conceptual model has been built to test if a positive or negative casual relationship exists between the concepts organizational structure, social interaction and knowledge sharing. Regression analyses have been used to test if knowledge sharing could be explained by the other two concepts. The empirical data shows a positive correlation between the indicators trust and communication and the satisfaction of knowledge sharing. Besides, a negative correlation is found between the indicator dependency and the success of knowledge sharing. The regression results did not show the expected mediating role of social interaction and results turned out to be insignificant. However, the regression analysis did find that social interaction variables explain 28,7% of the level of knowledge sharing in Tanzanian government.

Key words: knowledge sharing process, organizational structure, social interaction, decentralization, Tanzania, local government agencies

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Lieke Huisman,

Dar-es-Salaam, December 1th, 2011

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Introduction

As a university student, I experienced the importance of 'knowledge'. The possibility to gain access to new knowledge helped me to develop myself, and lead to substantial progress and better understanding of issues. Discussions with fellow classmates and sharing the knowledge we all gained contributed even more to this development process. As later discussed in the literature review, knowledge is a key factor for development and it is interesting to investigate how this concept is addressed in organizations, because knowledge sharing is not only important for students but also for organizations. Recently, there has been an increasing interest in knowledge sharing in the academic research field (Ondari-Okemwa & Gretchen Smith, 2009; Huang & Li, 2009; Lin, Lee & Wang, 2009; World Bank, 2011). The increasingly fast changing and competitive environment recognizes knowledge as the most important strategic resource of an organization. Knowledge sharing fosters innovation by encouraging the free flow of ideas and moreover a better knowledge sharing process will lead to more sustainable innovations that will give an organization a major advantage (Szulanski, 1996). Knowledge is a fundamental asset in an organization in third world countries in order to continue developing and to maintain advantages that should facilitate further development (Burns & Paton, 2005; Ondari-Okemwa & Gretchen Smith, 2009). In a governmental organization efficient knowledge sharing can lead to increase service delivery and improve decision-making. Besides, this knowledge sharing process creates a positive social environment of trust and collaboration that create long-term benefits for an organization (Germain, 1996; Widén-Wulff & Ginman, 2004; Tsai, 2002).

Knowledge sharing does not necessarily always take place efficiently or effectively in today's organizations. Questions have been raised about the reasons behind this lack of efficient and effective knowledge sharing within organizations and numerous scholars have attempted to point this out (Gupta & Govindarajan, 2000; Bhagat, et al., 2002; Szulanski, 1996). A number of these studies claimed that the organizational structure seems to play a key role in shaping the essential knowledge sharing process within organizations. Creating a knowledge-sharing environment in organizations requires insight into how the organizational structure influences and shapes the cooperative atmosphere (Willem & Buelens, 2009). To understand any organizational structure, Lawrence & Lorsch (1969) defined three coordination dimensions namely, centralization, formalization and specialization. In previous research the dimension of specialization is often replaced by the dimension of integration and can be used within same context (Germain, 1996; Chen & Huang, 2007), which will be explained in further detail later on. As Chen & Huang (2007) assert knowledge

sharing is not influenced by the organizational structure directly, instead social interaction can be seen as a mediator between organizational structure and knowledge management, where knowledge sharing is part of. Organizational structure affects the social network of relationships within that organization and subsequently influences the knowledge sharing process.

Tanzania is compared to most countries in sub-Saharan Africa, is still far behind in terms of its knowledge management development (Ondari-Okemwa & Gretchen Smith, 2009). This is unfortunate, as knowledge sharing fosters better development (Burns & Paton, 2005). Ever since Tanzania gained her independence in 1961, the country has gone through a range of structural reorganization processes including decentralization, which relocated power, resources and responsibility to local governments (Brosio, 2000). In theory decentralization, should have reorganized Tanzanian governance into a decentralized, less formal and integrated structure, which should have led to improved knowledge sharing. However, as the World Bank reported in 2001, the Tanzanian organizations did not make any progress in sharing knowledge more effectively. This makes Tanzania an interesting case to examine the knowledge sharing process.

The purpose of this dissertation is to investigate the effects of the restructuring processes of Tanzanian government, on their ability to share knowledge. Hereby expand the understanding of how (structural) decentralization reforms in Tanzania influences the social interaction between Central Government (CG) and Local Government Agencies (LGAs) which subsequently affects the knowledge sharing between them. Part of the research is therefore to identify the process of decentralization in Tanzania. In particular this study aims, to analyze the influence of the organizational structure on knowledge sharing. To attain the objectives, the main research question is as follows:

“ Does the organizational structure of Local Government Agencies (LGAs) in Tanzania, facilitated by social interaction, influences the knowledge sharing between LGA and Central Government (CG) in Tanzania? ”

The research will take a deductive approach. Deductive reasoning is a rational traditional approach; the hypothesis is deduced from the theory and then tested, which indicates that a research is guided by a close research question. To answer the research question, a quantitative empirical study has been chosen because quantitative research will measure the mediating effect most precisely. Researchers have not explicitly researched whether organizational structures influence knowledge-sharing process in a developing country and governmental organization. Therefore, it is necessary to start this research broadly and narrow it down to specific context. Thus, a broad concept will be used and tested in the research to see whether structural

issues influence the knowledge sharing process. The focus within this will be on structural reform in Tanzanian most important business city, Dar-es-Salaam. This is an interesting case, because since 1993 major local government system restructuring is taking place ([URT, February- March 2007a](#)).

This dissertation wants to add to both the business administration and to public administration research field, a more in depth analysis of the relationship between organizational structure choices and their influence on knowledge sharing by looking to the social interaction perspective. The particular role of knowledge sharing in the public sector has not been adequately investigated. Exploration of its potential role provides better understanding of how to leverage it to achieve desirable development goals. The relationship between decentralization and knowledge sharing has yet to be examined, which makes this study innovative and exploratory. In addition, all current models and theories are supported by data of organization in the developed countries but not from developing countries. Another group that might be interested in knowledge about this topic are governmental managers and leaders. Better understanding about the relationship between organizational structure of public organizations and knowledge sharing, will help managers/leaders to create a more effective knowledge sharing process in the organization. This can lead to increase service delivery and improve decision-making. Before starting to analyze the data, I expect that the organizational structure of Tanzanian LGAs have influence on knowledge sharing. When in this study there is found a positive causal relationship between the two concepts, this dissertation confirms the influence of organizational structure on knowledge sharing within Tanzanian government organizations.

Dissertation outline

The dissertation is divided into four sections. First, there will be offered in chapter 1 a critical review of academic literature. Part one will cover the relevant prior literature of knowledge sharing. The classical organization structure dimensions are explained and the social interaction concept is clarified. Part two focuses on the decentralization reforms of African and Tanzanian government; in other words, the situation concerning the organizational structure specifically in Tanzania will be addressed. Based on prior literature, in the following chapter 2 the hypotheses and conceptual model will be presented. Definitions of the core concepts will be given when necessary. Second, chapter 3 will describe the planned and applied methodology and will portray research design, data handling, limitations and access issues. Third, the quantitative analyses and results will be outlined in chapter 4. The last section will consist of a discussion, chapter 5 and conclusion. Followed by general remarks on further research.

Chapter 1: Literature Study

This section gives a more extensive review of literature about the topics covered in this study. Part 1 will briefly examine the concept of knowledge sharing. While this last topic is extremely broad and already received a lot of attention, only the aspects relevant to this particular study will be elaborated upon. Next, Part 2 will elaborate on the African, in particular Tanzanian, government structure. See Appendix I for a clear distinction of used literature.

Part 1: Knowledge Sharing: A Literature Review

Theoretical framework

1.1. Knowledge

Before going into depth about the concept of *knowledge sharing*, it is important to know what exactly is seen as knowledge. Therefore, it is necessary to distinguish data, information and knowledge. In the literature there is a broad distinction between data, information, and knowledge. Data is described as “a set of discrete, objective facts about events”, information is seen as “data that makes a difference” and knowledge is given the following definition: “a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knower’s” (Davenport & Prusak, 1998, pp. 2-5). Noorderhaven & Harzing (2009, pp. 721) expand this with “in organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms”. Nonaka (1991) articulates the difference between information and knowledge as such: information is a flow of messages, while knowledge is created and organized by the stream of information, based the commitment and beliefs of its holder. However, both these definitions pay less attention to the types of knowledge for example the coexistence of explicit and codified, and tacit and uncoded. When looking into the knowledge literature again Nonaka (1994) is most often highlighted for setting a classification to describe the types of knowledge. Tacit knowledge has a personal quality, which makes it hard to formalize and communicate; it is deeply rooted in action, commitment, and involvement in a specific context. Explicit knowledge refers to knowledge that is transmittable in formal, systematic language. This classification has been criticized for not being extensive enough (Gourlay, 2006). The scope of this study does not allow making a distinction between the different types of knowledge; therefore the broad definition of Davenport & Prusak (1998) can be used. This will not have any major effect on the quantitative study results.

1.1.1 Importance knowledge

Generally speaking, in the business literature, knowledge is one of the most important strategic resources of firms, which should be carefully managed. Knowledge can be seen as intangible assets which are unique, path depend, causally ambiguous, and hard to imitate or substitute. These characteristics make knowledge a potential source of competitive advantage (Szulanski, 1996; Sharratt & Usoro, 2003; Burns & Paton, 2005; Noorderhaven & Harzing, 2009). Moreover, knowledge is required for more effective and efficient decision-making (Du Plessis, 2005). This is why knowledge sharing is an important issue and will contribute to the overall performance of an organization (Argote & Ingram, 2000). Within this context of the management of 'knowledge' the focus of this dissertation will be on *knowledge sharing*. According to Yang & Chen (2007), knowledge sharing plays an increasingly significant role in determining the outcomes of efficient and effective knowledge management.

1.2. Knowledge sharing in an organization

In prior literature there are different definitions, terms and titles to classify the knowledge sharing process. Knowledge sharing is also called knowledge transfer or knowledge diffusion, and defines as a process of transferring knowledge from one person to another, from individuals to groups or groups to other groups (Nonaka, 1994; Davenport & Prusak, 1998; McAdam and Reid, 2000; Chen & Huang, 2007; Ondari-Okemwa & Gretchen Smith, 2009). Knowledge sharing can also be defined as "the process through which one unit is affected by the experience of others" (Argote & Ingram, 2000, pp. 151). This view on knowledge sharing is more than simply acquiring or transmitting knowledge from one party to another but is a process of exchanging and processing knowledge in a way that knowledge of one unit can be integrated and used in another unit (Willem, et al., 2006).

1.2.1. Knowledge sharing in public sector

Although knowledge sharing has been widely discussed within (multinational) firms (Gupta & Govindarajan, 1991; Szulanski, 1996; Noorderhaven & Harzing, 2009), knowledge sharing as an academic research topic has not widely entered the public sector literature, with exception of some studies in certain public services such as health care (Bate & Robert, 2002) and in defining the knowledge sharing process (McAdams & Reid, 2000) and their relation to structure (Riege & Lindsay, 2006). This is surprising in my opinion, knowing that public sector organizations often have as their main activity developing and providing knowledge and while the public sector can be classified as knowledge-intensive organizations. However, there is an increasing emphasis on the importance of knowledge sharing in the public sector, for instance Kim & Lee's (2006) study shows in order for a public organization to act effective and perform well, knowledge sharing is required. Also, Wiigs (2002) made a comprehensive study on knowledge management

in public administration and investigated the important role knowledge management, where knowledge sharing is part of, could play to enhance decision-making and build competitive societal intellectual capital capabilities in public organizations. In developing countries 'knowledge sharing' in public organizations is barely researched with exception from study of [Yao, Tam & Chan \(2007\)](#) that researched knowledge management in Asian public administrations, although the focus was on the developed city of Hong Kong. Besides, there are several studies of the [World Bank \(2001, 2011\)](#) that indicate, on the basis of several criteria, that Tanzanian environment does not facilitate knowledge sharing.

1.2.2. Factors influencing knowledge sharing

Previous mentioned studies showed that traditional bureaucratic hierarchical structure influence the implementation of effective knowledge sharing processes in organizations. [Syad-Ikhsan & Rowland, \(2004\)](#) emphasize this with their study by finding results that hierarchical levels in organizations will discourage knowledge sharing. Knowledge in hierarchical organizations frequently becomes "sticky," that is, residing in one area and not easily moved to other parts of the organization. 'Knowledge is power', 'what's in it for me', and 'not invented here' syndrome are typical mind-sets of the manager and staff in such a hierarchical organizations ([Nonaka, 1994](#); [Szulanski, 1996](#); [Bartlett & Ghoshal, 1998](#)). Besides, the present of a hierarchical structure in an organization, other scholars appointed more factors that influencing the knowledge sharing process. The commonly referenced model of [Lin, et al. \(2009\)](#) listed corporate culture, employee motivations, leadership and information technology as the four factors that influence the knowledge sharing process within an organizations according to [Kim & Lee \(2006\)](#) either simply refers as organizational culture, organizational structure and information technology. The factors consist of several variables such as vision and goals, trust, social networks, it-applications or centralization. The knowledge sharing effectiveness and efficiency, in these studies, is mostly measured by the level of satisfaction, success, time spent or intensity ([Willem, et al., 2006](#); [Willem & Buelens, 2007](#)).

1.2.3. Mediation Effect

Prior literature show, knowledge management plays a mediating role between organizational structure, organizational culture and organizational strategy and several outcomes in organizations. Thereby you can think of the following outcomes: organizational effectiveness ([Zheng, et al., 2010](#)), innovation ([Huang & Li, 2009](#)), better connecting different units ([Willem, et al., 2006](#)), value creation ([Tsai & Ghoshal, 1998](#)), and service delivery ([Ondari-Okemwa & Gretchen Smith, 2009](#)). Nevertheless, it is too simple to describe that organizational structure directly influences the knowledge management or sharing in an organization. Aforementioned studies would have been much more useful if the authors considered the influence of social interaction. From my point of view, organizational structure works social interaction at

hand, which facilitates the sharing of knowledge. [Chen & Huang \(2007\)](#) found in their study strong support that social interaction mediates/facilitate the effect of organizational structure and culture on knowledge management. Therefore, the focus of this research will be on the two most important impediments for knowledge sharing, namely organizational structure and social interaction.

1.3. The organizational structure context

Within the body of knowledge sharing literature as said, increasing attention has being paid to the role of organization structure on knowledge sharing. [Mintzberg \(1979, pp.2\)](#) notes, “organizational structure can be defined as the sum total of the ways in which it divides labor into distinct tasks and then achieves coordination among them”. [O'Dell & Grayson \(1998\)](#) suggest that organizations have to be aware of the effect of their organizational structure on knowledge sharing. The focus should be to create organizational structures that stimulate efficient coordination within an organization, which can encourage better knowledge sharing. Besides, the structure of an organization is frequently mentioned as the solution to create effective (intra-organizational) knowledge sharing processes ([Goh, 2002; Yang & Chen, 2007](#)).

1.3.1. Coordination

One facilitator of knowledge sharing between departments or hierarchical levels is the coordination that exists between them ([Grant, 1996](#)). Prior research have revealed that coordination mechanism provide cooperation that stimulate knowledge exchange. Coordination mechanisms facilitate interaction, and the exchange of resources, such as knowledge ([Huang & Li, 2009](#)). Note that coordination mechanisms are different from collaboration between LGA and CG because the former is facilitated by the latter; in other words, collaboration between LGA and CG can be made possible by coordination mechanisms. Formal hierarchical structure is one way to coordinate different units in organizations; for the purpose of this paper this notion is most accurate.

Analysis of hierarchical structure as a coordination mechanism has played an important role in organizational research ([Tsai, 2002](#)). In previous studies the three classical organizations structure dimensions are commonly used to describe the formal hierarchical structure of organizations ([Lawrence & Lorsch, 1969; Mintzberg 1979](#)). The first and most influential one is *centralization* refers to the focus of decision-making authority lying in the higher levels of a hierarchical relationship. Secondly, *formalization* refers to the extent to which employee behavior is guided by rules and procedures (standardization). [Kim & Lee \(2006\)](#) defined formalization as the degree to which organizational activities are manifest in written documents regarding procedures, job descriptions, regulations, and policy manuals. The final dimension is *specialization* refers to the extent to which the organizational tasks are divided into subtasks ([Mintzberg, 1979](#)). In similar studies instead of specialization the opposite determinant integration has been used.

Integration refers to the extent various units in the organizations work interrelated (Germain, 1996). Despite there is some empirical evidence that shows that these dimensions are not independent enough and that centralization representing them all (Tsai, 2002). According to an earlier study of Ghosal, et al. (1994) centralization as one represents a somewhat partial but untrue operationalization of the whole structure domain, therefore cannot individually represent a total concept which indicate that the three dimensions has to be measured separately.

1.4. The social interaction context within government organizations

The aim of this subsection is not to provide an overview of the vast and rapidly expanding literature on the dimensions (trust, communication, and dependency) which stimulate social interaction, but rather to discuss briefly aspects of social interaction concept that may be assumed to have implications for our view on knowledge sharing within governments. Although, the knowledge-sharing concept (highlighted above) sounds straightforward, the sharing of knowledge inside organizations is more complex in real life. Knowledge is at all times shared in social communities and cannot be completely understood without these social relationships (Kalling & Styhre, 2003). Prior studies have recognized the importance of social interaction for enabling knowledge sharing behavior among individuals, these social connections are important because they are channels through which knowledge can be shared (Willem & Buelens, 2009; Widen- Wulff et al., 2004; Hoegl et al., 2003; Janz et al., 1997). According to Chen & Huang (2007), the establishment of social networks is necessary for organizational members to foster knowledge sharing. Social interaction can be described by the informal lateral relations, which are important to coordinate knowledge sharing within an organization (Tsai, 2002). *Trust* can be seen as an informal lateral indicator. Seppanena, et al. (2007) reviewed empirical researches on intra-organizational trust. The most important dimensions to describe trust are mentioned in that article such as judgment, dependability, faith, fairness, and reliability. Although, we are aware that trust is still a rather complex phenomenon and there have not yet been a coherent agreement on the concept, prior research developed a valid measurement. Besides, it is not necessary for this study to operationalize it in detail because it is only important to know if there is trust in the organization, not how it is created. *Communication* can be seen as another relevant indicator; defined as the imparting or interchange of news, information or knowledge between individuals or groups.

One major drawback of previous studies is that *dependency* is not mentioned and tested as a social interaction indicator. However, I expect this indicator to have major influences on social relations within a governmental organization. As Bhagat, Kedia Haverston and Traindis (2002) mention, (inter-) dependence fosters and creates shared mental models in an organization, therefore influences the social interaction between individuals. Further, in particular for governmental organizations, dependency is an important

indicator. In such organizations employees from different units, due to the many hierarchical levels, are strongly interrelated with each other (Kostova & Roth, 2002). These results show that dependency is an element that influences social interactions within an organization. Many papers are written about dependency but with the same reasons as for trust and communication, it does not fit within the scope of this research and is not necessary to go into more detail about these concepts.

To summarize, Part 1 made clear that the organizational structure affects the social interactions between people in an organization, which has major influence on the sharing of knowledge within that organization. To fully understand these impediments of knowledge sharing in Tanzanian governmental organizations, in the next part the organizational structure in Tanzanian government will be discussed.

Part 2: African context

As previous Part 1 pointed out, the focus will be on the influence of organizational structure on the sharing of knowledge. It is interesting to see how *knowledge sharing* evolves in a country that is still in a process of major structural changes. Besides, investigate if social interaction has the same facilitation role on knowledge sharing in the public sector as in the private sector. As already explained in Chapter 1 knowledge sharing is important because knowledge plays a central role of making the public sector more effectively by creating efficient decision-making and intellectual capital. Social connections are necessary to taken into account because they are the channels through which knowledge can be shared. Due to specific imbedded factors in Tanzanian organizations these relationships can be different then found in earlier knowledge sharing studies, mostly conducted in the developed world.

The structure and social connections in Tanzanian governmental organization can be best explained by discussing the concept of decentralization. First the general concept of decentralization in African countries will be briefly outlined, especially what the advantages and the disadvantages are? Second, prior research emphasized the importance of being aware of the specific context of governance in different African countries (Smoke, 2003; Awortwi, 2010). Therefore, the last paragraphs will focus on the specific public management reforms in Tanzania, especially Dar-es-Salaam.

1.5. Organizational structure in African governments

1.5.1 Decentralization

Since the middle of the 1980s most African countries have started a transfer of power, resources and responsibilities to their sub-national governments, known as decentralization (Brocio, 2000; Oyugi,

2000). The theoretical rationale for undertaking decentralization is that “the transfer of some central government authority, resources, responsibilities, and accountabilities to sub-national local governments - empowers Local government agencies to undertake more effective self-governance and development appropriate to local conditions ” (Awortwi, 2010, pp. 621). This in order to face the main development challenges which are poverty, corruption, resources scarcity, urbanization and the social collapse brought about by de-colonization and wars (Du Plessis, 2001). Decentralized governments are expected to be more flexible, responsive and efficient than centralized governments and therefore can deal better with development issues. It helps alleviate the bottlenecks in decision-making that are often caused by central government planning and control. Furthermore, it generates poverty reduction. United Nations Capital Development Fund (UNCDF) notes that the impact of decentralization on poverty can be accessed from a number of perspectives including: institutional development at the sub national level; capacity building and providing a voice to local groups; availability and efficient use of funds for investments and increased services (Hope & Chikulo, 2000; Van t' Veld & Ssewankambo, 2007; Tidemand, et al., 2008; World bank, 2011). However, research results showed that it is still questionable if decentralization creates better efficiency and lead to improvement of development. The big problem seems to be lack of proper coordination between different levels in the government (Hope & Chikulo 2000; Smoke, 2003; Awortwi, 2010). This can be explained in more detail after I described what decentralization actually means for government organizations.

1.5.2 Typologies of decentralization

A number of decentralization typologies are developed, for example Hope & Chikulo (2000), Turner & Hulme (1997), Tidemand, et al., (2008), Munga, et al., (2009) describe decentralization as a process that involves one or all of the following aspects: *deconcentration, delegation, devolution, and privatization*.¹ However, this simple four-term typology sometimes becomes blurred in practical application (Kessy & McCourt, 2010). The fundamental three dimensions used by Smoke (2003) and Awortwi (2010) describe better the process of decentralization because decentralization deals with the allocation between center and periphery of power, authority, and responsibility for *political, fiscal, and administrative systems* (Brinkerhoff & Johnson, 2009; World Bank, 2011). *Fiscal decentralization*, involves policies to increase the fiscal autonomy of LGAs concerning their taxes, revenues, expenditure and grants. Another form of decentralization is *administrative or institutional decentralization*. This is a set of policies creating or transferring local bureaucratic procedures and functions from the central government to local government

¹ *Deconcentration*: the shifting of workload from centrally located officials to staff or officials outside the national capita. *Delegation*: the transfers of management form the center to semiautonomous organizations and agencies within the public service structure. *Devolution*: the transfer of political and decision-making powers and authority for managing public services to independently elected local governments. *Privatization*: the transfer of management and financing functions to a private organization (Munga, et al., 2009).

agencies. In this set-up LGA are not independent but the employees are staffs of the CG and under the CG agency direction and control (Awortwi, 2010). The third dimension of decentralization is *political or democratic decentralization* referring to transfer of powers from CG politicians to elected LG politicians who are given autonomy to determine all their local processes of development (Smith, 1996). The dimensions highlight that a decentralization process creates a situation in which (social) interactions between employees of CG and LGAs are required in order for LGAs to do their job.

The lack of efficient coordination between LGAs and CG lead to the dismal performance of recent African decentralization efforts. The different dimensions of decentralization are implemented in an inadequate way. This can be illustrated with following example, without properly implement fiscal decentralization, political and institutional decentralization would have little impact, because “poorly articulated roles and resources can cripple LGAs and undermine incentive to perform effectively” (Hope & Chikulo, 2000, pp. 35). Also, Smoke (2003) found proof that when LGAs do not get the adequate power and resources they suppose to get, the effectiveness of LGA is in question. In cases like that, decentralization does not create the advantages, which are described in paragraph 1.5.1.

1.5.3 Recentralization

After reading the above paragraph about the decentralization problems, it does not surprise that nowadays there seems to be a recentralization trend in Africa, which means that instead of delegation to LGAs, tasks and decision-making are centralized again towards CG. Andrews & Schroeder (2003) found in 2003 evidence that most African countries at that time are far from decentralized. The research of Smoke (2003) even indicates that in Africa a number of countries have formally recentralized certain powers after taking significant actions to give LGAs substantially more resources and autonomy. Several scholars blame the weak allocation of resources and authority, which makes centralization of certain government responsibilities still necessary (Wunsch, 2001; Kessy & McCourt, 2010; Worldbank, 2011). According to Prud'homme (1995), the focus of the recent theoretical decentralization model is entirely on ‘demand efficiency’, which means making sure that local needs and preferences and local voices are heard, however it totally ignores ‘supply efficiency’ which means how to realize these needs and preferences. It is unclear which sort of coordination in an organizations is required to create better collaboration between hierarchical levels in order to satisfied local needs and preferences. Moreover, according to Awortwi's (2010) study recentralization will continue because of the inefficient sequences of fiscal, institutional and political decentralization chosen by African countries. Again these results show that the inefficient tasks and resources coordination between LGAs and CG, weakening the efficient working of the government. Before

continue to operationalize the influences of coordination in governmental organizations, I will briefly discuss the structural reforms in Tanzania.

1.6 Tanzania situation

Since Independence in 1961, Tanzania has always seen decentralization as an ideal approach to rural and urban development (Brocio, 2000). Through several re-organization initiatives the administrative structure improved, however actual participation by the rural and urban population was not realized. The decentralization was more *deconcentration than devolution* power through local level democratic organs (Ngwilizi, 2001). The Civil Service Reform Program (CSRP) is an important element in the wider process of structural adjustment in Tanzania, which started with the Economic Recovery Program (ERP) in the second half of the 1980s. Initially, LG was not part of the CSRP. In the government's policy framework papers Local Government (LG) was hardly mentioned at all. In a three year budget for the whole program, totaling roughly 26 million US\$, the LG component accounted for only 0.2 million US\$, budgeted mainly for technical assistance to undertake studies of the linkages between local government and the wider government system. However, Local Government Reform (LGR) in 1993 became a more emphasized issue and in 1997 had a total budget of US\$ 64 million (Braaten, et al., 2005). The LGR-program is trying to transform a bloated, centralized, and dysfunctional public bureaucracy into a decentralized, accountable, transparent, and efficient public service in Tanzania (World Bank, 2001). The program is a guide for future development of LGAs with six components see table 2.1.

Table 1.1 Six Components Local Government Reform Program in Tanzania (URT, 2004)

Governance	To establish broad based community awareness of the participation in the reform process and promote principles of democracy, transparency and accountability
Local Government Structuring	To enhance the effectiveness of LGAs in the delivery of quality services in a sustainable manner
Finance	To increase the resources availability to LGAs and improve the efficiency of their use
Human Resources Development	To improve the accountability and efficiency of human resource use at Local level
Institutional Legal Framework	To establish the enabling legislation which will

	support the effective implementation of LGR
Program Management	To support the effective and efficient management of the overall LGR

The Tanzanian decentralization process shows some failures involving: weak administrative and technical capacities (Pallangyo & Rees, 2010); poor financial management (Boex, 2003); over-employment, lack of transparency and accountability (URT, February- March 2007a) and a lack of autonomy linked to intrusive policies, extreme donor dependence, contradictory labor laws, and ambiguous organizational structures (Pallangyo & Rees, 2010). An overriding challenge in Tanzania has been how to translate the rather radical policies into law and reformed procedures and practices (Tidemand, et al., 2008). Therefore, the government in Tanzania still is in the process of decentralization, although the government already started years ago with the reform programs. Before we continue to present the hypotheses I should make clear where my research subject, local government agencies, stands for in Tanzania with the focus on the city Dar-es-Salaam.

1.6.1. The local government agencies

The purpose of having LGA is in the words of Article 146(1) of the Tanzanian Constitution “to transfer authority to the people”. LGAs have been given power to participate and to involve the people in the planning and implementation of development programs. Every LGA has an obligation:

1. To perform the functions of local government in its area
2. To ensure the enforcement of law and public safety of the people; and
3. To consolidate democracy within its area and to apply it to accelerate development of the people

“The Tanzanian local government reform is based on political devolution and decentralization of functions and finances within a unitary state. Local government agencies are holistic, i.e. multi-sectorial, government units with a legal status operating on the basis of specific and discretionary powers under the legal framework constituted by the national legislation. The elected local councils are not independent governments; they are required to operate within the national policy and legal framework while retaining their status as the highest political authorities within their areas of jurisdiction. The most powerful tools of councils are their annual budgets, work plans and the control exercised by the standing committees” (Mmari, 2005, pp. 24). This highlights that LGAs are still under the supervision of the CG in Tanzania, therefore efficient coordination between LGAs and CG is required.

1.6.2. Local government system of Dar-es-Salaam

In 1993 the process of restructuring of the local government system of the City of Dar-es-Salaam started. The three new created LGA are: Ilala, Temeke and Kinondoni (see appendix II). The three municipal councils together with citywide authority were officially established on 1st day of February 2001. The main purpose of these municipal councils is to deliver development and socio-economic services that will raise income per capita and empowerment of the population through use of locally available resources. The LGAs are divided in five sectors: health, water, road, education and agriculture. Some key facts are showed in table 2.2 (URT, February-March 2007a).

Table 1.2: Source: Dar-es-Salaam City Report 2004

Municipal Councils	Ilala	Kinondoni	Temeke
Projected Citizens in District 2007(most up-to- date)	783.687	1.337.875	948.498
Total Land Mass Area (Km2)	210	531	652
Budget 2004-2005 US\$	10.5 Million	12.4 Million	10.1 Million

1.6.3. Knowledge sharing indicators in Tanzanian organizations

Recent research showed that despite organizational culture, structure and information technology, there is another concept that has a significant impact on knowledge sharing in Tanzanian organizations, called 'Ubuntu'². This traditional embedded African phenomenon has significant influence on the willingness to share knowledge in Tanzanian organizations (Scholtens, 2010). Furthermore, social interaction indicators play a facilitating role in promoting knowledge sharing, because social values, such as compassion and solidarity (indicators of Ubuntu), playing an important role in Tanzanian organizations (Scholtens, 2010; Sigger, Polak and Pennink, 2008). Besides, Scholtens (2010) argued that the factor information technology on knowledge sharing is not relevant in Tanzania context, due to the fact that electricity net and internet connections are still not stable, which make it for Tanzanian organizations risky to make use of IT facilities. Therefore, besides the reasons already given in paragraph 1.2, the Tanzanian situation confirm as well that the factor information technology is irrelevant to measure and the focus should rather be on the other factors that influences knowledge sharing, namely organizational structure and social relationships. The

² Ubuntu directly translated into English, it can be defined as 'humanness' or 'humaneness' that individuals or groups display for each other (Sigger, Polak & Pennink, 2008; Scholtens, 2010).

influence of organizational culture is left out the research due to the scope of the research.

To summarize, the recent decentralization reforms in Tanzania creates a certain structure that affects the social interaction between (employees of) LGAs and CG. As explained, currently this structure does not seem to stimulate successful coordination and interactions in Tanzanian government, which create problems such as, lack of autonomy and lack of accountability. [Prud'homme \(1995, pp. 218\)](#) emphasized this “coordination” problem by saying that “the problem is not so much whether a certain service should be provide by a central, regional or local government, but rather how *to organize* the joint production of the service by the various levels”. This means process of decentralization might undermine efficiency if the coordination between the different hierarchical levels is not well established. In order to improve the efficiency the focus should be on creating a better coordination between levels, which should start with better sharing of knowledge. As [Wiig \(2002\)](#) pointed out in his study better knowledge sharing in public administration enhance more efficient decision-making between different governmental levels. However, on the other hand, as explained in part 1, organizational structure has influence on the successfulness and satisfaction of knowledge sharing. To investigate this bilateral relation in Tanzanian government in the next chapter the conceptual model and hypotheses will be presented.

Chapter 2: Conceptual model and hypotheses

The conceptual model showed in figure 3.1 gives an overview about the problem, which has been addressed in this thesis. The model can be explained as follows, the organizational structure of Tanzanian LGAs, described with the classical structure dimensions, coordinates the social interactions between them and the CG. Subsequently this affects the success and satisfaction of knowledge sharing between LGAs and CG. The conceptual model is a reformed model of [Chen & Huang \(2007\)](#). Compare to their model I only focus on the influence of organizational structure. The influence of organizational culture on knowledge sharing is left out of the research due to the scope of this research. Moreover, the indicator of dependency has been added to the model. In governmental organizations, as said in the literature review, dependency influences the social interactions within an organization. Besides, instead of simply measuring 'knowledge sharing' in an organization like [Chen & Huang \(2007\)](#), in my study I will use the proxies' satisfaction and successfulness of knowledge sharing. I took this approach in order to be able to make some relevant practical suggestions for Tanzanian government organizations. After presenting the hypotheses an advanced version of the conceptual model will be given.

As stated in this study's literature review, it does not fit within the scope of this research to examine the entire set of relations between *organizational structure* and *knowledge sharing*. Moreover, this approach would only examine a vague connection between the concepts while it would not be able to explain how the intrinsically relation in governmental organizations. This social interaction approach is most relevant for Tanzanian governmental organizations because social values and connections, as described, play an important role in Tanzanian organizations. Therefore, social connections may influence knowledge sharing. The following section will elaborate and operationalize on knowledge sharing, its relation with organizational structure and social interaction.

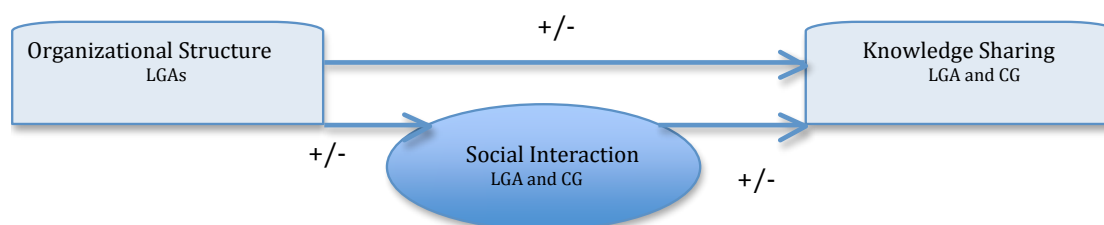


Figure 2.1: Basic Conceptual Model

2.1. Organizational structure and social interaction between LGAs and CG

First the hypotheses discussing the relationship between organizational structure (categorized in three dimension) and social interaction (categorized in three indicators) are being developed. This is done to test if in government organizations, the organizational structure has a positive or negative effect on social interaction and if that is measurable. As stated in the literature review this particular relationship has already been measured by multinational organizations, but empirical evidence lack for governmental organization. However, in the same line of reasoning the hypotheses can be conduct.

In organizations with high centralization employees experience a lack of autonomy, which will dissimulate social interaction between different levels. Social interaction will be created if employees get the change of self-organizing because then they feel the need to interact in order to solve problems (Janz et al., 1997). If LGAs experience a lack of autonomy it is less likely that they feel the need to interact with the CG, they just following orders and let the CG settle problems. In organizations with high formalization there are a lot of procedures and explicit work rules, which shape the relationship between organization members, less personal interaction is needed (Chen & Huang, 2007). Also, standardization would eliminate the initiative of employees to discuss or even consider alternatives, so will not stimulate social interaction between employees (Tsai, 2002). In organizations with high integration the opposite effect will occur. If the people are interrelated with each other, for finishing their task, they are forced to interact with one another (Bhagat et al., 2002). If the LGAs are strongly integrated with the CG more social interaction will take place. Therefore, less formalized and centralized coordination and more integrated coordination is more likely to stimulate social interaction.

Hypothesis 1a: The degree of centralization, formalization of the organizational structure is negatively related to social interaction between LGAs and CG, and the degree of integration is positively related to social interaction.

Social interaction, in this thesis, refers to the extent organizational members interact with each other in terms of trust, communication and dependency. Because dependency is not tested in previous studies, the effects the individual dimensions of social interaction also have to be measured separately.

Hypothesis 1b: The degree of centralization, formalization of the organizational structure is negatively related to the level of trust between LGAs and CG, and the degree of integration is positively related to level of trust.

Hypothesis 1c: The degree of centralization, formalization of the organizational structure is negatively related to the level of communication between LGAs and CG, and the degree of integration is positively related to level of communication

Hypothesis 1d: The degree of centralization, formalization and integration of the organizational structure is negatively related to the level of dependency between LGAs and CG.

2.2 Social interaction and knowledge sharing between LGAs and CG

The discussion in the literature review, suggest that social interaction among organizational members would affect the sharing of knowledge. According to [Grants \(1991\)](#) study strong social connections identified by high-trust and close relationships, are ideal for the sharing of knowledge. Prior studies found evidence that a trusting relationship within an organization improves the willingness to share knowledge ([Nonaka, 1994](#); [Widen- Wulff et al. 2004](#); [Chen & Huang, 2007](#)). Also, wider communication channels and richer communication interaction stimulate and facilitate knowledge sharing ([Hoegl et al. 2003](#)). This can be explain by the fact that interpersonal interaction will create better connection between individuals which will stimulate sharing. Dependency on the other hand might not create on voluntary basis; it will create a certain connection between individuals or group members. Namely, dependency great a situation in which organization member basically need each other in order to succeed the task. Moreover, dependence or interrelation will stimulate common sense and that will create knowledge sharing ([Kostova & Roth, 2002](#)). Thus, a high level of social interaction will increase of knowledge sharing (measured by two proxies).

Hypothesis 2a: The degree of trust, communication and dependency of social interaction is positively related to the satisfaction of knowledge sharing between LGA and CG.

Hypothesis 2b: The degree of trust, communication and dependency of social interaction is positively related to the success of knowledge sharing between LGA and CG.

2.3 Organizational structure and knowledge sharing between LGAs and CG

In this thesis we argue that when social interaction is not present in an LGA then the satisfaction and success of knowledge sharing will be negative. The structure of the LGA plays an important role in the level of social interaction in an organization. This line of though is partially confirmed by [Chen & Huang \(2007\)](#).

In general, [Sharratt & Uoro \(2003, pp. 189-190\)](#) conclude that "organizations with a centralized, bureaucratic formalized management style can stifle the creation of new knowledge, whereas a flexible, decentralized organizational structure encourages knowledge-sharing". Nowadays, the disadvantages of hierarchical structures are experienced. Hierarchical structures consume great amount of time in order for knowledge to filter through every level and therefore to share knowledge ([Syad-Ikhsan & Rowland, 2004](#)). In addition, [Tsai \(2002\)](#) argues that centralization can reduce the initiatives that a unit might take in inter-unit exchange, thus reducing interest in knowledge-sharing activities with other units in the organization. Centralization creates non-participatory environment that reduces communication, commitment, and involvement with tasks and projects among participant ([Chen & Huang, 2007](#)). Besides, formalization in an organization will decrease spontaneity and flexibility, which is especially needed for knowledge sharing and

innovation (Widen- Wulff et al., 2004; Chen & Huang, 2007; Willem et al., 2009). Furthermore, a high degree of specialization causes the development of specific knowledge uniquely held by individuals or groups, this will have negatively influence on knowledge sharing (Grant, 1996; Willem & Buelens, 2009). Moreover, the more autonomy organizational member's posses, the more responsibility they will feel for their job. Decision-making power on knowledge issues is best delegated to the owner of the relevant knowledge (Jensen & Meckling, 1992). Hence, we propose the following hypotheses:

- Hypothesis 3a: The higher LGA scores on the centralization scale, the lower the score on satisfaction on knowledge sharing between LGA and CG will be *because of low social interaction*.
- Hypothesis 3b: The higher LGA scores on the centralization scale, the lower the score on success on knowledge sharing between LGA and CG will be *because of low social interaction*.
- Hypothesis 4a: The higher LGA scores on the formalization scale, the lower the score on satisfaction on knowledge sharing between LGA and CG will be *because of low social interaction*.
- Hypothesis 4b: The higher LGA scores on the formalization scale, the lower the score on success on knowledge sharing between LGA and CG will be *because of low social interaction*.
- Hypothesis 5a: The higher LGA scores on the specialization scale, the lower the score on satisfaction on knowledge sharing between LGA and CG will be *because of low social interaction*.
- Hypothesis 5b: The higher LGA scores on the specialization scale, the lower the score on success on knowledge sharing between LGA and CG will be *because of low social interaction*.

The following conceptual model can be presented:

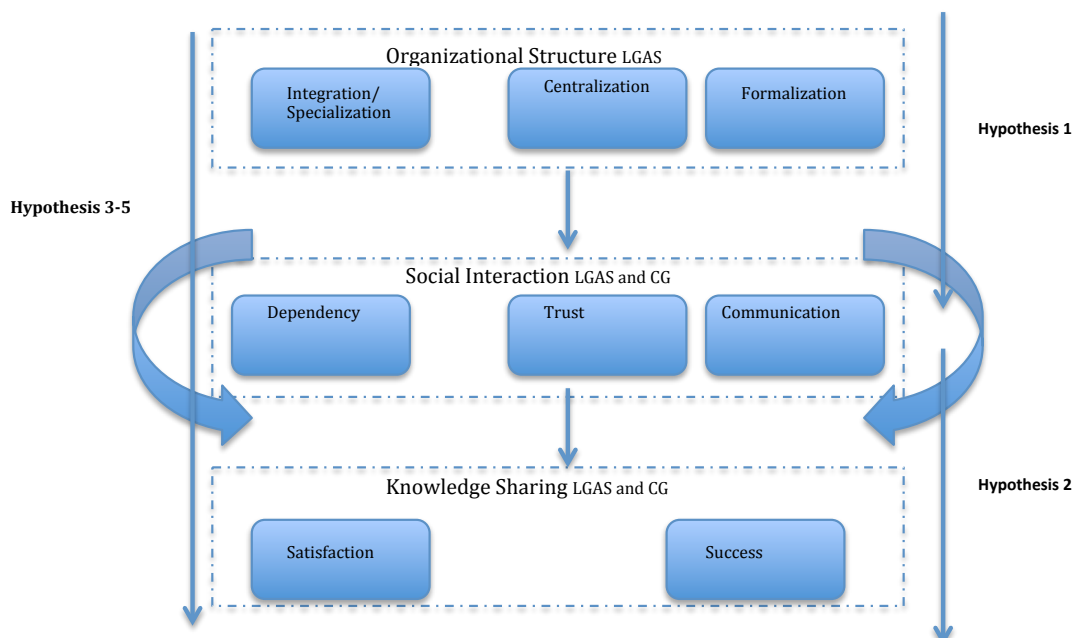


Figure 2.2: Advanced Conceptual Model

Chapter 3: Research Methodology

Now the hypotheses are clear, this section continues to outline the methodology for finding an answer to these hypotheses and the overall objective of the thesis of finding an answer to the research question, '*Does the organizational structure of Local Government Agencies (LGA) in Tanzania, mediated by social interaction, influences the knowledge sharing between LGA and Central Government in Tanzania?*' Hereby describing how the data has been collected and the methods used for analysis and the testing of the hypotheses.

3.1. Data Collection

This dissertation is based upon exploratory research. It explains the relationship between organizational structure and knowledge sharing in the public administration sector. The empirical study employs a questionnaire approach designed to collect data for testing the research hypotheses. Data collection took place between 1st of September 2011 and 1st of October 2011. Questionnaires are supplied to 200 employees of the five different sector departments: health, water, road, education and agriculture within the three LGAs in Dar-es-Salaam (Ilala, Temeke and Kinondoni). These include managers, assistants and regular administrative employees. The response rate was 35%, which means 70 fill-in questionnaires. Questionnaires consisted of three parts: knowledge sharing, organizational structure and social interaction statements. In the questionnaires employees could express their feelings about certain statements, all questions are based on a five-point Likert-scale. The questionnaire used for obtaining data was made available in English. The outcome of the questions is quantitative data. The questionnaires are sent and collected by face-to-face contact. In appendix III you can find the initial list of research scales and items.

3.2. Validity and reliability

Before the statistical results could be properly interpreted several pre-tests were done to assure reliability and validity of the measurement instrument to minimize inconsistencies (Bryman, 2004; Tacq, 2011). By looking at the means, standard deviations, correlation and Cronbach's Alpha, these issues are checked. Due to the small sample size, it is not possible to conduct a factor analysis. This will not have a major effect on the research outcomes because aforementioned pre-tests are enough to indicate if the measurement instrument is valid and reliable. Alongside, these theoretical and methodology-focused criteria of validity and reliability, much broader perspective of quality criteria from Whetten (1989) were

kept in mind during the research. For instance, making sure that the questionnaire was well understood by the participants.

3.2.1 Mean and standard deviation of dimensions

Table 3.1 presents the results of the mean and standard deviation of the dimensions. Results show that the means are all close to 2,5. This shows that LGAs do not have a fully integrated structure and are in the middle of decentralization and formalization is also half way. For social interaction between LGAs and CG this average score means that the social interaction has a long way to go. Knowledge sharing shows a low mean as well, indicate that there is no high successful and satisfying knowledge sharing results found in LGAs. A detailed explanation for these findings will be given in the Chapter 5.

The standard deviations of organizational structure, social interaction and knowledge sharing are not that large and are all closely distributed to the mean score. However, the individual dimensions are relatively larger. The fact that communication shows the highest score is not surprising, because this concept is only measured with two different questions. It is important to keep this in mind, so it will not influence the conclusion. To summarize, the standard deviation scores do not indicate any validity problems.

Table 3.1. Means and Standard Deviation of dimensions (Likert-scale 1-5)

	Mean	Std. Deviation
Organizational Structure	2.9733	.31809
Centralization	2.7071	.55708
Formalization	3.4571	.74896
Integration	2.8000	.52059
Coordination	3.3929	.77969
Social Interaction	3.1114	.62913
Trust	3.1393	.78324
Communication	3.4857	.97791
Dependency	2.8964	.75361
Knowledge Sharing	3.2189	.40984
Ks Success	3.0955	.43812
Ks Satisfaction	3.3500	.63045

3.2.2 Cronbach's alphas of dimensions

The next step is to find the internal consistency of the three concepts and different scales, therefore the Cronbach's alphas were computed. A Cronbach's alpha of 0.5 or higher indicates an intrinsically correct and reliable scale for scales with limited (around ten) items (Pallant, 2005). To make sure that the scales are

valid, for the “formalization scale “ question 1.8 had to be deleted (“ The local government agency relies on strict supervision of central government in controlling day to day operations”). The “integration scale” is after deletion of question 1.15 still low and therefore need to be excluded from the analysis from now on. For the “dependency” scale, question 2.2 had to be deleted (To accomplish the objectives, the agency does need services, resources or support from central government”). The possible reason for this result is that the dimensions of dependency and formalization are highly influenced by the kind of department the employee is working for. For the “knowledge sharing proxy success scale” Question 3.1 is deleted (“ Frequently problems arise in sending or receiving work, resources, or services to or from central government”), because of the possible misinterpretation of the word ‘frequently’. As the results in Table 3.2 show, three Cronbach’s alphas are slightly lower then 0.5. However, due to low number of items and reliable concepts, these scales will not be deleted. ‘Coordination’ shows a low Cronbach’s alpha although it will be kept in the research, because it represents the main relation. The small number of items can probably explain this low score. The rest of the scales are reliable enough to use in this study without any problems.

Table 3.2 Cronbach’s alphas of dimensions and concepts

	Cronbach’s Alpha
Organizational Structure	.688
Centralization	.563
Formalization	.499
<i>Coordination</i>	<i>.421</i>
<i>Integration</i>	<i>.443</i>
Social Interaction	.722
Trust	.618
Communication	.559
Dependency	.680
Knowledge Sharing	.781
<i>Ks Success</i>	<i>.473</i>
Ks Satisfaction	.619

3.2.3. Correlations individual concepts

Although the Cronbach’s alphas are already given, I want to make sure that the different dimensions represent the main concept well; therefore the correlations of the dimensions of the concepts have been conduct. This has been done because the addressed concepts in this dissertation have never been tested in a governmental organization. The concepts are approached in two different ways. All questions are used separately to measure the level of the concept, and for the averages of dimensions taken together the individual questions as one variable are used. A positive significant relationship is found between the

dimensions and their concepts (See Appendix V). Therefore, I can conclude that the individual dimensions are representing the main concept realistically.

Furthermore, I want to make sure that the individual questions measuring organizational structure represent the dimension well. Therefore, an in-depth correlation analysis is done for the individual questions of the organizational structure concept. The results obtained from the correlation analysis are shown in appendix IV. To summarize, these results show that the questions represent the dimensions well, because they all show a significant positive relationship with one of the two ways to measure the correlations. Now that we have confirmed that all scales are reliable and valid, they are ready for comparison and further use. In the next paragraph the applied measurement will be presented

3.3. Measurement

The correlations between the concepts will be measured with using the Pearson Correlation test in order to see if there exist a negative or positive relationship between the concepts. This method has been chosen, because the Likert-scale questionnaire provides me with scale data (Bryman, 2004). To make maximum use of the answers, all missing values have been excluded pair wise. The multiple regression analyses will be conducted to find out the casual relationships between the different variables and dimensions (Bryman, 2004). Chen & Huang (2007) and Tsai (2002) have used multiple linear regression analysis in similar way, to explain the relationship between organizational structure and knowledge management. Therefore, multiple linear regression analyses are carried out.

3.3.1. Independent, dependent and mediator variables

The independent variable in the questionnaire includes organizational structure; the dependent variable includes knowledge sharing. The dependent, independent and mediating variable is clarified as follows. The dependent variable is the variable that will be forecasted (Bryman, 2004), for hypotheses 3-5 the dependent variable is success and satisfaction of knowledge sharing. The independent variable predicts the dependent variable, for hypotheses 3-5 are the organizational structure elements: centralization, formalization and integration. The mediator variable is a third variable which make it able for the independent variable to influence the dependent variable (Baron & Keller, 1986), for hypothesis 3-5 are the social interaction elements: trust, communication and dependency.

Four control variables were included in the questionnaire to eliminate errors. Age, gender, and education level might have an influence on knowledge sharing. Gender, age and education level because of their influence on experience with knowledge management. Besides, the location of the LGA will be asked to eliminate location specific influences. The influence of these control variables on the relation between knowledge sharing process and organizational structure/social interaction will be measured (Bryman, 2004).

However, due to insignificant results, later presented, the effect of these control variables have not been measured.

3.3.2. Equations

As clearly described in the study of [Baron & Keller \(1986\)](#) three different regression equations need to be tested, to find a mediating effect. This means in this research, testing the mediating relationship of social interactions between the structure of the LGAs and the knowledge sharing within the government. First equation is a regression analysis of the mediator (social interaction) on the independent variable (centralization, formalization and coordination). Second equation is regression analysis of the dependent knowledge-sharing variable on the independent variables (centralization, formalization and coordination) and third equation is a regression of the dependent variable (knowledge sharing) on both the independent variable and on the mediator.

The following three equations:

$$1: Y1 = \beta_0 + \beta_1 \text{ Centralization} + \beta_2 \text{ Formalization} + \beta_3 \text{ Integration} + c$$

$$\text{Alternative } Y1 = \beta_0 + \beta_1 \text{ organizational structure} + c$$

$$2: Y2 = \beta_0 + \beta_1 \text{ Centralization} + \beta_2 \text{ Formalization} + \beta_3 \text{ Integration} + c$$

$$\text{Alternative } Y2 = \beta_0 + \beta_1 \text{ organizational structure} + c$$

$Y1$ = dependent variable of social interaction

$Y2$ = dependent variable of knowledge sharing

β_1 = independent variable of centralization or independent variable of organizational structure

β_2 = independent variable of formalization

β_3 = independent variable of integration

β_0 = y-intercept

E = error variable

$$3: Y3 = \beta_0 + \beta_1 \text{ Centralization} + \beta_2 \text{ Formalization} + \beta_3 \text{ Integration} + \beta_4 \text{ Trust} + \beta_5 \text{ Communication} + \beta_6 \text{ Dependency} + c$$

$$\text{Alternative: } Y3 = \beta_0 + \beta_1 \text{ Organizational structure} + \beta_2 \text{ Social Interaction} + c$$

$Y3$ = dependent variable of knowledge sharing

β_1 = independent variable of centralization or independent variable of organizational structure

β_2 = independent variable of formalization or independent variable of social interaction

β_3 = independent variable of integration

β_4 = independent variable of trust

β_5 = independent variable of communication

β_6 = independent variable of dependency

β_0 = y-intercept

E = error variable

Chapter 4: Results and Analyses

4.1 The relations between the three concepts

This paragraph will elaborate on the correlation between the different concepts in order to test the hypotheses 1 and 2. As mentioned, the Pearson Correlation test is used to measure the correlation and to see if there exists a positive or negative relation among each other.

4.1.1 Organizational structure and social interaction

The findings presented in table 4.1 signals, as expected, that coordination is positive related to the presences of centralization. Next to this, centralization has a negative relationship with the concept social interaction and his indicators. However, both relationships are not significant. The relation between formalization and the concept of social interaction is positive, which indicate more formalization in an organization is related to more social interaction between central government and LGA's. The results are not significant and therefore no conclusions can be draw from this outcome. Furthermore, the effect of the LGAs structure on the individual dimensions: trust, communication and dependency are measured, and are also presented in table 4.1. The social interaction indicator 'communication' has a positive correlation with formalization (0.237) and coordination (0.269) with significance of $p=0.05$ level. In the Chapter 5 we will elaborate the possible reasons for these outcomes. To summarize, I found no significant results to accept hypotheses 1 a-d, which means that maybe some, but not all dimensions of organizational structure are significantly negatively related to social interaction in Tanzanian LGAs. These results indicate that the interaction within the Tanzanian government is not necessarily always correlated in a negative way with the LGAs structure.

4.1.2 Social interaction and knowledge sharing

Table 4.1 shows the results of the correlation between social interaction and knowledge sharing in Tanzanian government. A comparison reveals that trust has a 0.314 ($P=0.01$ level) and communication has a 0.417 significant positive correlation with the satisfaction of knowledge sharing. What is further interesting in this data is the dimension dependency has negative correlations with the knowledge-sharing concept with significant result for the success of knowledge sharing (-0.291 level of $p=0.05$). These results indicate that hypothesis 2a can be (partly) accepted because the level of trust and communication is positive correlated with the satisfaction of knowledge sharing. For hypotheses 2b the results do not show a significant effect and these hypothesis need to be rejected. The most important conclusions we can draw out of this is that

social interaction between LGAs and CG is related to the level of satisfaction in knowledge sharing. Besides, instead of encouraging knowledge sharing, dependency on this seems to de-stimulate successful knowledge sharing between LGAs and CG. These result outcomes will be discussed in the Chapter 5.

Table 4.1 Summary of Correlation results

Hypothesis	Hypothesized Path	Pearson Correlation	Results	Overall Result
H1a	Dimensions of Organizational Structure -> Social Interaction	.072		Rejected
	Centralization	-.029		
	Formalization	.234	Rejected	
	Extra variable: Coordination	.069	Rejected Rejected	
H1b	Dimensions of Organizational Structure -> Trust	.012		Rejected
	Centralization	-.032	Rejected	
	Formalization	.193	Rejected	
	Extra variable: Coordination	-.005	Rejected	
H1c	Dimensions of Organizational Structure -> Comm.	.232		Rejected
	Centralization	.300	Rejected	
	Formalization	.237*	Supported	
	Extra variable: Coordination	.269*	Supported	
H1d	Dimensions of Organizational Structure -> Depend.	-.104		Rejected
	Centralization	-.002	Rejected	
	Formalization	.081	Rejected	
	Extra variable: Coordination	-.135	Rejected	
H2a	Indicators of Social Interaction -> Satisfaction of Knowledge Sharing	.315**		Supported
	Trust	.314**		
	Communication	.417**	Supported	
	Dependency	-.034	Supported Rejected	
H2b	Indicators of Social Interaction -> Success of Knowledge Sharing	-.128		Rejected
	Trust	.071	Rejected	
	Communication	-.035	Rejected	
	Dependency	-.291*	Supported	

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

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

4.1.3 Organizational structure and knowledge sharing

As shown, in Table 4.2 the level of coordination in LGAs influence the satisfaction of knowledge sharing. As mentioned in the literature review, in this study the classical organization structure dimensions measure the coordination mechanism of an organization. Therefore, this result indicates that the structure dimensions of LGAss should correlate with the success and satisfaction of sharing knowledge in Tanzanian government. However, if we run the correlation analysis between the individual dimensions (centralization and formalization) and knowledge sharing the results turns out to be insignificant. The reason could be that the structure of an organization, does not influence the willingness to share knowledge directly, but other variables mediate this relationship. To test this assumption in the next paragraph the regression analysis is presented.

Table 4.2 Correlation organizational structure and knowledge sharing

Dimensions Organizational Structure		Pearson Correlation
Centralization	Knowledge Sharing	-.042
	Knowledge Sharing Satisfaction	-.120
	Knowledge Sharing Success	.039
Formalization	Knowledge Sharing	.004
	Knowledge Sharing Satisfaction	.063
	Knowledge Sharing Success	-.156
Coordination	Knowledge Sharing	.290*
	Knowledge Sharing Satisfaction	.276*
	Knowledge Sharing Success	.089

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

4.2. Mediating effect of social interaction on knowledge sharing in Tanzanian Government

The above presented correlation results show that significant relations are found between the concepts of organizational structure, social interaction and knowledge sharing. The results confirm that coordination and social interaction in an organization positively affect the success and satisfaction of knowledge sharing. However, the research also presents some insignificant results and these results raise questions about how the concepts are related to each other. The multiple linear regression models have been used to explore the casual relations, and the expected mediating effect of social interaction. As clearly described in the study of [Baron & Keller \(1986\)](#) three different regression equations need to be tested. The correlations of the independent variables are checked for multicollinearity (Presented appendix IV and V). The results indicate that there is no multicollinearity between the independent and dependent variables. However, to indicate mediation we should have found multicollinearity between the indicators of social interaction and organizational structure, this has not been found. This already raises the question whether there is a mediating effect.

4.2.1 Social Interaction as dependent variable

The first regression analysis is based on the relation between organizational structure and social interaction, presented in Table 4.3. The table shows the outcomes for equation 1. This result shows an R-square of .244 with $F=1.395$. That means 24% of social interaction in Tanzanian government organizations can be explained by the LGAs structure. The score is not a big part of the total variation, however there are many other variables that can influence social interaction in an organization; therefore this is a good score. However, as well as the correlation analysis between these concepts, the results are insignificant. The high standard errors of the variables probably provide us with the reason for this insignificant result. This result indicates that not all employees of LGAs experience the level of coordination, centralization, and

formalization in the LGAs in the same way, which creates high standard errors. Due to this inconstancy probably no correlation and also causal effect between most dimensions of organizational structure and indicators of social interaction in the Tanzanian government could be found. Regression measurement of the individual dimensions on the dependent variable turns out to be insignificant as well (See appendix VI). Due to insignificant results, further regressions analyses in order to find the alternative equation 1 is unnecessary to conduct.

Table 4.3 Regression analysis dependent variable: Social Interaction (Equation 1)

Dependent Variable: Social Interaction		Regression
Independent Variables		
(1) Centralization, Formalization and Coordination	R-Square	.244
	Beta's	-.029, .202, .054
	Std Error	.139, .104, .100
	Constant	2.300
	Sig. (2-Tailed)	.252
	Collinearity	No
	N	70

4.2.2 Knowledge sharing as dependent variable

In Table 4.4 the causal relationship of the dependent variable 'knowledge sharing' is showed. There is not found a causal relationship between the dimensions of 'organizational structure' and 'knowledge sharing'. The result is an R-square of .084 with $F=1.968$ and insignificance score. This is a low result and because of that a casual relation between organizational structure dimensions and the level of social interaction does not seem to exist. Again standard errors in the data might be the reason. Therefore, equation 2 has not been given. The most relevant result to emerge from the data is that social interaction seems to have a causal relationship with knowledge sharing with R-square of .287. Which means that 28.7 % of the level of knowledge sharing can be explained by social interaction, with B of trust: .235, communication: .159 and dependency: -.230. In the third equation, social interaction and organizational structure variables explain 38,5% ($R^2=.385$) of the level of knowledge sharing. There are many other variables that influence the willingness to share knowledge in an organization; therefore this is a good score. The B-scores shows that the dimensions of social interaction have the most influence on the prediction of the successfulness and satisfaction of knowledge sharing in Tanzanian government. Therefore, social interaction between LGAs and CG is important for Tanzanian government in order to share knowledge. Standard errors are respectively .073, .057, .054, .060, .045, and .051; this means that the coefficients seem reliable. The sample regression equation 3 is as follows:

Knowledge Sharing = 2.632 - 0.016 Centralization - 0.073 Formalization+ 0.063 Coordination + 0.2497
Trust+0.137 Communication - 0.208 Dependency

However, due to the absence of significant causal relationship between the concept of organizational structure and knowledge sharing, the mediation effect is not be found and therefore hypothesis 3, 4 and 5 cannot be accepted. The next chapter will elaborate on the reasons for the presented findings.

Table 4.4 Regression analysis dependent variable: Knowledge Sharing (Equation 2+3)

Dependent Variable: Knowledge Sharing		Regression
Independent/mediator Variables		
(2) Centralization, Formalization and Coordination	R-Square	.084
	Sig. (2-Tailed)	.128
	Collinearity	No
Trust, Communication and Dependency	R-Square	.287
	Beta's	.235, .159, -.230
	Std. Error	.065, .045, .070
	Constant	2.627
	Sig. (2-Tailed)	.000**
	Collinearity	No
(3) Centralization, Formalization, Coordination, Trust, Communication and Dependency	R-Square	.385
	Beta's	-.016, -.073, .063, .249, .137, -.208
	Std. Error	.073, .057, .054, .060, .045, .051
	Constant	2.632
	Sig. (2-Tailed)	.000**
	Collinearity	No
N		70

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

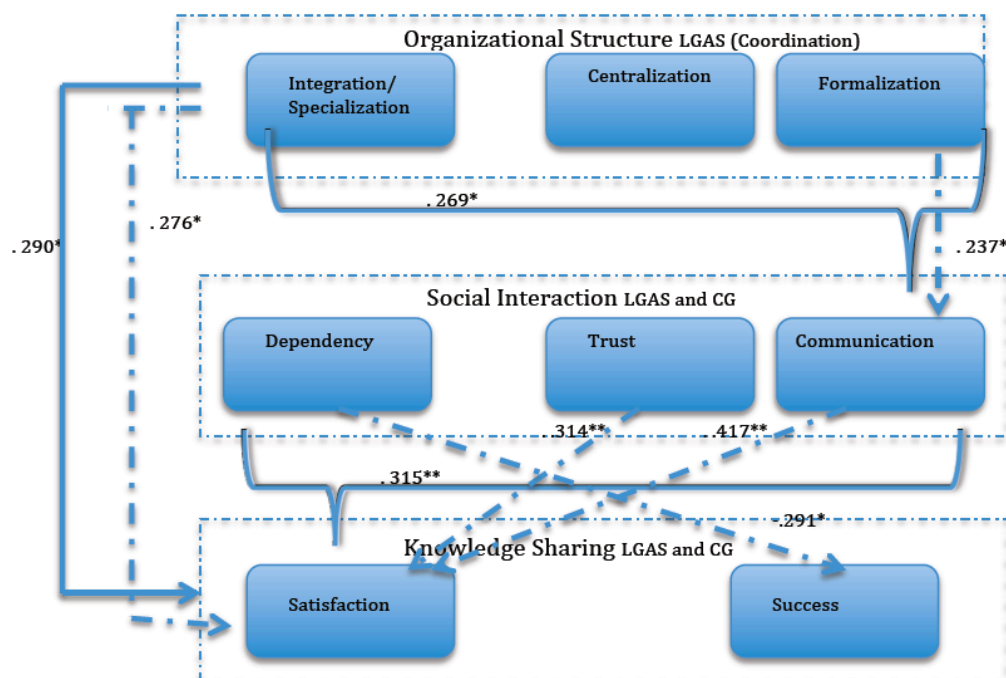
Chapter 5: Discussion

For this study, I reformed [Chen & Huang \(2007\)](#) conceptual model to examine the role of organizational structure on knowledge sharing and then apply this to the Tanzanian context. It does examine whether the current structure in Tanzanian LGAs influences the success and satisfaction of knowledge sharing. The connection between the structure of LGAs and the willingness of organizational members to share knowledge cannot be explained without including social relationships within the organization. Social relationships are important because they serve as channels through which knowledge can be shared. Therefore, both the relationships of organizational structure and social interaction of LGAs in Dar-es-Salaam have been measured. I expected to find that the level of success and satisfaction in sharing knowledge would depend on the structure of the Tanzanian government.

The results found in this quantitative study do not support all my initial assumptions. Neither the correlation coefficient nor the regression resulted in a significant outcome for all dimensions and indicators. The significant results of the correlation analyses are presented in figure 5.1 and have several implications. The indicator of dependency, different than expected, shows a negative correlation (-.291) with the success of knowledge sharing. Which implies how more Tanzanian LGAs depending on CG in order to do their work, less successful knowledge sharing between the two will exist. The level of formalization in an organization provides us an explanation of this result. [Willem & Buelens \(2007\)](#) suggest that if all tasks are well planned and processes are formalized, people from different levels within an organization will not be forced to informally social interact with one another and therefore fail to successfully share knowledge. Regarding the influence of coordination on communication, this study shows as expected, a significant positive relation. Which means, if the level of coordination increases in LGAs so will the level of communication within the Tanzanian government. This can be explained by the fact that communication between the two hierarchical levels is required in order for higher levels to give orders to lower levels. The latter is in line with the expectation of [Kostova & Roth \(2002\)](#), the level of experienced dependency influences the implementation of organizational practices. Note that this result does not directly imply that because there is communication between LGAs and CG, there also will be knowledge sharing between the two. There can be inefficient knowledge sharing even that there is communication in an organization ([Chen & Huang, 2007](#)). Different than expected formalization has a positive correlation with communication (.237*). As pointed out previously, the dimension of communication scores are remarkably high with regards to the standard deviations and therefore, this could have affected this positive relation outcome. The indicators

communication and trust show a significant positive correlation with satisfaction of knowledge. These results collaborate with the findings of a great deal of the previous work of Tsai & Ghosal, 1998 and Huang & Li (2009) who found relations between social interaction and knowledge sharing. Most importantly, this research shows that coordination is positively related to the satisfaction of knowledge sharing within Tanzanian government. These findings are similar to the research results of Tsai (2002) and Chen & Huang (2007) on multinational profit organizations, which showed that an organization requires coordination to create the willingness to share knowledge.

Figure 5.1 Overview significant correlation results



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

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

Although this study reveals several important correlations between concepts, it has not been possible to demonstrate casual relationships between the concepts organizational structure and knowledge sharing, and the mediating effect of social interaction in LGAs. This is in contrast with studies such as that of Tsai & Ghosal (1998) and Chen & Huang (2007) and Huang & Li (2009) that showed that social interaction mediate the relationship between organizational structure and knowledge sharing. To explain, this difference, a couple of facts need to be taken into consideration. First, previous studies were designed to determine the effect of organizational structure in profit-orientated firms instead of governmental organizations. As Riege & Lindsay (2006) pointed out in their research, public and private sector

organizations differ tremendously from each other in terms of their structures, this is likely to have an impact on how organizational member interact with one another. This can explain why there is not found a mediating effect of the indicators of social interaction in Tanzanian government. Second, to determine mediating relations between organizational structure and knowledge sharing, we should see an effect of the mediator on the independent variables, and the mediator has to show an affect on the dependent variables. This can be measured with three equations ([Baron & Keller, 1986](#)). The noticeable result, showed in the research results, is that only the last condition holds, 28,7% of knowledge sharing in Tanzanian government can be explain by social interaction between LGAs and CG. This is, as mentioned, a relevant score, therefore this quantitative study acknowledged knowledge sharing depends on social interaction between LGAs and CG. In the equation where the concept organizational structure gets involved the results are not significant. Serious questions can be raised about this particular concept. As the validity and reliability of the organizational structure questions have been clearly examined, it can be said that the insignificance are not due to measurement errors. Instead, the insignificant results can be explained by the misinterpretation of the concept of organizational structure in Tanzanian government. In Tanzanian government there seems to be inconsistency and different experiences among the LGAs employees about the actual organizational structure of LGAs. This is showed by the sufficient but relatively high standard deviation and errors for the dimensions of organizational structure. This is in line with the findings of the [World Bank \(2011\)](#), which state that although decentralization reforms are applied for years; the government of Tanzania is still in the process of restructuring. Third, [Andrews & Schroeder \(2003\)](#) claim that African states seem to be formally decentralized, but in practice they are not. This is emphasized with an earlier noted 'recentralization' trend in African governments. A number of studies by [Smoke \(2003\)](#); [Kessy & McCourt \(2010\)](#); [Awortwi \(2010\)](#) & [World bank, \(2011\)](#) indicate that in Africa, a number of countries have formally recentralized certain powers after taking actions to give LGAs substantially more resources and autonomy. This created hierarchical structure of the Tanzanian government de-stimulates successful and satisfying knowledge sharing. In their study, [Syad-Ikhsan & Rowland \(2004\)](#) found evidence that organizations that maintain hierarchical levels do not encourage knowledge sharing. A plausible explanation for not finding a mediating effect of social interaction is that the current structure of LGAs does not stimulate the process of knowledge sharing and therefore no successful and satisfied knowledge sharing could be measured within Tanzanian government.

In 2005 and 2006, Tanzania was not yet ready to be called a knowledge economy ([World Bank, 2011](#)) and this quantitative study research implies that it is still not the case in 2011. Although the Tanzanian government started to decentralize governmental institutions from the mid 1980s, the research results show that LGAs are still not decentralized and can better be described as centralized organizations. As a result, the current organizational structure in Tanzanian government creates ineffective knowledge sharing processes.

As Wiig (2002) shows in his study a hierarchical structure cannot positively influence efficient decision-making and intellectual capital development, which has major effects on the development in Tanzania government. For the case of Tanzania there seems to be a clash between what is being done and what the objectives state. The current organizational structure negatively influences the process of knowledge sharing, while knowledge sharing is needed to positively influence structural change and positive trusting social environment that can lead to improved knowledge sharing. The mean score on the dimension trust pointed out that there is still not a high level of trust within Tanzanian government to stimulate knowledge sharing in an organization. This lack of trust is going hand in hand with the present of corruption. Employees point out to me that corruption is still a huge problem in Tanzania. Successful and satisfied knowledge sharing within Tanzanian Government is therefore far from being accomplished. This seems to be a negative vicious circle hard to escape from. Unless the Tanzanian government actively creates and promotes a less hierarchical organizational structure, knowledge sharing will not be stimulated.

Conclusion

The objective of this study is to determine if the structure of Tanzanian Local Government Agencies, facilitated by social interaction, influence their knowledge sharing with the Central Government. Social interaction between LGAs and CG is acknowledged in the study and the indicators of social interaction can explain 28,7% of the knowledge sharing between LGAs and CG. However, no evidence is found of the mediating effect of social interaction on organizational structure and knowledge sharing. Because there is found evidence that social interaction influences knowledge sharing, the lack of finding a mediating effect does not directly indicate that the created conceptual model is irrelevant for the Tanzanian government. The organization structure of the LGAs provides us with an explanation. The research outcome is coherent with the existing literature in the sense that despite of effort to decentralize certain authority and tasks, in the reality the Tanzanian government is not decentralized to the desired or claimed extent. The result shows that Tanzanian government has still hierarchical structure and a lack of efficient coordination, which negatively affects the creation of knowledge sharing. Turning to the research question stated at the beginning of this study, the organizational structure of LGAs has influences on knowledge sharing within Tanzanian government. However, the research found no proof that social interaction mediates this relationship; the results indicate that the current Tanzanian governmental hierarchical structure discourages successful and satisfied knowledge sharing. Unless the government changes the organizational structure, satisfied and successful knowledge sharing will not be obtained.

The findings of this research contribute to the public administration literature, as it shows that a hierarchical government structure is causing problems for creating successful and satisfied knowledge sharing in a governmental organization. The outcomes of this study can be generalized to other sub-Saharan African governments, because most African countries have been going through similar reform problems regarding their recent decentralization efforts. However, it is important to be aware of the special context of certain decentralization reforms and the stadium of decentralization in different countries. From a practical point of view, this study suggests that leaders and organizational members should be aware of the influence the government structure has on the success and satisfaction of knowledge sharing.

Limitations and future research

This dissertation has some inherent limitations, which influences the research outcomes. First of all, as mentioned in previous written dissertations of students from the University of Groningen, it is quite a challenge to find enough people in Tanzania who want to participate in the research project and who want to fill in a questionnaire (Rijnen, 2007; Scholtens, 2010). This influences the response rate on the questionnaires. Moreover, the biggest weakness of this study is the sample size, it is rather small and influence the degree to which can be supported with the findings. The sample size was barely satisfactory to generate the meaning result out the regression analysis. A bigger sample size would be more reliable for generating conclusions. Second, some applied models and theories in this research are only tested and supported by research conducted in non-governmental organizations, and this can make it harder to apply them to governmental organizations. Third, the focus of this study was only on certain aspects that influence the knowledge sharing process; of course there are several more influential variables. National culture, interunit competition (Tsai, 2002) or organizational climate and culture (Chen & Huang, 2007) also warrant discussion. Besides, there has not been a clear distinction made between different types of knowledge (Nonaka, 1994). Further, the research has a relatively broad research area with many generalizations that may cause bias.

The findings of this study show a number of important implications for future practice. It would be interesting to repeat this research again in some years when the process of decentralization in Tanzania is in a further stadium. The current result can be seen as a before measurement and in several years there can be done an after measurement. This will show if structural reforms have effect on more successful and satisfying knowledge sharing in Tanzanian Government. Moreover, a longitudinal research will give a more realistic view of the knowledge sharing process within an organization (Willem and Buelens, 2009). As the result shows social interaction seems to have a causal relationship with knowledge sharing in government organization, further research could explore this relationship of social connection and networks by looking at informal and formal interaction. Besides, LGAs is an underdeveloped research subject, as last specific LGA research is from Smoke dated from 2003. More attention should be paid to this subject area because, as explained in the literature review, it is an important key in the creation of better development in a country. Within this LGS especially more attention should be pay attention to the effect of corruption on knowledge sharing. I think that corruption has major effect on the social relationships and interaction within Tanzanian government. Prud'homme's (1995) study can be taken as a starting point; in his study the relation of

decentralization and corruption has been discussed. I noticed that the (Tanzanian) participants are a bit suspicious towards Western researchers, which led to a low response rate. Participants also told me they would like to have more possibility to discuss the issues addressed in the questionnaire so they could explain their choices. Therefore, I strongly suggest future researchers to conduct qualitative research in Tanzania. This way the researcher can more easily adapt to specific circumstances, create a trusting relationship and give participants the possibility to motivate their answers.

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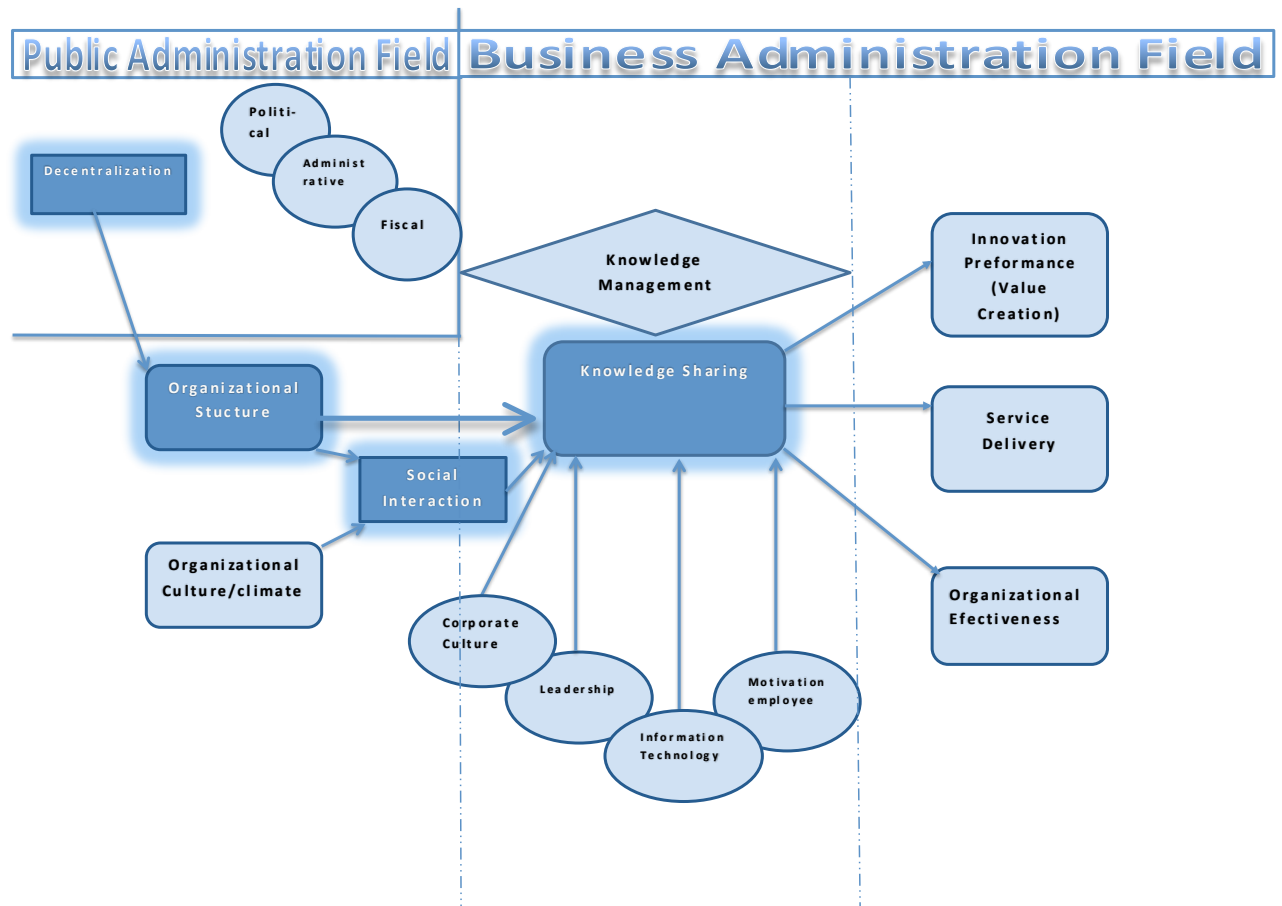
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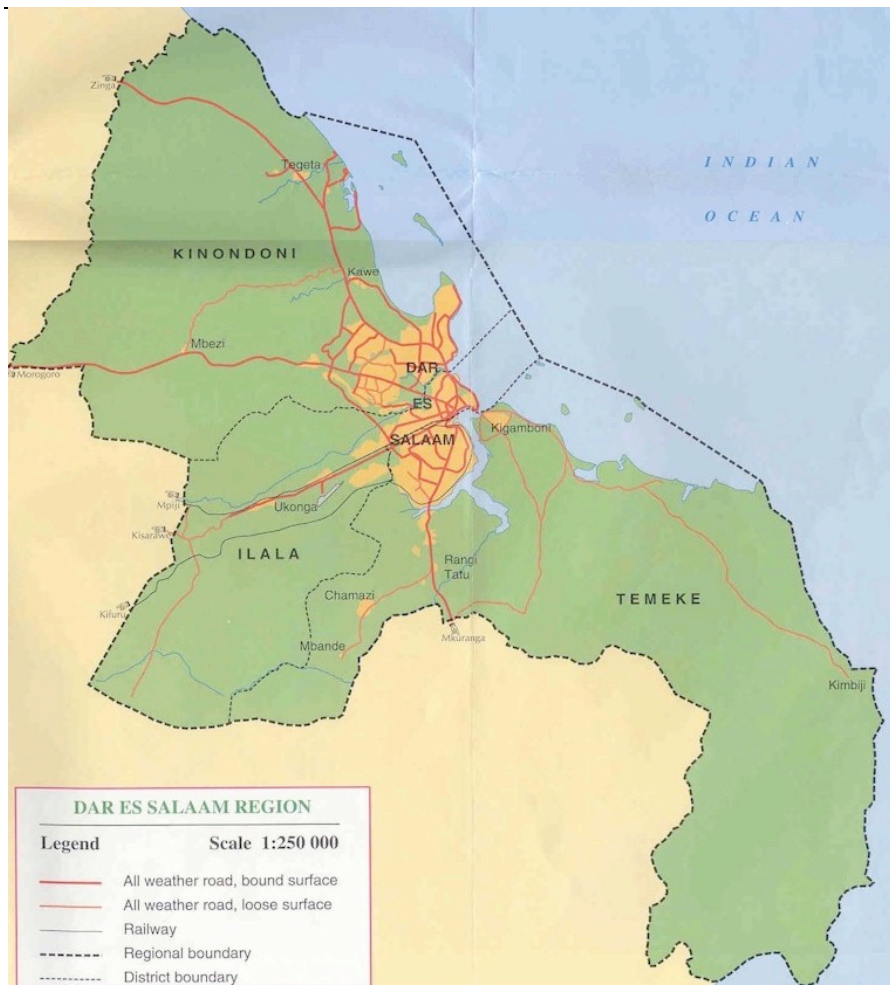
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Appendixes

Appendix I -- Model of the Literature



Appendix II -- Municipal Councils Districts Dar-es-Salaam



Appendix III -- Initial list of research scales and items

The classical organizational structure dimensions (Lawrence & Lorsch, 1969): operationalized by Chen and Huang (2002), Tsai (2002) and Chen and Huang (2007):

Items are on a 5-point scale: totally disagree, disagree, neutral, agree, and agree totally.

1. ORGANIZATIONAL STRUCTURE

Centralization

- All our transactions are approved by the central government (9)
- Any agreements or dispute over activities is reported to the central government and the central government settle the issue (4)
- The central government has the ultimate power to whether or not we collaborate with other local government agencies or third parties (3)
- Employees are responsible for their organization of work (12)
- Employees participate in the operational decision-making process (7)
- Employees search for solutions to problems from many channels (1)

Formalization

- The local government agency has a large number of work rules and policies (13)
- Employees follow the defined task procedures made by the central government (5)
- The local government agency relies on strict supervision of central government in controlling day to day operations (8)

Integration

- The local government agency integrates vertically with a top-down strategy (hierarchies) (14)
- The different departments within in local government agency integrate with each other (10 own question)
- The different departments within in local government agency all integrate individually with central government (15 own question)
- The different department in the agency integrates horizontally (6)

Coordination

- The task assignments of employees are planned individually (2)
- The work procedures and activities are scheduled (11)

2. SOCIAL INTERACTION

Operationalized by Chen and Huang (2002), Huang and Li (2009) and Willem and Buelens (2009)

Items are on a 5-point scale: totally disagree, disagree, neutral, agree, and agree totally

Trust

- There is unconditional trust between the local government agency and Central government (4)

- Your agency has confidence on the abilities and skills of central government to do the work (6)
- Your agency has confidence on central government on making the necessary operational decisions (10)
- Concern your work environment; you have confidence in central government to act in the best interest (8)

Communication

- Employees frequently communicate and discuss with other members/employees from central government (3)
- Employees are willing to communicate and discuss with other members/employees from central government in depth (1)

Dependency

- Employees of the local government agency have to rely on the interaction with the central government to do the task (5)
- Employees of the agency depending on central government for doing their respective jobs (7)
- After your agency members finish their part of the task, the agency rely on central government to perform the next steps in the process before the total task or service is completed (9)
- To accomplish the objectives, the agency does need services, resources or support from central government (2)

3. KNOWLEDGE SHARING

Proxies for knowledge sharing (Willem, Buelens, Scarbrough ,2005).

Scales used: not at all, to some extent, partly, to a great extent, completely.

Satisfaction with knowledge sharing

- I am satisfied with the cooperation between my agency and central government (3)
- The goals or task standards are met when you cooperate with central government (8)
- Cooperative activities have been an opportunity to share more of our experience and ideas with the other agencies (9)
- I am satisfied with the level of exchange of information, between my agencies and Central Government (5)

Success with knowledge sharing

- I normally experience lack of information that affects the accomplishment of tasks (2)
- The agency encounter interruptions or delays in the flow of work, resources or services from central government (7)
- Frequently problems arise in sending or receiving work, resources, or services to or from central government (1)
- Sometimes unshared information revealed the cause of delay or lower performance (6)

- Generally, people spend more time on tasks for which cooperation is needed than is actually planned (4)

Appendix IV -- Correlation Analyses

Table 1 Correlations of dimension Organizational Structure

Dimensions Organizational Structure		Organizational Structure (Concepts)	Organizational Structure
Centralization	Pearson Correlation	.610**	.779**
	Sig. (2-Tailed)	.000	.000
Formalization	Pearson Correlation	.490**	.385**
	Sig. (2-Tailed)	.000	.001
Coordination	Pearson Correlation	.513**	.395**
	Sig. (2-Tailed)	.000	.001
N		70	70

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

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

Table 2 Correlations of dimension Social Interaction

Dimensions Social Interaction		Social Interaction (Concepts)	Social Interaction
Trust	Pearson Correlation	.729**	.830**
	Sig. (2-Tailed)	.000	.000
Communication	Pearson Correlation	.677**	.533**
	Sig. (2-Tailed)	.000	.000
Dependency	Pearson Correlation	.781**	.810**
	Sig. (2-Tailed)	.000	.000
N		70	70

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

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

Table 3 Correlations of proxies Knowledge Sharing

Proxies of Knowledge Sharing		Knowledge sharing (Concepts)	Knowledge Sharing
Success	Pearson Correlation	.619**	.585**
	Sig. (2-Tailed)	.000	.000

Satisfaction	Pearson Correlation	.820**	.816**
	Sig. (2-Tailed)	.000	.000
	N	68	68

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

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

Table 4 Correlations individual questions on dimensions centralization, formalization, and coordination of organizational structure concept.

Questions Centralization			Organizational Structure (Concepts)	Organizational Structure
		Centralization		
QCent1.3	Pearson Correlation	.469**	.416**	.468**
	Sig. (2-Tailed)	.000	.000	.000
QCent1.4	Pearson Correlation	.510**	.527**	.568**
	Sig. (2-Tailed)	.000	.000	.000
QCent1.9	Pearson Correlation	.587**	.383**	.477**
	Sig. (2-Tailed)	.000	.001	.000
QCent1.1 Reverse	Pearson Correlation	.435**	.291*	.359**
	Sig. (2-Tailed)	.000	.015	.002
QCent1.7 Reverse	Pearson Correlation	.343**	.291*	.199
	Sig. (2-Tailed)	.004	.015	.098
QCent1.12 Reverse	Pearson Correlation	-.311**	.249*	.105
	Sig. (2-Tailed)	.009	.038	.389
	N	70	70	70

Questions Formalization			Organizational Structure (Concepts)	Organizational Structure
.....		Formalization		
QForm1.5	Pearson Correlation	.695**	.356**	.226
	Sig. (2-Tailed)	.000	.003	.060
QForm1.8	Pearson Correlation	.618**	.225	.256*
	Sig. (2-Tailed)	.000	.061	.032
QForm1.13	Pearson Correlation	.604**	.377**	.259*
	Sig. (2-Tailed)	.000	.001	.030
N		70	70	70

Questions Coordination			Organizational Structure (Concepts)	Organizational Structure
.....		Coordination		
QCoord_1.2reverse	Pearson Correlation	.692**	.340**	.182
	Sig. (2-Tailed)	.000	.004	.132
QCoord_1.11	Pearson	.740*	.395**	.378**
Correlation	Sig. (2-Tailed)	.000	.001	.001
N		70	70	70

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

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

Table 5 Results for hypotheses 1 a-d

.....		Trust	Communication	Dependency	Social Interaction
Centralization	Pearson Correlation	-.032	.030	-.002	-.029
	Sig. (2-Tailed)	.790	.806	.990	.813
Formalization	Pearson Correlation	.193	.237*	.081	.234
	Sig. (2-Tailed)	.110	.048	.506	.051
Coordination	Pearson Correlation	-.005	.269*	-.135	.069
	Sig. (2-Tailed)	.968	.024	.264	.570
Organizational Structure	Pearson Correlation	.012	.232	-.104	.072
	Sig. (2-Tailed)	.923	.053	.390	.553

N)	70	70	.70	70
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**. Correlation is significant at the 0.01 level (2-tailed).

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

Table 6 Results for hypotheses 2 a-b

.....		Knowledge satisfaction	Knowledge Success
Trust	Pearson Correlation	.314**	.071
	Sig. (2-Tailed)	.008	.563
Communication	Pearson Correlation	.417**	-.035
	Sig. (2-Tailed)	.000	.777
Dependency	Pearson Correlation	-.034	-.291
	Sig. (2-Tailed)	.724	.016*
Social Interaction	Pearson Correlation	.315**	-.128
	Sig.(2-Tailed)	.008	.299
N		70	68

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

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

Table 7 Correlation organizational structure and knowledge sharing

.....		Knowledge Satisfaction	Knowledge Success	Knowledge Sharing
Centralization	Pearson Correlation	-.120	.039	-.042
	Sig. (2-Tailed)	.322	.753	.736
Formalization	Pearson Correlation	.063	-.156	.004
	Sig. (2-Tailed)	.605	.205	.974
Coordination	Pearson Correlation	.276*	.089	.290*
	Sig. (2-Tailed)	.021	.471	.017
N		70	68	68

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

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

Appendix V -- Regression Analyses

Equations 1

$$Y1 = \beta_0 + \beta_1 \text{Centralization} + \beta_2 \text{Formalization} + \beta_3 \text{Integration} + c$$

Variables Entered/Removed^b

Model	Variables Entered	Variables Removed	Method
1	Coordination, Formalization, Centralization ^a	.	Enter

a. All requested variables entered.

b. Dependent Variable: Social Interaction

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.244 ^a	.060	.017	.64479

a. Predictors: (Constant), Coordination, Formalization, Centralization

ANOVA^b

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	1.740	3	.580	1.395	.252 ^a
Residual	27.440	66	.416		
Total	29.180	69			

a. Predictors: (Constant), Coordination, Formalization, Centralization

b. Dependent Variable: Social Interaction

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	2.300	.631		3.643	.001		
Centralization	-.029	.139	-.025	-.208	.836	.999	1.001
Formalization	.202	.104	.233	1.950	.055	1.000	1.000
Coordination	.054	.100	.065	.541	.590	.998	1.002

Coefficients ^a							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	2.300	.631		3.643	.001		
Centralization	-.029	.139	-.025	-.208	.836	.999	1.001
Formalization	.202	.104	.233	1.950	.055	1.000	1.000
Coordination	.054	.100	.065	.541	.590	.998	1.002

a. Dependent Variable: Social Interaction

Variables Entered/Removed ^b			
Model	Variables Entered	Variables Removed	Method
1	Dependency, Communication, Trust ^a		Enter

a. All requested variables entered.

b. Dependent Variable: Knowledge sharing

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.536 ^a	.287	.253	.34331

a. Predictors: (Constant), Dependency, Communication, Trust

ANOVA ^b					
Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	3.033	3	1.011	8.577	.000 ^a
Residual	7.543	64	.118		
Total	10.576	67			

a. Predictors: (Constant), Dependency, Communication, Trust

b. Dependent Variable: Knowledge sharing

Coefficients ^a							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF

1 (Constant)	2.627	.221		11.869	.000		
Trust	.235	.065	.456	3.630	.001	.705	1.419
Communication	.159	.045	.393	3.526	.001	.897	1.114
Dependency	-.230	.070	-.430	-3.291	.002	.651	1.536

a. Dependent Variable: KnowledgesharingDC

Equations 2

$$Y2 = \beta_0 + \beta_1 \text{ Centralization} + \beta_2 \text{ Formalization} + \beta_3 \text{ Integration} + c$$

Variables Entered/Removed^b

Model	Variables Entered	Variables Removed	Method
1	Coordination, Formalization, Centralization ^a		Enter

a. All requested variables entered.

b. Dependent Variable: Knowledge sharing

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.291 ^a	.084	.042	.38896

a. Predictors: (Constant), Coordination, Formalization, Centralization

ANOVA^b

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	.893	3	.298	1.968	.128 ^a
Residual	9.683	64	.151		
Total	10.576	67			

a. Predictors: (Constant), Coordination, Formalization, Centralization

b. Dependent Variable: Knowledge sharing

Coefficients ^a							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	2.812	.397		7.076	.000		
Centralization	-.017	.086	-.023	-.191	.849	.995	1.005
Formalization	-.001	.066	-.002	-.021	.984	.999	1.001
Coordination	.146	.061	.288	2.405	.019	.995	1.005

a. Dependent Variable: Knowledge sharing

Equation 3

$$Y_3 = \beta_0 + \beta_1 \text{ Centralization} + \beta_2 \text{ Formalization} + \beta_3 \text{ Integration} + \beta_4 \text{ Trust} + \beta_4 \text{ Communication} + \beta_4 \text{ Dependency} + c$$

Variables Entered/Removed ^b			
Model	Variables Entered	Variables Removed	Method
1	Dependency, Centralization, Formalization, Coordination, Communication, Trust ^a		Enter

a. All requested variables entered.

b. Dependent Variable: Knowledge sharing

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.620 ^a	.385	.324	.32662

a. Predictors: (Constant), Dependency, Centralization, Formalization, Coordination, Communication, Trust

ANOVA ^b					
Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	4.068	6	.678	6.356	.000 ^a
Residual	6.508	61	.107		

Total	10.576	67			
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a. Predictors: (Constant), Dependency, Centralization, Formalization, Coordination, Communication, Trust

b. Dependent Variable: Knowledge sharing

Coefficients ^a							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	2.632	.367		7.180	.000		
Centralization	-.016	.073	-.022	-.215	.831	.994	1.006
Formalization	-.073	.057	-.134	-1.283	.204	.928	1.078
Coordination	.063	.054	.125	1.169	.247	.878	1.138
Trust	.249	.060	.484	4.134	.000	.735	1.361
Communication	.137	.045	.339	3.074	.003	.828	1.207
Dependency	-.208	.051	-.481	-4.045	.000	.715	1.399

a. Dependent Variable: Knowledge sharing