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Knowledge Sharing in Organisations: Finding a Best-fit Model for a Regulatory Authority in East Africa

P. Musa¹, Z. Ekeocha², S. Byrn³, K. Clase⁴

ABSTRACT

Knowledge is an essential organisational asset that contributes to organisational effectiveness when carefully managed. Knowledge sharing (KS) is a vital component of knowledge management that allows individuals to engage in new knowledge creation. Until it's shared, knowledge is considered useless since it resides within the human brain. Public organisations specifically, are more involved in providing and developing knowledge and hence can be classified as knowledge-intensive organisations. Scholarly research conducted on KS has proposed a number of models to help understand the KS process between individuals but none of these models is specifically for a public organisation. Moreover, to really reap the benefits that KS brings to an organization, it's imperative to apply a model that is attributable to the unique characteristics of that organisation. This study reviews literature from electronic databases that discuss models of KS between individuals. Factors that influence KS under each model were isolated and the extent of each of their influence on KS in a public organization context, were critically analysed. The result of this analysis gave rise to factors that were thought to be most critical in understanding KS process in a public sector setting. These factors were then used to develop a KS model by categorizing them into themes including organisational culture, motivation to share and opportunity to share. From these themes, a KS model was developed and proposed for KS in a medicines regulatory authority in East Africa. The project recommends that an empirical study be conducted to validate the applicability of the proposed KS model at a medicines regulatory authority in East Africa.

KEYWORDS

Keywords: Knowledge, knowledge sharing, models, organisational culture, motivation, opportunity, public organisations.

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1. INTRODUCTION

Knowledge is an important organisational asset that requires careful management (Willem & Buelens, 2007). Individual knowledge is converted into organisational knowledge through Knowledge sharing (KS) which has been found to enhance performance of an organisation (Wang et al., 2016). Organisations with more effective knowledge sharing channels have been found to be more effective (Kim & Lee, 2006). Public organisations, specifically, are more involved in providing and developing knowledge and therefore can be classified as knowledge-intensive organisations. These organisations have experts providing, developing and using knowledge to perform their duties (Willem & Buelens, 2007). Effective sharing of knowledge, which is a critical asset in public service, is tightly linked to the quality of service thus offered (Kim & Lee, 2006). The “people perspective”, rather than the “technology perspective” of KS has been the interest of most recent scholarly research (Ipe, 2003). Whereas knowledge sharing takes place at multiple levels in organisations, this project focuses on knowledge sharing between individuals. This is premised on the fact that knowledge resides within employees and can only be made available in a form that can be understood and used by another individual through human interaction (Ismail & Yusof, 2008). KS models that have been proposed in literature are based on the researcher’s perspective of knowledge sharing between individuals, and they have helped in understanding and implementing knowledge sharing in organisations, but none for a public institution specifically (Ismail & Yusof, 2008). Owing to the unique characteristics of public institutions, there is need to develop a KS model that is attributable to a public organisation, like a medicines regulatory authority, in order to leverage the benefits that KS brings. This project examines a variety of models available in literature, none of which is specific to public institutions, and then develops and recommends a KS model that reflects the public organisational context of a regulatory authority in East Africa.

2. METHODS

The project adopted a qualitative study approach that entailed an extensive literature search from online electronic databases. The literature search covered scholarly material in the domains of organisational behaviour, information and decision science, organizational communication, strategic management and management theory. Ipe (2003) defines knowledge sharing as a process that facilitates the

understanding, absorption and application of knowledge that exists in one individual, by another person. Ismail & Yusof (2008) further emphasize that knowledge is inseparable from individual mind and is of limited value to the organisation until it’s shared to facilitate knowledge creation and task performance. It’s on this background that this study focuses on knowledge sharing between individuals. In light of this, the review initially started with literature that discussed knowledge and how it existed in organisations. The literature review was then tapered down specifically to models that discussed the movement of knowledge between individuals in organisations, or models that are premised predominantly on the “people perspective” (human relations) rather than technology and technology-driven perspectives. Key concepts considered in the literature search included knowledge sharing, creation, transfer and acquisition, knowledge sharing models and public organisations.

Subsequently, analysis and synthesis of relevant literature was done. Analysis involved selection of literature that discussed how individuals shared knowledge between themselves in organisations and the models that explained this knowledge sharing process. After identification of relevant publications, focus was shifted to isolating the factors that affect knowledge sharing between individuals, as documented by each model. In addition, common themes emerging from the models were also identified. The emerging themes here, are general terms representing factors that are thought to influence KS between individuals.

Thereafter, synthesis involved examining the degree or extent of influence of each of these factors on the knowledge sharing process in the context of a medicines regulatory authority in East Africa. The factors that are relevant to the organisation were generated and grouped under the common emerging themes earlier identified. Finally, synthesis was ended by developing a KS model from these emerging themes for further KS research and implementation in a public institution like the medicines regulatory authority in East Africa.

3. RESULTS AND DISCUSSION

Knowledge represents a non-distinct combination of contextual information, experiences and values that provide a basis for creation and evaluation of new information and experiences (Ipe, 2003). Key from this definition is that knowledge is about context, perspective, intention, action and relations. Knowledge creation and application all happens in the mind of the owner (Ipe, 2003). Knowledge is

categorised into explicit and tacit knowledge. Explicit knowledge exists in written forms such as reports or manuals, while tacit knowledge is embedded in individuals' memories such as know-how or experience (Furkan, 2019).

Knowledge exists at the individual, group and organisational level. Knowledge sharing between individuals is an integral part of how knowledge is created, managed, and disseminated within the organisation (Ipe, 2003). In addition, the success of knowledge management initiatives is heavily reliant on knowledge sharing (Yeşil et al., 2013).

Knowledge that resides in the human mind is of limited value to the organisation until it is shared to improve job performance and facilitate the creation of new knowledge (Ismail & Yusof, 2008). Different scholars have defined the concept of knowledge sharing. "Fundamentally, the principle of knowledge sharing is one meant to obtain experience from others" (Razak et al., 2016). Knowledge sharing is an exchange process where a seeker acquires knowledge presented by the contributor (Mirzaee & Ghaffari, 2018). Ismail and Yusof (2008) emphasize that knowledge sharing is a conscious process that allows knowledge to be transferred from one individual to another. All authors agree that knowledge sharing is a conscious and volitional act that individuals cannot be coerced to engage in.

Owing to the benefits of sharing knowledge, there is growing interest in knowledge sharing behaviour and the process entailed therein. Yeşil et al. (2013) state that the knowledge sharing process entails "donating" and "collecting" knowledge where knowledge donating involves surrendering and giving out ones knowledge while collecting is about seeking and acquiring knowledge from knowledge donors. The theoretical backgrounds of the majority of literature on KS behavior are informed by reasoned action theory, planned action theory and the theory of social exchange (Razak et al., 2016). These theories underpin knowledge sharing models that are used to explain the KS process between individuals since implementation of KS processes and getting individuals to share their knowledge has been a challenge for most organisations (Saad & Haron, 2017).

Establishing and understanding the factors that influence individuals' propensity to engage in this process has been the centre of most studies in knowledge sharing behaviour that organisations now consider to be a critical behaviour (Stenius et al., 2017). Most studies indicate that communication, trust, motivation, leadership, information systems, organizational climate, culture and structure among

others affect knowledge sharing behaviour (Yeşil et al., 2013). The literature reviewed in this study discuss various KS models and the factors that affect KS within these models. Table 1 summarises the models identified and the factors that affect KS under each model. Subsequent analysis of these factors in the context of a medicines regulatory authority in East Africa resulted into identification of factors that are thought to be most relevant in influencing KS in such a context, as indicated in Table 2. These factors were grouped into three emerging themes: organisational culture, opportunities to share and motivation to share. A knowledge sharing model was then developed and proposed based on these three themes as shown in Figure 1. Here below is a discussion of the factors identified under each model and why some factors ended up in the knowledge sharing model eventually proposed and other factors did not.

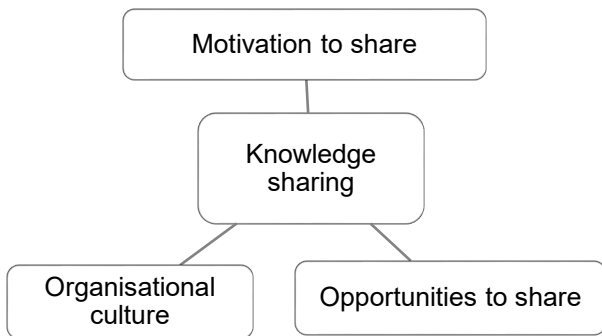
Table 1. Models Identified, Factors That Influence KS Between Individuals Under Each Model and Emerging Themes.

Model	Factors that influence KS under each model	Common emerging themes
The model of the knowledge sharing motivation	Beliefs and attitudes	Organisational culture
	Shared norms	Organisational culture
	Autonomous motivation (competence, autonomy and relatedness)	Motivation to share
Online knowledge sharing model	Perceived online attachment motivation	Sharing channels/opportunities to share
	Perceived online relationship commitment	Sharing channels/opportunities to share
Lodhi cultural based model	Individual attitude	Culture
	Group attitude	Organisational culture
	Communication channel	Communication channels/opportunities to share
Supar et al. model	Organisational culture	Organisational culture
	Cultural factors (perceptions, beliefs)	Organisational culture
	Communication factors	Opportunities to share
	Organisational support factors	Motivation to share
Information security sharing model	Individual attitude	Culture
	Subjective norms	Organisational culture
	Earning reputation	Motivation to share
	Gaining promotion	Motivation to share
	Self-satisfaction/enjoyment	Motivation to share
	Trust	Motivation to share
	Organisational support	Motivation to share
Relational models	Communal sharing	Opportunities to share
	Power	Motivation to share
	Recognition/acknowledgment	Motivation to share
	Reciprocity	Motivation to share
	Rewards/benefit	Motivation to share

Table 2. Factors That Influence KS in a Public Sector Setting Grouped into Three Themes.

Factors	Themes
Autonomy	Motivation to share
Relatedness	
Sense of public good	
Career advancement	
Satisfaction/enjoyment in helping others	
Power	
Professional reputation	
Reciprocity	
Management support	
Communities of practice	Opportunities to share
IT infrastructure	
Communication channels (relational versus formal channels)	
Trust	Organisational culture
Social networks	
Values	
Organisational structure	

Figure 1. Proposed Knowledge Sharing Model for The Medicines Regulatory Authority in East Africa.



The model of the knowledge sharing motivation is premised on two theories; self-determination theory, a theory that explains behavior using universal aspects of motivation and theory of planned behaviour, a theory that is used to predict a particular behaviour in a specific context (Stenius et al., 2017). Combining the two theories means that a particular behaviour, knowledge sharing in this case, can be predicted by exploring the underlying shared beliefs prevailing in a particular context, which is a public sector setting in this particular study. A key and an explicit component of this model is the autonomous motivation that flows from the need to satisfy basic psychological needs. A study conducted to test the model of knowledge sharing motivation in a large public sector population in Finland revealed that competence, autonomy and sense of belonging, all of which are psychological needs, were found to be strong drivers of knowledge sharing behaviour. It is important to remember at this point that this model emphasizes that knowledge sharing behaviour is influenced by shared beliefs and social norms, which are in turn context specific (Stenius et al., 2017). This further emphasizes the need to analyse the extent of influence of intrinsic motivations like competence, autonomy and sense of belonging (relatedness) on knowledge sharing in the East African medicines regulatory authority context. In the context of the public organisation of interest, competence would not be a strong driver of knowledge sharing behaviour given that there is a robust recruitment and selection system through which competent and confident scientists are recruited and further trained on and off the job. This explains why only relatedness and autonomy appear under theme "motivation to share" on the proposed knowledge sharing model.

Factors like autonomy and relatedness are useful in understanding how knowledge is shared between individuals. They are all influenced by context as mentioned before and one important aspect of context is organisational culture. Organisations are quintessentially cultural entities which means culture has a powerful influence on knowledge sharing (Ipe, 2003). Like many other behaviors, culture affects knowledge sharing behaviour more profoundly than even directives from top management (Suppiah & Sandhu, 2011). Culture informs assumptions about what knowledge to share, relationships and determines norms about distribution and communication of individual knowledge (Ipe, 2003). Some studies have asserted that culture can be a

strong barrier to knowledge sharing through some of its components (Kathiravelu et al., 2014).

Organisational culture has been defined as shared beliefs, attitudes, values, norms and assumptions of members of an organisation (Ramachandran et al., 2011). Components of culture that have been identified as impediments to knowledge sharing include emotional intelligence, fear, trust, hierarchical organisational structure, social networks among others. Kathiravelu et al. (2014) asserts that there two kinds of culture; the visible and invisible culture. The visible includes the vision, mission, philosophy and espoused values whereas the invisible culture are the unspoken core values and perceptions that guide the behaviors and functioning of the members of an organisation. The invisible culture in the form of unspoken values, perceptions and beliefs of members towards knowledge has a profound effect on knowledge sharing behaviour (Kathiravelu et al., 2014).

Perceptions and beliefs that influence peoples' behaviour, flow from their values (Beldona et al., 2020). Amayah (2013) stated that correct values and norms increase knowledge sharing tendencies among individuals who share a common vision. Unspoken values are a critical part of the invisible culture, which incidentally is the most predominant in the organisation in this study, was included in the proposed model under the theme "organisational culture".

Kathiravelu et al. (2014) also points out the importance of shared vision in respect to knowledge sharing in influencing knowledge sharing behaviour. Individuals who have a shared vision are likely to share knowledge (Amayah, 2013). The organisation for which this model is proposed has a vision and espoused values. In a public sector context, including in the organisation in this study, sharing as a behaviour, is more of a social obligation than an organisational obligation, albeit there is a shared vision. This is usually attributed to the limited affective commitment that employees in the public sector feel towards their employer (Willem & Buelens, 2007).

Additionally, the rigidly hierarchical nature of the organisational structure at the organisation of interest, that is predominant in many other public organisations has been found to be a barrier to communication and knowledge sharing practices (Seba et al., 2012). Other studies have stressed the importance of organisational structure on KS especially in the public sector (Ismail & Yusof, 2008). Organisational structure is an essential component of the proposed KS model.

Amayah (2013) documented that trust and mutual understanding are crucial if knowledge is to be shared. Seba et al. (2012) reiterates that in the public sector, lack of trust could be a barrier to knowledge sharing. Literature reveals trust as a key enabler for knowledge sharing as it allows for openness and mutual understanding. Open environments with high levels of sociability and limited controls breeds trust which is a key ingredient for voluntary knowledge sharing especially in public organisations (Willem & Buelens, 2007).

Knowledge sharing involves social interaction that occurs through a socialisation process. Two important factors of that socialisation process according to social capital theory are trust and social networks (Dutta et al., 2015). A study that aimed to propose a conceptual model of knowledge sharing among the Malaysian public sector managers, identified trust and social network as two key factors that were included in the proposed model (Dutta et al., 2015). A similar study that was aimed to explore the challenges to KS practices in the context of public sector universities in the developing countries discovered that cultures that had ineffective social networks and trust were an obstruction to KS practices (Muqadas et al., 2017). These studies highlight the importance of social network, trust, values and organisational structure as components of organisational culture in KS, but also their applicability in the context of public organisation setting and hence their subsequent inclusion in the proposed knowledge sharing model in this study. The role of organisational culture in fostering KS cannot be over-emphasized (Muqadas et al., 2017).

Some scholars argue that rewards and appraisals should be used to encourage knowledge sharing (Ismail & Yusof, 2008). Relatedly, the relational models of knowledge sharing behaviour (Boer et al., 2011) suggests that there is empirical evidence to show the effectiveness of using rewards to encourage employees to share their knowledge. Yet, a study done to establish the determinants of knowledge sharing behavior amongst employees of four big public organisations discovered that rewards and recognition are not a significant determinant of knowledge sharing behaviour (Bock & Kim, 2002). Boer et al. (2011) assert that public employees are motivated by the desire to serve the public and promote public welfare rather than rewards. Willem & Buelens (2007) also agree that with or without monetary rewards, people in the public sector share knowledge because they want to contribute to public welfare. At the medicines regulatory authority in this study, indeed there are no deliberate efforts to motivate employees to share knowledge, but some individuals still do share knowledge.

Knowledge is an intellectual asset and considered a major source of power and competitive advantage (Muqadas et al., 2017). A study conducted in Pakistan public universities to establish the issues related to knowledge hoarding found that employees were disinclined to sharing knowledge because of the fear to reduce their power and their competitive advantage (Muqadas et al., 2017). Yao et al. (2007) further reveal that employees in the public sector are said to be afraid of sharing knowledge because they would potentially lose their power. The rigid nature of the organisational structure of most public organisations, including the structure of the organisation for which this KS model is being proposed, means that opportunities for advancement and promotions are usually low. Most employees therefore relate sole possession of knowledge to their opportunity of getting promoted (Amayah, 2013).

Another factor influencing KS arising from the models that are based on the relational dimension of KS that appears under the theme "motivation to share" in the proposed KS model is reciprocity. Reciprocity here implies that one gives knowledge in anticipation that the receiver will give back some time in the future to match his/her input or balance the relationship (balanced reciprocity). Individuals give knowledge expecting to receive similar knowledge in return (Boer et al., 2011). Organisational commitment has been found to have a mediating role in between reciprocity and knowledge sharing behaviour (Dutta et al., 2015). However, in a public sector setting where employees are usually loosely committed to organisations, this finding remains questionable. Instead, individuals will share knowledge largely because they expect that the knowledge recipient will in the future share in return (Dutta et al., 2015).

Organisations, be it public or private, are social systems (Willem & Scarbrough, 2006). According to the online knowledge sharing model (Ma & Yuen, 2011) and the information security sharing model (Safa & Von Solms, 2016), individuals are motivated to engage in KS to improve their social/individual relations/interactions and gain professional reputation amongst their colleagues. In another study that was proposed to examine the influence of socio-psychological factors from different theoretical perspectives on KS behaviour of employees from different high-tech companies in Iran revealed that perceived reputation enhancement, amongst other socio-psychological factors, significantly and positively affects KS behavior. The other factors included social interaction ties and perceived enjoyment and satisfaction derived from helping others (Akhavan et al., 2013). In another study aimed to establishing what drives continued knowledge

sharing showed that enjoyment in helping others is a strong predictor of knowledge sharing behavior (He & Wei, 2009). In a public organisation setting, there is a lot more lateral coordination and cooperation than there is vertically. This implies that more social relationships thrive laterally than vertically largely due to the obvious power and authority ranks that exist in the public sector (Willem & Buelens, 2007). The players in such relationships do not only donate knowledge to maintain these relationship, but also derive satisfaction in helping a colleague, especially in a knowledge-intensive environment like a medicines regulatory authority; the public organisation of interest. These factors and others mentioned earlier are listed under the theme "motivation to share" in the proposed knowledge sharing model.

A qualitative study that was conducted to understand the factors that affected online tacit knowledge sharing in a public organisation in turkey revealed that top management support in combination with other factors had a positive significant influence on online tacit knowledge sharing (Furkan, 2019). He & Wei (2009) also reported that management support is a key stimulant to KS practices amongst employees irrespective of the nature of the organisation. The Supar et al. model (Ismail & Yusof, 2008) identifies management support among others as important factors to consider while fostering KS practices amongst employees as it helps coordinate all the related activities and provides a strategic direction (Yao et al., 2007). The influence of management support on KS behaviour is explained from the idea of subjective norm. Subjective norm is the social pressure that employees feel to behave in a certain expected manner. The implication here is that employees consider the expectation of their managers and colleagues about KS to be important. When individuals perceive that their management and colleagues value and support KS and that they are likely to praise and acknowledge such behaviour, then they are likely to engage in KS behavior (Akhavan et al., 2015).

Related to subjective norm is individual attitude, which is defined as the degree to which an individual has a favourable or unfavourable evaluation of a particular behavior (Akhavan et al., 2015). Most studies however indicate that an individual's attitude has little impact on whether they eventually perform an activity or not. For instance Akhavan et al. (2015) highlighted that even when an employee has a favorable attitude toward KS, there may still be a limited intention to share their knowledge owing to other factors like shortage of resources and opportunities to share. Another empirical study that explored and

investigated how individual attitudes affected organisational knowledge sharing concluded that sharing knowledge is an outcome of more than just possessing a positive attitude towards KS (Yang, 2008). While management support was, individual's attitudes was not included in the proposed KS model against this background.

Knowledge sharing is a social process (Charband & Navimipour, 2018) . To understand knowledge sharing, it is important to conceptualise organisations as social communities in which knowledge is generated and shared (Marouf, 2007). Several authors have documented the value of social networks in knowledge sharing and how it affects knowledge sharing (Kim & Lee, 2006). Dutta et al. (2015) defined social network as the existing strength of social ties that exists between the knowledge provider and the knowledge recipient. The social tie is characterised by emotional strength, closeness, reciprocity and time spent. Social networks show the level of communication and individual or group interactions which are a catalysts for KS practices (Noor & Salim, 2011). In a study that was aimed to propose a conceptual knowledge sharing model amongst the managers of the Malaysian sector managers established that social networks are a key predictor of knowledge sharing behavior (Dutta et al., 2015). To improve cooperation, communication and KS, managers need to devise means to increase the social ties between employees (Nguyen, 2019). Expectedly, owing to the rigid authority ranks and the use of highly formal communication channels, public organisations are characterised by ineffective socialisation and networking (Muqadas et al., 2017). This obstructs KS intentions and behaviours within the public sector.

To promote social networking in such contexts, some authors have recommended the idea of communities of practice. According to Amayah (2013), managers in the public sector should encourage the development of communities of practices to enable social interaction and promote the sharing of not only explicit knowledge but more importantly tacit knowledge whose donation requires human interaction owing to its subjectivity and context specificity. Communities of practice entails individuals working closely to accomplish certain tasks (Noorderhaven & Harzing, 2009). This has particularly been effective amongst the staff assessing dossiers at the organisation for which this model is being proposed. There is an informal network where individuals have an informal yet close associations amongst themselves, characterised by mutual respect and trust and volitional sharing of regulatory documents, personal experiences and other related

knowledge. Communities of practice is a key component in the proposed model listed under the theme “opportunities to share”.

As mentioned earlier, a lot more KS especially for tacit knowledge takes place through the informal lateral relationships and communication channels rather than the formal communication channels that are characterised by limited human interactions (Ipe, 2003). This is premised on the notion that knowledge is only shared through human interactions as stated by the Lodhi cultural based model of KS (Ismail & Yusof, 2008). The Lodhi cultural based model is based on the fact that knowledge is inseparable from the employee mind and thus employees are the only knowledge sources. Willem & Buelens (2007) also assert that in public organisations that have highly formal systems, the existence of informal and lateral coordination is highly valuable as it results in more intense communication and cooperation thereby providing not only opportunities to share knowledge, but also promoting effective knowledge sharing. Kim & Lee (2005) further revealed that public organisations tend to use highly formal communication channels like e-mails which is a hindrance to tacit knowledge sharing and that people tend to share more explicit knowledge that is verifiable on such channels. It is on this background that this study considers the nature of communication channel (relational/informal versus purposive/formal) as an important influence on KS.

A number of scholarly studies have indicated how information technology (IT) infrastructure and related systems have improved organisational communication and knowledge management. A study that was done to determine the impact of organisational context and IT on employee KS capabilities discovered that employee usage of IT applications and user-friendly IT systems has a significant positive influence on KS practices amongst employees in the public sector (Kim & Lee, 2006). In another study that investigated the effect of IT usage on KS among Saudi Arabia students established a significant impact of IT usage on KS (Eid & Nuhu, 2011). The organisation of interest in this study has also implemented IT management systems and infrastructure, intranet and internet services to foster communication and knowledge management initiatives. Apart from IT infrastructure facilitating KS, IT helps codify information and create networks thereby facilitating the sharing of both tacit and explicit knowledge (Turulja et al., 2020). A study that aimed to establish the IT tools that public sector employees in the health sector in Eastern use to share knowledge pointed out that internet based instant messaging applications are used to share tacit knowledge

(Turulja et al., 2020). The critical role that IT plays in communication and KS even in the public sector cannot therefore be ignored.

Explicit knowledge can easily be verified, codified, stored and shared. On the other hand, tacit knowledge is known to be “sticky” as it is highly personalized, context specific and sometimes even profession-dependent (Ipe, 2003). This means explicit knowledge has a natural advantage over tacit knowledge as far as KS is concerned. However, this factor solely, even in the public organisation context, cannot be the reason why individuals share knowledge (Ipe, 2003). As it has been already discussed above, several factors including the value people attach to knowledge influence to a great extent whether they share knowledge or not.

4. CONCLUSION

Knowledge sharing is a social process anchored in a social network and as such is fuelled by psychosocial needs like autonomy and relatedness. In an attempt to motivate people to share knowledge, but also understand what drives people to share knowledge, several KS models have been developed. These models comprise factors that affect KS behavior. However, these models are not universally applicable. The context within which KS occurs does not only affect KS directly, but also further moderates the extent to which each factor actually affects KS behavior. Contextual factors include organisational culture, structure and available IT infrastructure among others. In the context of public sector organisation in East Africa, in addition to the above factors, communities of practice, social networks, values, management support and communication channels together with other motivating factors were found to be most relevant. The proposed KS model was premised on these factors. In order to get people to willfully share their knowledge and guarantee the success of any KS initiative, it is therefore important to develop and adopt a KS model that is sensitive to a specific organisational context.

5. RECOMMENDATIONS FOR NEXT STEPS

Based on the findings in this study, it is proposed that an empirical study be conducted at the regulatory authority in East Africa to validate the KS model proposed in this report.

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