ADDIS ABABA UNIVERSITY

SCHOOL OF GRADUATE STUDIES

Knowledge Management Maturity Assessment in Development Aid Organizations in Ethiopia

A Thesis Submitted to the School of Graduate Studies of Addis Ababa University in Partial Fulfillment of the Requirements for the Degree of Master of Science in Information Science

BY

HERMELLA AYALEW

MAY 2013

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Name	**Title**	**Signature**	**Date**
_____	Chairperson	_____	_____
_____	Advisor	_____	_____
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Abstract

Effective delivery in the fields of development aid relies on knowledge and its communication and reach of dissemination. Development assistance organizations, practitioners and stakeholders are considered as key actors in the production and communication of knowledge. Knowledge exchange among practitioners in development assistance is now at the forefront of global development policy formulation. This is also true in Ethiopia where a multitude of development agencies interact, produce knowledge and share among themselves to meet their development assistance objectives in support of the country's growth and transformation plan.

To better understand the ongoing state of knowledge management (KM) in development aid organizations, this study adopts the perspective of Kruger and Synman (2003) to assess and describe the process in which knowledge management is defined, managed, controlled and implemented in knowledge-intensive Development Aid Organizations in Ethiopia.

The survey assessed the level of knowledge sharing activities and suitable arrangements in place to facilitate the implementation of knowledge management initiatives in their respective organizations. Majority of the respondents indicated that their organization has strong knowledge sharing mechanisms even though not all mechanisms are yet systematic and well organized. Almost all respondents (90%) felt they have adequate ICT infrastructure in place that could support current or future KM initiatives.

The majority of the organizations who participated in this study recognize the importance of managing knowledge and claim to be making serious attempts to establish active KM initiatives. Respondents felt varying degrees of current and future KM initiatives represent a significant opportunity to improve their current work performance. Responses to a question on key challenges impeding effective knowledge sharing fell in the realm of lack of time or resources, some staff members being reluctant to share knowledge, concern that sensitive/confidential information becoming public and most importantly lack of formal organizational guidelines on proper knowledge sharing and management.

While the overall lack of well-defined KM strategies is a challenge, there are good practices and respondents have shared that their organizations are rapidly moving towards building on and further developing their knowledge management practices in the coming few years. Based on the responses gathered the study concludes by recommending action points that enhance conducive conditions for effective knowledge sharing in support of development goals.

Further research is needed to evaluate the direct or indirect relation between the knowledge management practices already in use and the implementation effectiveness of development assistance objectives.

Table of Contents

List of Tables

List of Graphs

List of Charts

Acronyms

CoP …….. Community of Practices
CSF…….Critical Success Factors
HR ……..... Human Resource
ICT …… Information Communication Technology
IT ……..... Information Technology
KM …… Knowledge Management
KMMM……..Knowledge Management Maturity Model
KS ……..…… Knowledge Sharing
LDC……List Developed Country
NGO……Non-government Organizations
ODA……Official Development Assistance
OECD……..Organization for Economic Cooperation and Development
SECI…….. Socialization, Externalization, Combination and Internalization
UN…… United Nations

CHAPTER ONE

INTRODUCTION

1.1 Background

There is a growing consensus that the effective and productive management of knowledge is a critical factor for the success of an organization. Knowledge is a most valuable strategic resource that requires constant renewal. Yet not many organizations in Ethiopia have started building their capacity to manage knowledge. It is important to build the knowledge-based organization and leverage knowledge to increase effectiveness, productivity and quality; in a nutshell to improve the performance of an organization.

The term 'knowledge management' (KM) could be defined as the systematic process of identifying, capturing and sharing knowledge people can use to improve performance according to Alavi and Leidner (2001) . KM is a dynamic process and multidimensional in nature, encompassing information/knowledge content management, organizational aspects, information and communications technology (ICT) etc. Accordingly, any comprehensive KM strategy should take into consideration the cross-functional nature of the issue, involving broad areas of activity of the organization, from human resources management to information and technology services.

Effective knowledge organizations support free flow and sharing of knowledge and information in all activities. Through Knowledge Networks and communities of practice development organizations can promote partnership, teamwork, with the free exchange of knowledge and best practices between the organization, operational partners and international agencies.

KM is not new to development aid in Ethiopia. Knowledge sharing has progressed in development and aid organizations in the country over the past few years through several initiatives and tools (public website, emergency response portals, intranets, Information Centers, databases available in different forms and accessible through Internet, etc). Some common web based tools for knowledge sharing include websites and portals, web based discussion forums, online directories, blogs, wikis, calendars, online decision support tools and content management systems.

Since the 1950s, a central question in international development has been how knowledge can best be generated, mobilized, made available, applied and adapted to improve the human condition. In development aid organizations in Ethiopia, there is a great deal of knowledge generation albeit limited knowledge organization and structure. The two main limitations of the knowledge management functions in these organizations are systematic knowledge codification and the strategic planning and execution of knowledge dissemination. This limitations can be alleviated by putting in place an effective knowledge management initiative. This research intends to assess the state of knowledge management practices in development aid organizations in Ethiopia.

1.2 Statement of the problem

A defining key role development aid organizations have is building the capacity of beneficiary entities to process and use knowledge to engage effectively in substantive development debates and decision making processes (Keeble, 2002). This mandate requires development organizations to have quality learning and knowledge management systems. In addition it calls for knowledge-based aid and the globalization of knowledge requiring development organizations to reflect on how their internal Knowledge Management and learning systems interact with external information flows and policy trends (King, 2001).

In Ethiopia, development aid organizations play a crucial role in accelerating development assistance. The critical roles of these organizations are coordination of aid efforts, supporting development planning, building development capacity, investing in infrastructure and humanitarian aid.

Where knowledge sharing is concerned, the working culture of most of these organizations in Ethiopia is in a way that the focus is on practical questions of day-to-day work rather than on lessons being learned at a strategic level. It's usually hard to find good examples of a coordinated and strategic approach either to knowledge dissemination or knowledge strategy in the non-profit industry. The information services in these offices are mainly supply oriented, and user needs do not always coincide with the way information is made available.

Most of the time, the problems associated in this regard are not what technological platform to use but how to manage the vast amount of knowledge generated in a way that satisfies stakeholders, peers and government counterparts as a strategic asset for development assistance.

Although some development organizations try to actively align their work processes with a knowledge management component, these segregated tools (intranets, shared network drives etc), case studies and best practices are not always available to other similar organizations. They merely serve as knowledge repositories for the specific organization's internal and usually mandate specific purposes.

The above stated challenges are main causes for the lack of known solutions to have a unified knowledge management practices where management, program staff, technical working groups synthesize their knowledge to reach development aid objectives.

Furthermore, there is an extensive and rich literature on knowledge management and its implications worldwide but most of these studies are conducted in the context of the profit making industries. There's little evidence, if any, regarding practical applications of knowledge management in development aid organizations in Ethiopia. It's critical to explore and implement knowledge management's relevance and impact on aid effectiveness in a development aid organization (Ramalingam, 2005).

It is essential that non-profit organizations working in the country have a viable strategy to manage and share their knowledge as well as learn from themselves. Without such a mechanism:

- Much knowledge must be re-learned in each region, project or programme, wasting costly time and resources
- Aid Organizations do not learn what is working and what needs to be changed in order to make their aid efforts more effective in Ethiopia.

To alleviate this, it is mandatory that an effective knowledge management initiative is in place which can be measured for effectiveness when considering enhancing the efficiency of development assistance. In order to establish an effective measurement of the impact of knowledge management we must first evaluate the structure of the knowledge flow and make up of knowledge sharing practices in the development aid organization in the country.

In light of the above, this study aims to explore the following research questions:

- How do development aid organizations in Ethiopia use ICT and information management as enablers of knowledge management?
- Do development aid organizations in Ethiopia put in place strategies and policies to manage knowledge resources and/or to leverage existing knowledge?
- To what extent are development aid organizations in Ethiopia aware of the importance of knowledge management as a strategic enabler?
- To what extent do development aid organizations in Ethiopia rely on external knowledge sources to carry out their development assistance objectives?

1.3 Objective(s)

1.3.1 General Objectives

The primary objective of this research is to asses Knowledge Management maturity of development aid organizations in Ethiopia, and as a result to provide an insight for the development of a concise baseline.

1.3.2 Specific Objectives

- To discover what strategies and policies development aid organizations put in place to manage knowledge resources and/or to leverage existing knowledge.
- Identifying the major initiatives and suitable arrangements made to enhance knowledge management implementation efforts.
- Assessing how development aid organizations use ICT and information management as enablers of knowledge management.
- Examine the extent that development aid organizations regard knowledge management as a strategic resource
- Assess what external knowledge sources development aid organizations in Ethiopia rely on to carry out their development assistance objectives.
- Propose key considerations of Knowledge Management planning and implementation in development aid organizations based on analysis of gathered data.

1.4 Scope and limitation

The guiding principle and practice behind Knowledge Management in non-profit organizations is one that aims to disseminate knowledge to every individual involved in the organization no matter their standing or rank which is somewhat similar to the role of Knowledge Management, in profit making industries, as a tool ensuring end users' access to knowledge irrespective of their position in society.

This paper concentrates on the applicability, progression and maturity of Knowledge Management in the non-profit sector in Ethiopia. This will include basic definitions of Knowledge Management, the essence of KM in non-profit organizations, application areas, exploration of research findings conducted in the area as well as survey and analysis of a comprehensive Knowledge Management maturity assessment for development aid organizations in Ethiopia. To achieve this, the study will only include selected development aid organizations in the country.

The result of the research would have provided a more holistic view of KM in the country if it was conducted widely including several public and private organizations from other sectors. However, due to time, labor and monetary constraints the study is limited to treat the problems and factors of knowledge sharing among international development aid organizations in Ethiopia

1.5 Significance of the Research

This study aims to explore factors that influence the exchange of knowledge in aid and development organizations. The finding of this study is expected to build ways of putting in place effective knowledge management strategy and implementation in the development aid sector. Output from this study will also strengthen sharing successful KM initiatives, learnt from the staff experience, both successes and failures, emerging from survey responses of experts.

The result from this research is expected to help in:-

- Assessing knowledge resources of all actors and concerned stakeholders in a way that guides reaching development aid objectives.
- Identification of information/knowledge needs, which will be compared with knowledge assets, followed by preparation of respective action plan.
- Expanding ways in which information and knowledge are disseminated, using explicit and tacit knowledge to solve practical problems.
- Capturing and sharing best practices and lessons learnt.
- Systematically include KM in development programmes of aid agencies in the country
- Give way to a development aid Knowledge Management Strategy, Streamlining management practices by institutionalizing KM or blending systematically KM processes with normal work processes.
- Strengthen government oriented capacity building operations.

1.6 Organization of the study

This paper is organized into FIVE chapters. The first chapter is about the background of the study, statement of the problem, objective of the study and scope and limitation of the study. The second chapter presents review of related literatures to knowledge management, international development aid in Ethiopia, knowledge management maturity models and related works in that area. The third chapter discusses the methodologies and procedures followed for the data collection, analysis and interpretations. The fourth chapter presents the study findings, analysis and presentation of the results. The fifth chapter brings to an end of this survey research with conclusion and recommendations.

CHAPTER 2

REVIEW OF RELATED LITERATURE

2.1 International Development Aid

The concept of government sponsored development aid was brought to light post World War 2 in the 1940s. The first official aid program was launched by the United States in 1948. Development aid organizations play a crucial role in accelerating development assistance. The critical roles of these organizations are coordination of aid efforts, supporting development planning, building development capacity, investing in infrastructure and streamlining resources.

In development aid, services are remarkably free from self-interest and more oriented towards their stated objectives of poverty alleviation, the promotion of democracy and human rights. The focus in these organizations is targeting developmental aims be it economic, environmental, social or political to developing countries. Development cooperation harnesses partnerships between donors and recipients.

Sources for aid are distinguished as bilateral and multilateral. In the former case resource for aid is given directly from one country to another while in the latter donor countries give funding for aid to international organizations such as the World Bank or the United Nations which then distribute these resources among developing countries. OECD's 2013 aid statistics shows that, , Official Development Assistance (ODA) flows have continued to rise and in 2010 reached their highest real level ever at USD 129 billion.

How aid is allocated across recipient countries and how it should be allocated so that aid resource can effectively promote economic development in LDCs is another important topic in the aid literature. In fact the effectiveness of aid is often contingent on the underlying principle of aid allocation. The type of aid and its relevance to the particular country; and the term and condition of aid and its link with trade and other financial inflows do affect the capacity of aid resources to address the development problem of the recipient. It is often common to see in the aid literature that "aid effectiveness" and "aid allocation" addressed side by side.

In the early decades of development economics the underlying assumption of aid literature has been that aid is given by rich country donors to promote development in the third world countries. Whereas at the same time the official aid reports of donors didn't conceal the fact that they take in to account national interest in disbursing aid money along with the development motive (Maizels and Nissanke, 1984).

Most of the existing literature attempts to determine the motivation of aid giving through a cross-country test of these two broad categories of motive without much of a theoretical explanation.

Some of the theoretical literature that attempt to understand the demand and supply behavior of aid giving on the other hand treat foreign aid as an international public good.

One of the most widely cited choice-theoretic model by Mosley (1985) treat foreign aid as a public good for which there is imperfect market -imperfect mainly because of ignorance of those who demand aid expenditure by their government (the tax payers) about the nature of the commodity they are buying with tax price. Donor country public demand for aid expenditure by their government can't be modeled in the standard decreasing function of tax price of aid because of public ignorance (about the total quantity of aid expenditure and hence its tax price to them and about the output of aid), and altruistic bases of public demand for aid. Rather than the tax price the donor country public demand for overseas aid expenditure is assumed to be influenced by the public perceptions weather the country could afford it or not and the quality of the aid process. Mosley (1985) corroborates this hypothesis by a survey of British public opinion that confirms the quantity ignorant, quality conscious and altruistic public demand.

Thus tax price is absent in the demand function for aid. Instead the relative national income of the donor country (to measure the affordability constraint on public demand for aid expenditure) and an Index of aid quality indicators are the variables used to explain the desired public demand for aid expenditure. However this altruistic and humanitarian public demand for aid expenditure doesn't necessarily lead to an increase in the flow of a more "poverty focused" aid to developing countries. The major hypothesis of the model is that given the proposition the voting public is more humanitarian than their government in aid giving,

> ...If a donor government is willing to come half way to meet the public (demand) by altering its aid program in a more "poverty focused' direction (as happened in a number of countries in 1973-75), then the public demand for aid, at a given level of relative national income will increase, (Mosley, 1985)

But whether the donor government will come half way, that is, how far the government's supply of aid expenditure adjusts to the desired demand by the voting public is crucial to the hypothesis. The actual consumption of overseas aid (in fact the consumption of all publicly supplied services) can't be adjusted to desired level by market mechanism, that is, by varying the amount of consumption. This is simply to say that the actual supply function is exogenously fixed (vertical). The voting public can influence to adjust the actual to the desired through political action (by politically pressuring the government to push the supply curve in the desired direction).

The actual aid supply function (donor government aid budget) in a particular time is assumed to be predetermined -influenced by the previous time expenditure- for the good reason that aid money is committed money that can't be easily changed in any given time. At any given time then the donor government is suppose to have only a marginal influence, which is to be affected by the state of the domestic economy, international norms (the aid program of a given donor need to keep-up with the decisions of others in the donor community) and the effectives of the public pressure to adjust actual supply to desired demand. It is this effectiveness of the public pressure that will

determine whether the government will come the half way to meet the humanitarian public demand for oversea aid expenditure and lead to a more quantity and quality of aid.

It is clear then that the high quality and quantity in public demand for aid would not necessarily lead to a more inflow of development assistance and a more poverty focused distribution of aid. The public may not be effective in politically pressurizing its government to adjust the actual to the desired. In fact, aided by the public ignorance, the donor government can even influence its public to adjust its desire to the actual quantity and quality of aid expenditure.

In general this choice-theoretic model of aid allocation by Mosley (1985) determines the type and quantity of aid disbursement at a particular time by domestic factors that shape demand and supply. On the supply side, aid disbursement of a donor is influenced by past disbursement, disbursement by other countries and the present state of the economy. It is then to be expected that the aid disbursement of a donor at any particular time is positively related with past disbursement and other donors' disbursement and negatively related with the present level of unemployment and budget deficit in the donor country. The preliminary empirical test by Mosley (1985) confirms this, but found only past disbursement and the disbursement of other donors are significant for most of the donors. On the demand side aid disbursement of a donor is influenced by the relative income of the donor and aid quality. The coefficient for both relative income and aid quality are the response of public demand for these variables as well as the response of the government to public demand -both are unobservable responses.It is the more sophisticated study by (Mckinlay & Little 1979) that has innovated the "recipient need" and "donor interest" models to analyze the underlying principle of aid allocation by the four major bilateral donors-Germany, the United States, France and Britain. The "recipient need" model assumes the underlying principle of aid allocation is the economic and welfare (or generally humanitarian) need of the recipient whereas the alternative "donor interest" model assumes foreign policy interests of the donor as the underlying principle.

The empirical literature to determine the aid relation on the other hand broadly conclude that both humanitarian motive and national interest are present in the aid allocation of the western donors, the latter motive dominating aid disbursement for a long period. Davenport (1970) regressed aid from OECD countries to 34 developing countries, on the level of per capita income, inflow of private capital (as percentage of GNP), foreign reserve assets (as percentage of imports) and on population size; and found that the inflow of private capital and foreign reserve assets are significant and positive, whereas the level of per capita income is significant and negative. The positive sign of the coefficient of private capital inflow, which is used as a proxy variable to the absorptive capacity of the recipient country, shows aid and private capital inflow are complementary to each other. This could be interpreted as suggesting stability (at least financial stability that helps to attract foreign portfolio investment) and western disposition go together. The negative relationship between aid inflow and the level of per capita income shows aid is allocated to poor countries, proving the existence of the development motif in the allocation of aid from OECD counties. Henderson (1971) on the other hand found only population size has a significant

and negative relationship with aid inflow for the period between 1961-67, suggesting the tendency aid inflows to diminish with the size of the recipient.

The recipient economic and humanitarian need is defined by the relative domestic resource and foreign exchange availability short falls. The level of Per capita GDP and its growth rate primarily measure the domestic resource shortfall in real terms. To compensate for the crudeness of per capita GDP quality of life indicators such as the physical quality of life index (PQLI) is often used to measure the relative domestic resource shortfall to address poverty in recipient countries. The relative foreign exchange availability short fall, which represents the balance of payment constraint faced by the recipient, is measured in the Mckinlay-Little studies by the size of the national liquidity holdings as a percentage of imports.

To identify the various foreign policy interests western donors pursue through foreign aid commitment, the Mckinlay-Little studies consider two main propositions. (1) By establishing commitment and dependency a state can realize certain foreign policy utilities; (2) aid can be used to establish commitment and dependency. The various foreign policy interests derived from these propositions that cover both internal and external aspects then are grouped in to five broad categories, viz;

1. Development interests focuses on economic development and performance capabilities of low income countries

2. Overseas economic interests focus on the variety of domestic and foreign benefits that can accrue to high-income country through trade and investment ties with low-income countries.

3. Security interests focuses on the security issues raised by the perceived threat of communist expansion.

4. Power political interests focuses on the power capabilities of low-income countries.

5. Political stability and democracy focuses on the political structure and ideology of low-income countries.

These are not mutually exclusive categories but are simply the different possible interests a donor may pursue in a recipient country. The variables used to operationalize these interests include the level and growth rate of per capita GDP, the ratio of export and import to GDP, the existence and number of defense treaties, gross military expenditure, international liquidity holdings and bans on parties other than the communist party.

Mckinlay and Little applied their innovative model to data for each year between 1960 and 1970, and found, for all the major donors, the application of the recipient need model produce no statistically significant results. The donor interest model, on the other hand, provides a good explanation of aid allocation during the period, while the dominant category of interest varies substantially across the major donors.

The Mckinlay-Little studies used absolute commitment - the absolute amount of aid or aid inflow per GDP - as the dependent variable to explain the motivation behind bilateral aid allocation. These studies then left the underlying principle of multilateral aid allocation unexplained. Beside, absolute commitment by a donor is substantially influenced by the size of the recipient measured by its total population. A high population size is a good indicator for the potential economic, political and military power of the recipient thus making population size a donor interest variable. However population size can as well be taken as a recipient need variable for a more populated developing country is suppose to require more aid inflow to address domestic resource short fall. This creates confusion in interpreting the coefficient of the total population in the aid allocation equation, which many cross-country studies found the most significant independent variable.

Maizels and Nissanke (1984) extend the Mckinlay-little studies by fitting the two alternative models to both bilateral and multilateral aid inflows. They also come across the population problem by taking relative aid commitment - the value of aid per head of the population size - as the dependent variable. In a cross-country regression of both bilateral and multilateral aid per capita inflows to 80 developing countries, Maizels and Nissanke found the recipient need model provide a reasonable explanation of multilateral aid allocation in 1969-70 and 1978-80. Among the recipient need elements they found the balance of payments constraint the most significant element for multilateral aid allocations. In fact they also found the balance of payment constraint highly significant to bilateral aid allocation, contrary to the Mckinlay-little studies. This contrast between the two is primarily due to the different variables used to measure the balance of payment constraint. Maizels and Nissanke(1984) used the current account deficit relative to GDP to measure relative shortfall in foreign exchange availability. The significantly negative coefficient of the current account deficit could be interpreted, as foreign exchange constraint on economic growth is an important element in both bilateral and multilateral aid allocation. However it could be because of the OLS estimation technique they used do not take in to account the simultaneous causation between aid flows and economic performance of the recipient country. Thus the significant coefficient of current account deficit could also be interpreted as aid inflow encourages expansion of recipient import.

To test the donor interest model, Maizels and Nissanke (1984) took only the external linkage of donor-recipient relationship, and include only political and security interests (operationalized by arms transfer) and donor investment and trade interests in the recipient country. Nevertheless their test, like the Mckinlay-Little test, found donor interest model provide a good explanation of bilateral aid flows, while at the same time acknowledging difference in the weight of the different donor interest elements across the major bilateral donors.

In a stepwise regression by using the independent variables from both models in to a single equation, Maizels and Nissanke test for the change in the balance between recipient need and donor interest over the decade. They found a shift from donor interest to recipient need aid inflows over the 1970s, reflecting a shift from bilateral to multilateral channels and the decline in bilateral aid during the period.

However this shift towards recipient need aid inflow has not been sustained for long. Recent empirical studies has shown the donor interest model still provide a good explanation of total aid inflow to developing countries. Boone (1995) found political factors operationalized by political dummies largely determine aid per GNP inflows for the period 1971 to 1990. He also found that once per capita GNP is controlled aid per GNP inflow is not directed to countries with poor human development indicators and that most of the inflow is to small countries, indicating recipient humanitarian need had not been the primary motive of aid giving during the period. Burnside and Dollar (1997) also found political dummies that capture donor strategic interest have large positive coefficient for the period 1970-1993. Again these donor strategic elements are found to be more important in bilateral aid inflows than the multilateral aid allocation.

2.2 International development aid in Ethiopia

Despite the fact that the history of the growth performance was poor in the past; the country has experienced strong economic growth in the current time (especially, since 2003/04). According to Ncube, Lufumpa and Ndikumana (2010) real GDP averaged 11.2 % per annum during the2003/04 and 2008/09 period, placing Ethiopia among the top performing economies in sub Saharan Africa and rapidly becoming Africa's fastest-growing non-energy economy. In spite of this growth the country remains heavily dependent on foreign aid in order to function.

After World War II, the flow of foreign aid has been seen as the panacea to overcome underdevelopment globally. Ethiopia is not an exception to this view. The country is now one of the leading recipients of large foreign aid inflows. Foreign aid funds in the country are used not only to provide emergency relief but also to support long-term economic development as well as cover yearly budget deficits.

Researchers give a few reasons for the economy's dependency on aid. Dependency of economic growth on climate conditions hinders the adequate expansion and growth of the largest economic resource, agriculture. Weather conditions and economic performance are still strongly tied with each other. The other most critical challenge is the financial gap particularly savings investment gap, foreign exchange gap and fiscal gap that plague the economy. In recent years the savings-investment gap has been widening from an average of 1.1% of GDP during the Imperial period (1960-74) to 6% of the GDP during the Derg period to 11.7% of the GDP in the EPRDF (1991/92-2007/08) (Tadesse, 2006). This financial resource shortfall leaves the country with no choice but compulsory constant inflow of foreign aid to bridge the gaps. For this reason foreign aid keeps contributing a significant portion of the country's yearly fiscal budget. Donor countries and the United Nations have numerous representative offices in the country to manage funds and implement development programs.

2.3 Knowledge Management and its common frameworks

The advents of the Internet and the World Wide Web have made unlimited sources of knowledge available to us all. Forty years ago, nearly half of all workers in industrialized countries were making or helping to make things; now that proportion is down to 20% (Drucker, 1994). Labor-intensive manufacturing with a large pool of cheap, homogeneous labor and hierarchical management has given way to knowledge-based organizations. There are fewer people doing more work. Organizational hierarchies are being put aside as knowledge work calls for more collaboration. The only sustainable advance a firm has comes from what it collectively knows, how efficiently it uses what it knows, and how quickly it acquires and uses new knowledge, (Davenport & Prusak, 1998). An organization in the Knowledge Age is one that learns, remembers, and acts based on the best available information, knowledge, and know-how.

We define Knowledge Management as a framework for designing an organization's goals, structures, and processes so that the organization can use what it knows to learn and to create value for its customers and community (Kimiz Dalkir, 2007). Thus, there is no single, universal recipe for managing knowledge, each organization has to think through and design its own approach.

One way to describe KM is as a process of building a mosaic of knowledge from a collection of both trivial and invaluable pieces of information. These pieces of data ranging from tangible facts and figures to elusive assumptions based on time-sensitive circumstances can be daunting to process or make meaning of especially when different departments are either unwilling or unable to share information with each other.

Knowledge Management encompasses theories, models, processes and technologies that support the protection, development and exploitation of knowledge assets. By managing intellectual capital that exists in both explicit and tacit forms, knowledge management enhances an organization's ability to learn from its environment and to incorporate knowledge into business processes.

Researchers have proposed a plethora of KM frameworks, models and perspectives to help understand KM phenomena. The below aims to give the reader a comparison of existing knowledge management models as seen from diverse perspectives by different authors who wrote published articles on the area between 1997 and 2003.

Given, the importance of knowledge management in development aid and the complexity of its nature, it is important to understand the latest theories and models underlying knowledge and knowledge management. In an attempt to address this issue, this part of the literature review examines the latest models of knowledge management and discuss on the assumptions and views of each model. The aim is to investigate the current understanding of the theory and practice of the emerging and existing knowledge management models. Hence, practitioners in development aid

organizations can understand their concepts and improved approaches can be developed and applied to organizations and to those who need to work and implement knowledge management. The selection criteria of these models was primarily based on applicability. From the various KM models available the researcher selected those that can be applied to both profit making and non-profit industries. Core ideas of selected models are discussed here under.

1. Nonaka's Knowledge Management Model

Nonaka's (1994) knowledge management model presumes that knowledge consists of tacit and explicit elements. In this aspect, tacit knowledge is defined as non-verbalized, intuitive and unarticulated, whilst, explicit knowledge is articulated and can be specified in writing, drawings, computer programming etc. This model believes tacit knowledge can be transferred into tacit knowledge in others by *socialization* and tacit knowledge can be transferred into explicit knowledge by formalizing a body of knowledge or through *externalization* process.

The model also presents that explicit knowledge can be transferred into tacit knowledge by translating theory into practice also known as a process of *internalization* and explicit knowledge can be transferred to explicit knowledge in others by combining various existing theories known as *combination* process.

Boisot's (1987) codified and uncodified knowledge has some degree of similarity with Nonaka's category of tacit and explicit knowledge: both models assume that there is a spread or diffusion of knowledge across the organizations as indicated in Figure 1 and Figure 2. In correspondence with Boisot's model, Nonaka's tacit and explicit knowledge are two separate categories of knowledge.

	Tacit	Explicit
Tacit	Socialization	Externalization
Explicit	Internalization	Combination

Figure 1: Nonaka's knowledge Management Model

Codified	Propriety Knowledge	Public Knowledge
Uncodified	Personal Knowledge	Common Sense
	Undiffused	Diffused

Figure 2: Boisot's knowledge Category Model

2. Hedlund and Nonaka's Knowledge Management Model

Knowledge transfer in organizations is not as simple as Nonaka's simple matrix suggests. Knowledge transfer can be very complicated and complex hence, a more elaborate version of Nonaka's model was developed to describe the four levels of carriers or agents of knowledge in organizations. This four levels of 'carriers' perspective assumes that knowledge is categorized into the individual, the group, the organization and the inter organizational domains. In this aspect, the inter organizational domain includes important customers, suppliers, competitors and others.

Hedlund and Nonaka (1993) argue that knowledge management characteristics can have serious implications for the various types of activities such as innovation and strategies and this can affect

organizations' success or failures. Hence, this suggests that the essence of organizations' survival and success can depend on how they create, transfer and exploit their knowledge resources.

	Individual	Group	Organization	Inter-organizational Domain
Articulated knowledge	Knowing calculus	Quality Circle's documented analysis of its performance	Organization chart	Supplier's patents and documented practices
Tacit knowledge	Cross-cultural Negotiation Skills	Team coordination in complex work	Corporate Culture	Customer's attitudes to products and expectations

Figure3: Hedlund and Nonaka's KM model

3. Kogut and Zander's Knowledge Management Model

Kogut and Zander's (1993) work is focused on the idea that "what firms do better than markets is the creation and transfer of knowledge within the organization". They assert that 1) firms are efficient by which knowledge is created and transferred, 2) a common understanding is developed by individuals and groups in a firm through repeated interaction to transfer knowledge from ideas into production and markets, 3) what a firm does is not depending on the market's failure rather the efficiency in the process of transformation relative to other firms, and 4) the firm's boundary is determined by the difference in knowledge and the embedded capabilities between the creator and the users (possessed with complementary skills) and not market failure.

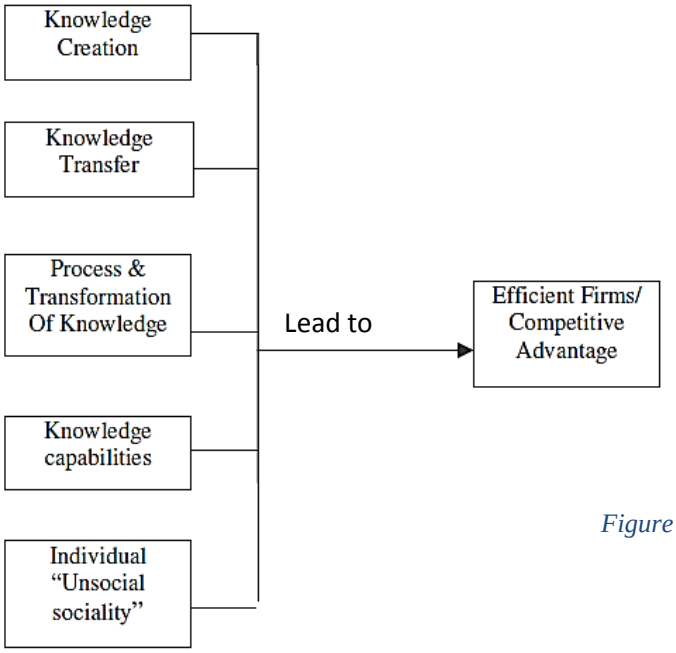


Figure 3: Kogut and Zander's KM model

4. Arthur Andersen and APQC Organizational KM Model

Arthur Andersen and APQC (1996) have advanced a model comprised of seven KM processes that can operate on an organization's knowledge. These processes are creating, identifying, collecting, adapting, organizing, applying, and sharing. The model identifies four organizational enablers that

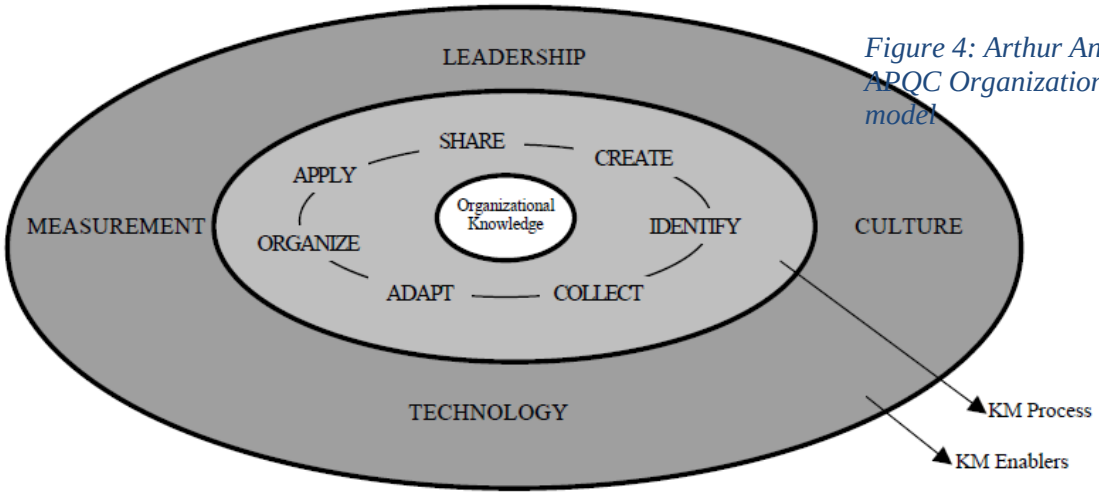


Figure 4: Arthur Anderson & APQC Organizational KM model

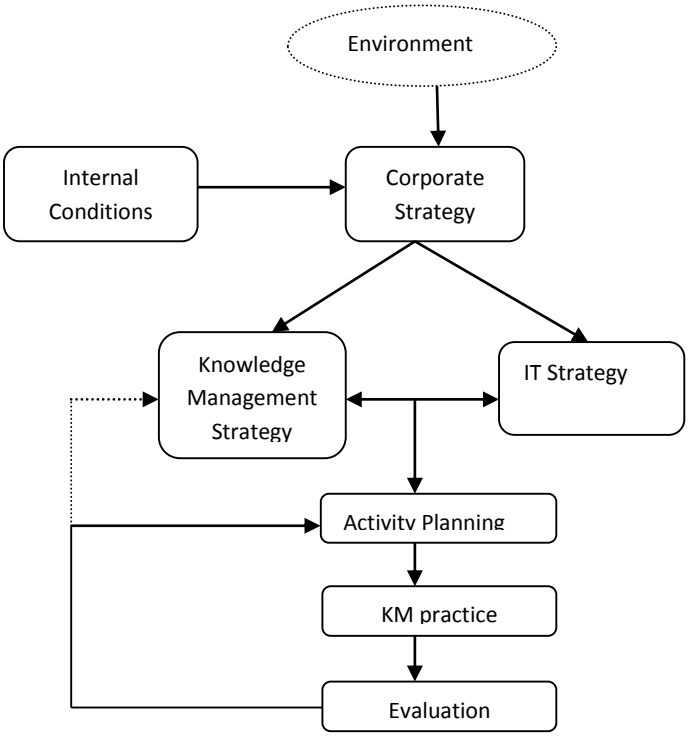
facilitate the workings of the KM processes: leadership, measurement, culture, and technology. As such, it identifies knowledge manipulation activities and their enablers. The below figure illustrates this model.

Considering this research's objectives to explore the technological and human factors influencing KM in development aid, this model is used as an additional model to guide this study, primarily because of the below reasons that are in line with the objective of this research work:

1. The intent of the Arthur Andersen and APQC framework is to provide a basis for benchmarking the conduct of KM within and among organizations
2. This model gives emphasis to the critical influence of technology on knowledge management
3. The model addresses key enabling factors (measurement, culture, technology and leadership) to develop a knowledge management framework. These enablers are common to KM in all organizations regardless of the industry and therefore they are cross cutting meaning they could be taken as influencers of a KM framework in the non profit sector as well.

2.4 Knowledge Management and Information Technology

KM is not identical with Information technology but largely uses technological tools and thus tightly related to IT especially in terms of Knowledge codification. KM and IT converge at not only knowledge, codification, storing and transferring stages but also during elicitation where data mining tools such as data analysis, statistical tools and OLAP technologies are used to create additional knowledge (Feher,2002).



5. Additionally KM and IT relate in terms of strategic focus. KM strategies usually outline the level of technological and non-technological support needed to avail best knowledge processing, storing and transferring. Deducing from extensive review of plenty of studies Feher devised a framework that depicts the connection of knowledge management strategy, knowledge management support systems and IT strategy.

Figure 5: The organizational process of knowledge management (Feher, 2002)

Activity planning is the selection of tools and methods for supporting or creating the KM activities in each domain. In some cases technological tools are employed in others non-technical solutions are necessary. The personalization knowledge codification component of KM is more human oriented (sometimes this is referred as the human infrastructure) and functions with non-technical tools. This sometimes makes the role of IT lower.

Choi and Lee's research support the connection of KM and IT further. The researchers argue that information technology can be used for both system and human approaches of KM strategy. In system approach, it's used to codify knowledge using traditional information processing technologies while in human approach technology is used to implement communities of practice and online discussion groups as well as facilitating video conferencing for face to face meetings.

Feher also argues that it's generally accepted that most KM support systems are dependent on experts and co-workers as they are designed to be maintained, updated and verify knowledge by humans. For this reason, the systems remain static as stored knowledge usually represent only a specific period of time

Table 1 shows assessment of different technological solutions as per strategic focus against knowledge management support systems.

	Knowledge Repository	Discussion Forums	Groupware	Knowledge Creating Techniques	Rule-Based Systems	Case based Reasoning	Model based systems	Neural Nets
Domain [1]	0	0	0	Complex	Complex	No model	Complex	Unstructured
Knowledge Size [2]	0	0	0	0	Small	Medium	Big	Big
Role of Expert [5]	Input	Answer	Cooperate	No	Rules	Solutions	Model	no
Complexity of knowledge	Low	Middle	Middle	Middle-high	High	middle	High	middle
Static/dynamic knowledge	Static	Dynamic	Dynamic	Static	Static	Dynamic	Dynamic	Dynamic
Tacit knowledge [3]	Middle	Middle	Middle	Low	Low	High	High	High
Finding/elicitation [4]	2	3	2	4	2	2	2	3
Processing/Organizing [4]	3	0	2	3	3	3	3	3
Storing [4]	3	0	2-3	2	3	4	3	4
Transferring [4]	2	5	4	0	2	2	2	2

Note:
[1]- The complexity and exploration of knowledge domain (structures,elements,relations)
[2]- The deepness of knowledge, how detailed for a domain
[3]- The possibility of representing tacit knowledge
[4]- Assessed at 1 (poor) 5(excellent) scale
[5]- The role of the knowledge holder experts
0- null or not defined

Table 1: Assessment of different technological solutions

Rule-based systems, Cased-based technologies, Model-based systems and Neural nets represent Knowledge Management support systems (KMSS). Knowledge can be represented in rule-based systems as a collection of If(x) then(y) rules. They are applicable for heuristic domains especially in support of expert systems. Cased-based technologies are problem solving systems based on human reasoning models using previous experiences. Model-based systems construct models of the reality of the human environment. They store, represent and organize all types of knowledge. Neural nets are systems that are trained by example before the first use. They are based on mathematical rules.

2.5 Knowledge Management Maturity Models

Akin to the life cycle theory, a maturity model describes the development of an entity over time and have the following properties (Klimko, 2001; Weerdmeester et al., 2003): an entity's development is simplified and described with a limited number of maturity levels (usually four to six), levels are ordered sequentially and characterized by certain requirements that the entity must achieve, and the entity progresses from one level to the next without skipping any level.

Maturity models have been developed for many different entities, including IS. One of the best known models is Nolan's stages of growth of EDP (Nolan, 1979). The model identifies various organizational issues in IS implementation and development and highlights the priorities requiring managerial attention at different stages of growth. It has stimulated much interest among IS scholars (e.g., Benbasat et al., 1984; Henderson and Treacy, 1986; Kazanjian and Drazin, 1989) and is considered a significant conceptual contribution that promotes a more structured approach to studying information processing in organizations (King and Kraemer, 1984).

In view of the complex nature of KM, past studies have identified several requirements that an ideal Knowledge Management Maturity Model (KMMM) should fulfill (Ehms and Langen, 2002; Paulzen and Perc, 2002). It has been suggested that KMMM should be applicable to different objects of analysis such as organization as a whole, traditional and virtual organizational units, and KM systems (Ehms and Langen, 2002). This can be achieved by focusing on processes rather than specific objects of analysis (Paulzen and Perc, 2002).

It has also been recommended that a KMMM should provide a systematic and structured procedure to ensure the transparency and reliability of assessment (Ehms and Langen, 2002).
It should also provide both qualitative and quantitative results (Ehms and Langen, 2002). Paulzen and Perc (2002) emphasized the importance of measurement and echoed the suggestion that the characteristics of each maturity level should be empirically testable (Magal, 1989). In IS research, the lack of a clearly specified assessment procedure for Nolan's model has been identified as one of the reasons for its validation to be inconclusive (Benbasat et al., 1984; Kazanjian and Drazin, 1989). Clearly articulating the assessment procedure can help to avoid such problem by allowing independent application and validation.

In addition, it has been suggested that the underlying structure of KMMM should be comprehensible and allow cross references to proven management concepts or models (Ehms and Langen, 2002) to support continuous learning and improvement (Paulzen and Perc, 2002). This can be achieved by reviewing existing literature to identify salient KM issues and incorporate the findings into the development of KMMM.

Nolan's model has been criticized as being overly simplistic for overlooking development in other organizational aspects (Lucas and Sutton, 1977). Therefore, it is important for the proposed KMMM to look beyond technology. Indeed, it has been suggested that KM models should adopt a multifaceted and socio-technical view of organizations by considering not just technology but also its people and processes (Alavi and Leidner, 2001).

In reality, it can be challenging for a KMMM to satisfy all the requirements. One reason is that some requirements may require tradeoff with other requirements when implemented together. For example, Ehms and Langen (2002) have suggested that KMMM should ideally be applicable to

different objects of analysis. This may require higher level of flexibility in the model's formulation which may result in a less systematic assessment approach. Hence, it is important to strike a balance among these requirements.

2.5.1 KMMMs versus the Capability Maturity Model (CMM)

CMM is proposed to describe and determine the software engineering and management process maturity of an organization. Its main purpose is to guide software organizations in progressing along an evolutionary path from ad-hoc and chaotic software process to matured and disciplined software process (Herbsleb et al., 1997). The model has gained considerable acceptance worldwide and has been regarded by many as the industry standard for defining software process quality. Like many other concepts that originated from practice, empirical assessment of CMM by researchers lagged its adoption in organizations. Nevertheless, its widespread adoption has allowed realistic evaluations to be conducted and many peerreviewed studies of CMM have provided empirical evidence of its validity in describing and guiding the development of software organizations (e.g., Lawlis et al., 1995; McGarry et al., 1998).

CMM defines five levels of maturity: initial, repeatable, defined, managed, and optimizing. Each maturity level is described by a set of characteristics. For example, the level "initial" is characterized as ad-hoc and chaotic, where few processes are defined and success is due to individual effort. Except for level 1, several key process areas (KPA) are identified at each maturity level to indicate the areas that an organization should focus on. Each KPA is further described in terms of actionable practices.

Although CMM was originally proposed to describe software processes, it has been adapted to develop several KMMMs, based on the premise that software process management can be considered as a specific instance of KM and the concepts proposed in CMM may therefore be also appropriate to describe KM (Armour, 2000; Cuena and Molina, 2000; Paulzen and Perc, 2002). However, several differences between software process management and KM are worth noting. KM covers a wider range of issues and is less structured compared to software process management. Its activities are also less standardized and outcomes are less quantifiable. Hence, KM maturity must be judged from multiple perspectives, including technologies, processes, and employees, in order to achieve a holistic assessment of KM development.

2.5.2 General KMMM (G-KMMM)

Akin to life cycle theory and the majority of existing KMMMs, (Pee & Kankanhalli 2003) proposed what is called a General KMMM (G-KMMM) that follows a staged-structure and has two main components: maturity level and KPA. Each maturity level is characterized in terms of three KPAs (people, process, and technology), and each KPA is described by a set of characteristics. These characteristics specify the key practices that, when collectively employed, can help organizations accomplish the goals of the particular maturity level.

G-KMMM defines five levels of maturity: initial, aware, defined, managed, and optimizing (see Table 2). Organizations at the initial level have little or no intention to formally manage knowledge as it is not explicitly recognized as essential to their long-term success. At the aware level, organizations are aware of the significance of knowledge and have the intention to manage it formally, but may not know how to do so. Organizations at this level often initiate various pilot projects to explore the potentials of KM. Organizations at the defined level have basic infrastructures supporting KM, with management actively promoting KM by articulating KM strategy and providing training and incentives. In these organizations, formal processes for creating, capturing, sharing, and applying both formal and informal knowledge are specified. Pilot projects exploring more advanced KM applications are also being carried out. At the managed level, KM is tightly incorporated into organizational strategy and is supported by enterprise-wide KM technology. KM models and standards such as those integrating knowledge flows with workflows are also adopted (Zhuge, 2002). In addition, quantitative measures are utilized to assess the effectiveness of KM. At the optimizing level, organizations have KM systems that closely support key business activities. With an institutionalized knowledge-sharing culture, organizational members, while not expected to share every single piece of their knowledge, are willing to contribute unique and valuable knowledge that is important to the performance of the organization.

G-KMMM proposes that organizations should progress from one maturity level to the next without skipping any level. In practice, organizations may beneficially employ key practices described at a higher maturity level than they are. However, being able to implement practices from higher maturity levels does not imply that levels can be skipped since they are unlikely to attain their full potential until a proper foundation is laid. (Pee & Kankanhalli 2003)

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Maturity Level		General Description	Key Process Areas		
			People	Process	Technology
1	Initial	Little or no intention to formally manage organizational knowledge	Organization and its people are not aware of the need to formally manage its knowledge resources	No formal processes to capture, share and reuse organizational knowledge	No specific KM technology or infrastructure in place
2	Aware	Organization is aware of and has the intention to manage its organizational knowledge, but it might not know how to do so	Management is aware of the need for formal KM	Knowledge indispensable for performing routine task is documented	Pilot KM projects are initiated (not necessarily by management)
3	Defined	Organization has put in place a basic infrastructure to support KM	-Management is aware of its role in encouraging KM -Basic training on KM are provided (e.g., awareness courses) -Basic KM strategy is put in place -Individual KM roles are defined -Incentive systems are in place	-Processes for content and information management is formalized -Metrics are used to measure the increase in productivity due to KM	-Basic KM Infrastructure in place (e.g., single point of access) -Some enterprise-level KM projects are put in place
4	Managed	KM initiatives are well established in the organization	-Common strategy and standardized approaches towards KM -KM is incorporated into the overall organizational strategy -More advanced KM training -Organizational standards	Quantitative measurement of KM processes (i.e., use of metrics)	-Enterprise-wide KM systems are fully in place -Usage of KM systems is at a reasonable level -Seamless integration of technology with content architecture
5	Optimizing	-KM is deeply integrated into the organization and is continually improved upon -It is an automatic component in any organizational processes	Culture of sharing is institutionalized	-KM processes are constantly reviewed and improved upon -Existing KM processes can be easily adapted to meet new business requirements -KM procedures are an integral part of the organization	Existing KM infrastructure is continually improved upon

Table 2: G-KMMM

2.5.3 Knowledge Management Maturity Instrument

In the effort to bridge the gap between theoretical and practical applications of knowledge management measurements, researchers Kruger and Snyman (2007) developed an instrument to test and assess knowledge management maturity for organizations. Not only does this instrument help organizations to measure knowledge management maturity but also serve as a guide to successfully institutionalize knowledge management.

- ICT as an enabler of Knowledge Management
- Information Management's role for knowledge management in an organization
- Formulation of Knowledge Management principles, policy and strategy in an organization
- Implementation of Knowledge Management in an organization
- Ubiquitous knowledge transfer in an organization
- Assessment of Knowledge Management Growth in an organization

The assessment tool primarily focuses on a set of questionnaires that consist of 6 sections, containing 101 descriptive questions. This tool helped to clarify both maturity levels and success factors of institutionalizing knowledge management in any organization. Taking into consideration. The instrument's focus on institutionalizing KM and learning within any organization and recognizing that this instrument addresses key enablers of knowledge management practices in the development aid sector across the board, the researcher will base its exploration of KM maturity in development aid sector in Ethiopia on this framework to best match the objective of the study

2.6 Knowledge Management in development aid organizations

Development aid organizations play a crucial role in accelerating development assistance. The critical roles of these organizations are coordination of aid efforts, supporting development planning, building development capacity, investing in infrastructure and streamlining resources.

Another key role development aid organizations have is building the capacity of beneficiary entities to process and use knowledge to engage effectively in substantive development debates and decision making processes (Keeble, 2002). This mandate requires development organizations to have quality learning and knowledge management systems. In addition it calls for knowledge-based aid and the globalization of knowledge require development organizations to reflect on how their internal KM and learning systems interact with external information flows and policy trends (King, 2001).

Knowledge for development is critical to knowledge societies as it is the source of basic skills, a foundation for knowledge acquisition and innovation and an engine for socio-economic

development. However, knowledge management in the country has been relatively slow to respond to this new demand, typically tending to focus firstly on technical ICT skills and only latterly beginning to consider the range of knowledge sharing skills which development workers need to think creatively, solve problems, communicate effectively, identify and analyze existing information, and create knowledge.

Two types of theoretical distinction prevail as types of knowledge creation in development organizations. Knowledge in the field (bottom-up learning) and knowledge of high-level negotiation processes (top-down learning). Fowler argues knowledge in the field is more relevant for development organizations to boost their legitimacy and influencing power.
Hovland (2003) outlined the various challenges and characteristics of organizations working in the development area. Not only does the research review the current literature in order to map out the rationale and objectives of KM and learning within international development and to identify gaps and emerging themes, it also talks about the two KM strategies and discusses the limits to KM at the organized level by quoting Levitt and March‟s article which highlights the limitations and ambivalence of organizational learning. They suggest that the limitations stem from three sources:
1. The amount and complexity of experience within an organization; the more complex the experiences, the more difficult it is to draw lessons from them.
2. Human habits: there are limits to the rationality of human behavior within organizations.
3. Features of the organization may hinder learning, such as hierarchical structures and routines.

In recent years, development aid organizations have showed considerable interest in finding ways to assess what they know and the intangible impact of their work such as policy influence (Hovland, 2003). Performance measurement models from the corporate sector largely overlook the idea of intangible impact focusing instead on models to measure internal tangible assets and how performance can be showcased using metrical figures.

Knowledge Management research conducted by (Mathew,2002) state “The benefits from Knowledge Management initiatives are: enhanced decisions, flexibility, increases in profits, reduced and workloads in the regular process, improved productivity, new opportunities, cost reduction, use of best practice, transfer and network, sharing and exchange, collaboration, market development, higher and better performance, learning environment, improved motivation and retention of employees”. The question then remains, how can these benefits provide competitive advantage for a development aid organization wishing to strengthen its ability to influence?

Researches attempted to answer this question (Peszynski, Cooper and Molla, 2005). The research team adopted action research to investigate suitable Knowledge Management application for a development organization in Australia. They chose action research for this study having two justifications in mind:

1. The researchers' desire to embark on a practical problem they can explore hands on and that they can provide concrete solutions for whose methods are scientifically proven.

2. The researchers concurred that by using action research method, strategies are made "“more spontaneous than specific, and more contingent than calculative, in other words, strategies can emerge or form in action”.

The researchers followed specific steps for this study that included: Studying the problem domain, studying what KM means and its critical success factors and selecting a strategy approach based on findings.

Key stakeholders were selected as target groups for this study, in the first iteration of data collection, twenty-one interviews were carried out with questions that included identification of Knowledge management issues related to organizational knowledge, technology, work processes and knowledge flows. The inference from this first cycle of interviews was that three basic themes of KM perspectives exist in the organization namely people, processes and technology.

In the second iteration of this study focus group exercise was conducted where discussion topics and key arguments were taken as data input. The findings from the first and the second iteration of data collection resulted in the actual strategy formulation based on identified key focus areas and core priorities the organization puts in place with regards to knowledge sharing.

Beyond analysis of data, findings and strategy formulation the authors also reflected on what need to be considered during knowledge management implementation. These recommendations are;

- Adequate education to stakeholders/users on the benefits of KM and the implications of KM strategy implementation on their daily tasks.
- Knowledge management activities should be crafted in a way that puts knowledge products in an interactive, user friendly format.

All in all the researchers advised that knowledge management in development organizations should;

- Establish the background and scope for the KM strategy;
- Include an explanation of KM and its objectives;
- Describe the key drivers of KM for the organization;
- Establish the current state of KM in the organization (including a knowledge, process and technology audit);
- Outline how the organization can move towards the "where it wants to be" by setting specific projects and targets to be achieved;
- Discuss why KM is the responsibility of every employee as well as identifying individuals and teams who should be responsible for particular projects/targets set out in the strategy;
- Use simple language with all key terms explained; and
- Use an easy to follow format.

Knowledge for Development researchers and practitioners Le Borne and Cummings (2009) studied similar problem domain. Their research emphasizes on highlighting knowledge management in development organizations supported by suitable technological tools. In recent years, there are requirements levied on international development organizations multi-stakeholder strategic focus to meet short and long term development objectives (Moriarty, 2005, Stremmelaar, 2009). These requirements call for better understanding of knowledge resources within and knowledge resources beyond boundaries via interactions. That is the explanation behind emerging and rapidly growing inter-organizational communities of practice both through the web and

through face to face communications. With this in mind Le Borne and Cummings discovered the following findings based on extensive study of related literature.

- Development organizations are actively aligning their KM activities with learning, which explains a trend observed in increased interaction with external parties, more participatory decision-making, and increased attention to contextual knowledge-sharing. Although considerable attention is given to knowledge, many development organizations lack the instruments to link their knowledge sharing practices with a thorough theoretical framework (Krohwinkel-Karlsson, 2007).
- The social component of organizational culture and the contribution of personal values and capacities to more effective development activities are being increasingly recognized as influencing factors of knowledge management. (Olsson and Halbwirth, 2007)
- Communities of practice are making a crucial contribution here: values the importance of local knowledge in decision-making and refers to the use of communities of practice as perhaps 'the most important device because of the multiple contexts (personal, social and cultural) that its interactivity includes' (Braga de Vasconcelos, 2005) while Heizmann (2008) emphasizes the value of different perspectives as opportunities.
- This collaboration is primarily supported with technology tailored to best serve cross organizational knowledge exchange. Therefore, organizations that lack the technological capacity to support knowledge exchange cannot benefit fully from the capture, transfer and storage of knowledge. Interactive digital tools (often named as Web 2.0) that allow for enhanced personalization, increased interaction, shorter feedback mechanisms and joint sense-making are the technologies that serve this. Examples include blogs, wikis, slidecasting, online bookmarking, microblogging, syndication of resources (RSS feeds) etc.
- Organizations in the development sector are taking advantage of the various learning approaches that evolved with the emergence of the knowledge era. These organizations are able to align their knowledge strategy with learning.
- Development organizations have knowledge policies that serve departments within the organization or, alternatively knowledge management strategies that address the knowledge needs of their partners, governments and external partners that are directly affiliated with them.

Hearn, Leborgne and Brown (2011) provided a detailed overview of monitoring and evaluating KM in different establishments sheds light on the dark areas of current practices and paradigms while stressing the need to better bridge the gap between the knowledge industry supported by organizations and the knowledge needs of their clients.

Ramalingam (2009) synthesized existing research on knowledge and learning in the development sector, and draws out key questions for examining related approaches and systems in development agencies. It poses significant questions to help shape future investigations that may be carried out to improve knowledge and learning in development organizations such as:

- What are the knowledge and learning needs, capacities and challenges of beneficiary groups? And how can issues of culture, national identity and religion be addressed among them?
- What possible mechanisms are there for monitoring and evaluation (M&E) of knowledge and learning approaches? How can these be made more systematic and evidence-based?
- In what ways do information technology systems support or inhibit the knowledge and learning agenda? How is this impacted upon by the various forms of 'digital divides' that exist across different actors in the development sector?
- What mechanisms exist for inter-organizational KM and learning, and how can knowledge management activities of specific agencies support these?

By means of answering these questions, the paper proposes that it would be possible to derive a comprehensive "knowledge framework" to assess complex processes of change within the development and humanitarian sector. The dimensions of this new knowledge framework are mapped out as organizational knowledge, organizational links, organizational contexts, and external factors.

The paper suggests that each of the dimensions of the knowledge framework mentioned above is considered in developing, revising and evaluating strategies for knowledge and learning, and further, that the framework may also be of use in systematic comparisons across different settings.

The research also clearly identifies and distinguishes between the three known types of knowledge i.e tacit knowledge which is intuitive and comes from routine action, explicit knowledge which is readily accessible to anyone who reads or looks at it and implicit knowledge which is the set of values or beliefs that a community shares and helps us know how to behave in certain social situations. A framework provided as an example is the below diagram (Figure 5).

Purpose	Knowledge			
		Tacit	**Explicit**	**Implicit**
	Create	Research Workshops Challenge sessions	Business Intelligence Funding analysis	Statistical modeling Reasoning tools
	Store	Capacity assessments Exit interviews Handovers	Shared drives Info center Taxonomies Databases	Space management Workflow M & E Process map
	Share	Mentoring Coaching Communities Training	Intranet, internet Email Publications CD ROMs	AARs Retrospects Evaluations

Figure 5: Knowledge Management framework (Ramalingam, 2009)

The horizontal axis refers to the types of knowledge described earlier. The vertical axis refers to the knowledge process being considered. Reading across the framework enables identification of appropriate tools in a given context.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This study followed quantitative research methods via an online survey in the belief that this will achieve greater understanding and validation of results. This method was chosen due to the reason that the nature of the research problem calls for a description and identification of factors that portray existing conditions.

3.2 Participants

This research targeted development aid organizations in Ethiopia that have planned, implemented, or evaluated (to a certain extent) Knowledge Management related work processes and activities. The selected development aid organizations were identified on the basis of perceived relevance and access, giving priority to those that have relatively better internet availability, ICT infrastructure and relevant information management and knowledge management practices. They were selected based on the above criteria indicated either through professional partnerships, personal interactions and online professional communities with interests relevant to Knowledge Management.

3.3 Sampling Technique

In light of the above, the researcher decided to use purposive sampling for this research to be able to focus on the most relevant respondents for this study based on the principle that the selected respondents would most likely be significantly and directly interested in and/or involved in the phenomenon under investigation and hence provide a well-informed response. Therefore the sampling technique was selected to provide depth of coverage rather than breadth.

The following organizations participated in the survey

- Action Aid Ethiopia
- Adoption Advocates International
- DKT Ethiopia

- Food for the Hungry
- GIZ Energy Coordination Office
- GOAL
- ILO
- International Food Policy Research Institute
- International Institution for Communication and Development
- International Livestock Research Institute (ILRI)
- International Rescue Committee
- Jhpiego
- Pact International
- Save the Children – Ethiopia
- United Nations Economic Commission for Africa
- UNICEF
- United Nations Office for the Africa Union
- United Nations Population Fund
- United Nations World Food Programme
- USAID
- Water Aid Ethiopia
- World Bank
- World Learning Ethiopia
- World Vision Ethiopia

3.4 Data collection instrument

Using quantitative research methodology, this study focused on empirical answers from knowledge management practitioners in the context of their organization's knowledge sharing practices. Structured data input were collected from the questionnaire that were distributed for this purpose.

After examining various research and practice-oriented publications including the Capability Maturity Model of the Software Engineering Institute (SEI) that many writers refer to, the researcher found that most knowledge management maturity models in the literature are ad hoc, and have not been empirically tested (Ehmset al, 2002; Harigopal et al, 2001)

To compensate for this shortfall, a knowledge management maturity measurement instrument developed by Kruger and Synman (2007) was used. The rational in using this survey instruments is two folds. 1) The researchers (Kruger and Synman) adhered to a research design that adequately combined theoretical propositions of knowledge management with practical applications while designing the knowledge management maturity questionnaire. 2) The questionnaires designed were not only benchmarked against known maturity assessment survey instruments, but also were

thoroughly pre-tested and validated in collaboration with a team of knowledge management experts.

The above mentioned rational ensures that the survey instrument put in place can validate this research's empirical inquiry to rate factors that influence the success of Knowledge Management activities in development aid organizations in Ethiopia.

The online survey principally consisted of questionnaires specifically designed to measure knowledge management maturity. The instrument is composed of 101 descriptive questions under six sections namely;-

- ICT as an enabler of Knowledge Management
- Information Management in organizations
- Formulation of Knowledge Management principles, policy and strategy
- Implementation of Knowledge Management
- Ubiquitous knowledge transfer
- Assessment of Knowledge Management Growth

Each question was measured against a four-point scale with labels of ***Yes definitely, Yes but not significantly, No but probably within the next 5 years*** and ***No*** respectively.

3.5 Data Collection Procedure

Data were collected using primarily online survey questionnaire. The online tool Survey Monkey was used to collect survey responses. The questionnaire was sent to 30 selected individuals as a link via an e-mail containing all relevant information and expressing the strict confidentiality of their responses outside of the research interest. A mandatory consensual statement which verified that all participants are above 18 years of age was used to ensure that voluntary responses are based on adult judgment.

The on-line survey, based on Kruger and Synman's measurement instrument, queried many different aspects of capabilities for knowledge-sharing and management, which are summarized and discussed as follows.

A total of 24 organizations responded to this survey from a selected 30. The 30 organizations identified are based on the sampling criteria discussed earlier. By using the online data collection tool, the questionnaire was distributed to the 30 targeted organizations of which 24 responded via their national and international staff members who are responsible for knowledge management and communication practices in their organizations. These organizations have implemented at least a working information and knowledge sharing strategies that primarily serve an estimated 2,000 to 3,000 staff members as well as development partners and stakeholders.

Prior to answering the questionnaire the respondents were provided with an outline detailing the purpose and nature of the study, what the study focuses on and how the findings will benefit the non-profit industry. In addition, the fact that the questionnaire was distributed over the internet resulted in wider coverage of the target population placing a great deal of convenience to many respondents at ease to participate in the survey. Face to face meetings, telephone conversations and e-mail messages were used to encourage participants to respond to the survey in a timely manner.

CHAPTER FOUR

DATA ANALYSIS & INTERPRETATION

4.1 Results of the survey and discussion

The result of this research was intended to provide an insight for the development of a concise baseline that not only helps researchers to study further the research topic but also to enable development aid organizations to consider important factors when designing effective KM strategies, implement knowledge management initiatives and/or evaluate knowledge management activities already in place to improve their internal functions, processes, and operations as well as external strategic interventions.

The data collection instrument was composed of 101 descriptive questions under six sections namely;-

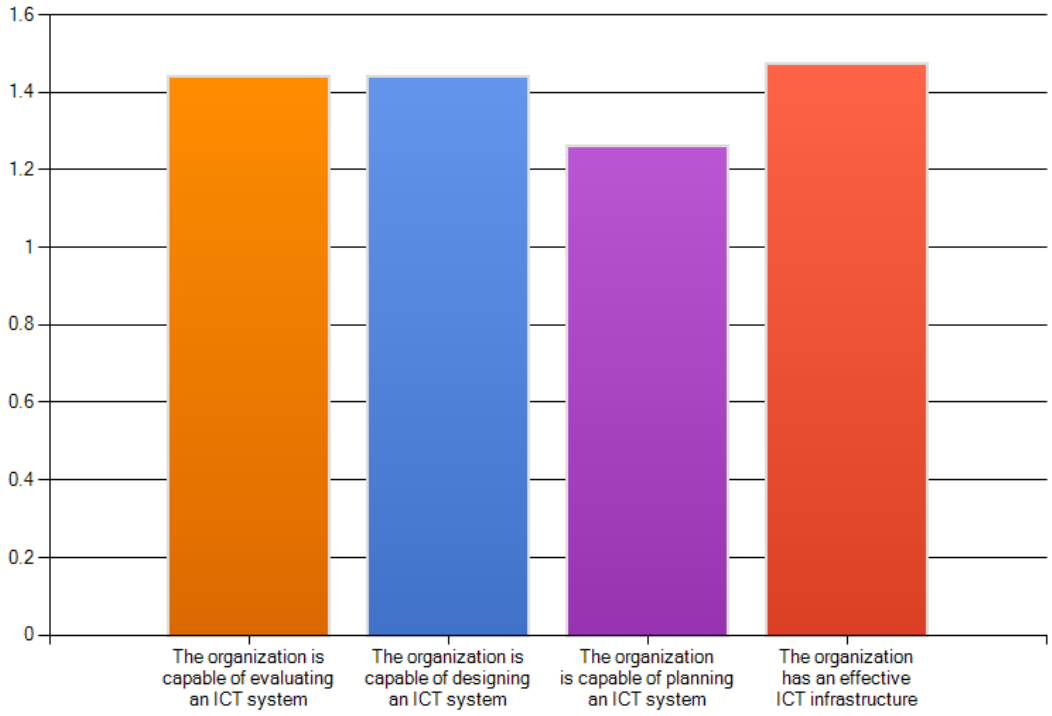
I. ICT as an enabler of Knowledge Management
II. Information Management in organizations
III. Formulation of Knowledge Management principles, policy and strategy
IV. Implementation of Knowledge Management
V. Ubiquitous knowledge transfer
VI. Assessment of Knowledge Management Growth

4.1.1 ICT as an enabler of knowledge management

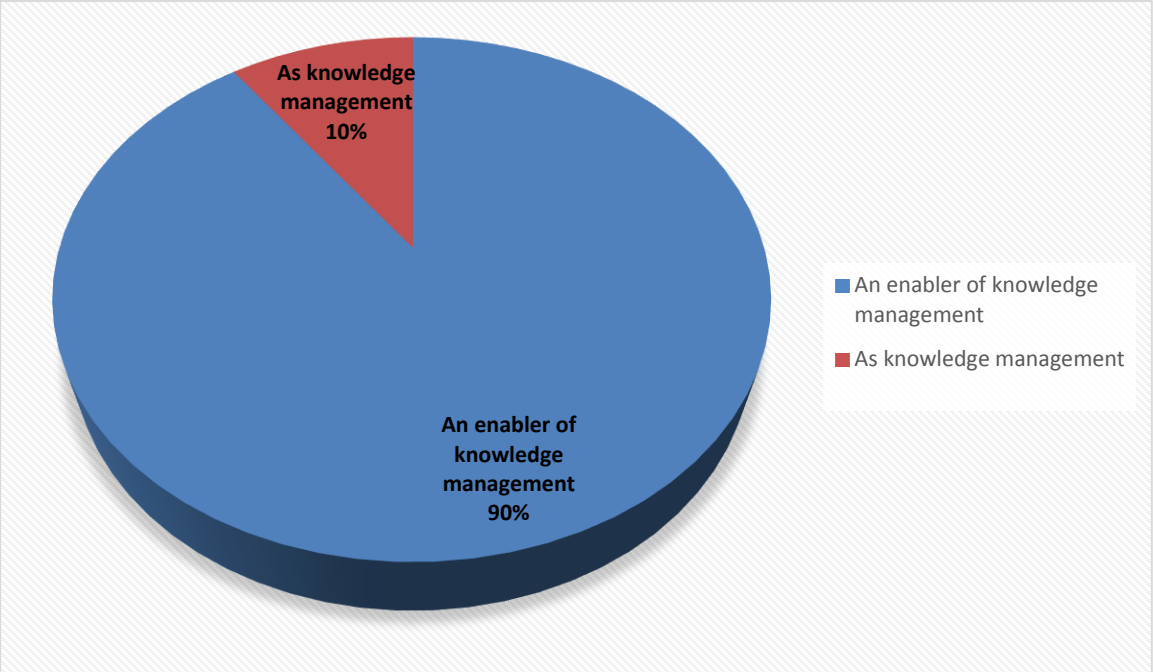
The on-line survey asked respondents to assess whether there is an adequate ICT infrastructure in the organization that is capable of shifting information and knowledge within the organization and beyond. About 74% of respondents indicated that their organizations are capable of planning an ICT system for information and knowledge sharing. In spite of rather limited Knowledge Management systems in general, 90% of the respondents answered that their organizations regard ICT as an enabler of knowledge management.

	Yes definitely	Yes but not significantly	No, but probably within the next 5 years	No	Rating Average
The organization is capable of evaluating an ICT system	**61.1% (11)**	33.3% (6)	5.6% (1)	0.0% (0)	1.44
The organization is capable of designing an ICT system	**61.1% (11)**	33.3% (6)	5.6% (1)	0.0% (0)	1.44
The organization is capable of planning an ICT system	**73.7% (14)**	26.3% (5)	0.0% (0)	0.0% (0)	1.26
The organization has an effective ICT infrastructure	**57.9% (11)**	36.8% (7)	5.3% (1)	0.0% (0)	1.47

Table 1: ICT as an enabler of KM – survey results



Graph 1: ICT as an enabler of KM – average ratings



Pie chart 1: ICT as an enabler of KM – how respondents organizations regard ICT

The observed ICT capacity is primarily attributed to the potential of the country's ICT infrastructure to support the improvement and transformation of industries. Thanks to the spread of ICT infrastructure networks and facilities provided, more and more institutions lie within reach of at least low-speed Internet connectivity which enables email, messaging and downloads of limited size. As a result of this, and of the proliferation of access devices, connecting all field offices is becoming an increasingly viable proposition for almost all development aid organizations. Combined with the kind of dedicated high speed backbones, such connectivity enables resource sharing and other types of collaboration.

An important aspect of the use of ICT in development concerns the devices through which development workers and beneficiaries access learning materials and collaborative platforms.

ICT is expanding the range of options available to donors and implementing partners in the development assistance strategies they choose to use, providing an array of choices in systems, report delivery options, teaching and learning combinations, and strategies for administering and managing development programs.

ICT supports KM in the form of passive infrastructure functions. They include local area networks (LANs), use of intranets, Internet and the World-Wide-Web (WWW), e-mail, groupware applications, and corporate memory data bases. The latter have been aptly described as often being 'knowledge junkyards' (Demarest, 1996) due to the inability to obtain relevant information from them when needed. In most instances knowledge-based system (KBS) applications are used for knowledge deployment and prompting systems for knowledge capture. Overall, we now see much greater involvement of ICT supporting KM. In the past, both availability of appropriate software models and the computer capability have been limiting factors.

Additionally, as development practitioners have began to recognize the huge potential of Web 2.0 tools for promoting participatory development, knowledge driven from collaboration cannot function without support from advanced IT.

As described in chapter 2, ICT and KM are very closely tied to each other not only in the conversion process of tacit knowledge to explicit but also on a wider scale strategic focus and evaluation tasks to reach organizational objectives (Feher,2002)

4.1.2 Information Management

In review of how their organizations make accessible, store, protect and evaluate information resources, almost 57% of respondents indicated that the organization has a clearly defined information management policy and strategy. Some 55% answered that in their organizations, it's clear which information resources are crucial to organizational objectives and 40% of respondents felt that it's clear in their organizations which managers are accountable for information resources while 45% said that this fact, though it exists, it's not significant enough in their organization.

Ease of access of information was also rated not significant enough is most organizations (55%). Availability of information was rated easy by 45% of organizations while it was rated nonexistent in 10% of the organizations who plan to implement ease of access within the next 5 years.

With regards to employees being trained to access sources of information relevant to their job, 65% of the organizations said the effort is not significant enough. Employees are well trained to access relevant information in only 15% of the organizations. There are plans to introduce employee training programs in 15% of the organizations while there are no such efforts in the rest (5%) of the organizations.

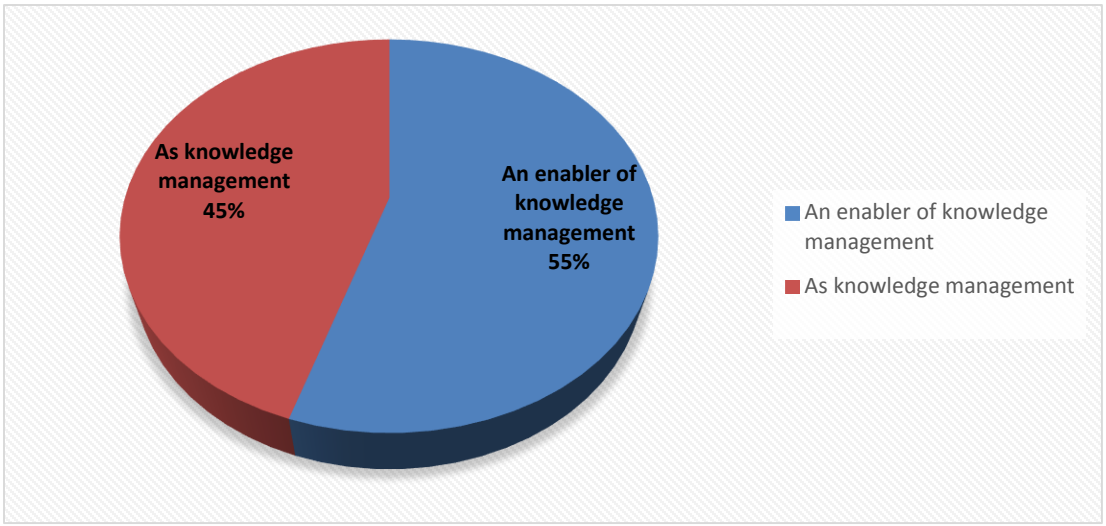
Organizational proficiency in information activities was mostly rated favorably by majority of the respondents. Identification of information needs (55%), information storage (55%), protection of information (45%), institutional databases (60%) information management systems (55%) and libraries (40%). Of these information management activities, tools and services, the lowest rating were the determination of value and cost of information, information disposal, information acquisition and information distribution. Overall, most of these organizations (55%) regard information management as an enabler of knowledge management.

	Yes definitely	Yes but not significantly	No, but probably within the next 5 years	No	Rating Average
The organization has a clearly defined information management policy	**52.6% (10)**	26.3% (5)	15.8% (3)	5.3% (1)	1.74
The organization has a clearly defined information management strategy	**40.0% (8)**	35.0% (7)	20.0% (4)	5.0% (1)	1.90
The information understands which information resources are crucial to the business	**55.0% (11)**	30.0% (6)	15.0% (3)	0.0% (0)	1.60
It is clear which managers are accountable for information resources	40.0% (8)	**45.0% (9)**	15.0% (3)	0.0% (0)	1.75
Key information is easily available	35.0% (7)	**55.0% (11)**	10.0% (2)	0.0% (0)	1.75
All employees are trained to access sources of information relevant to their job	15.0% (3)	**65.0% (13)**	15.0% (3)	5.0% (1)	2.10

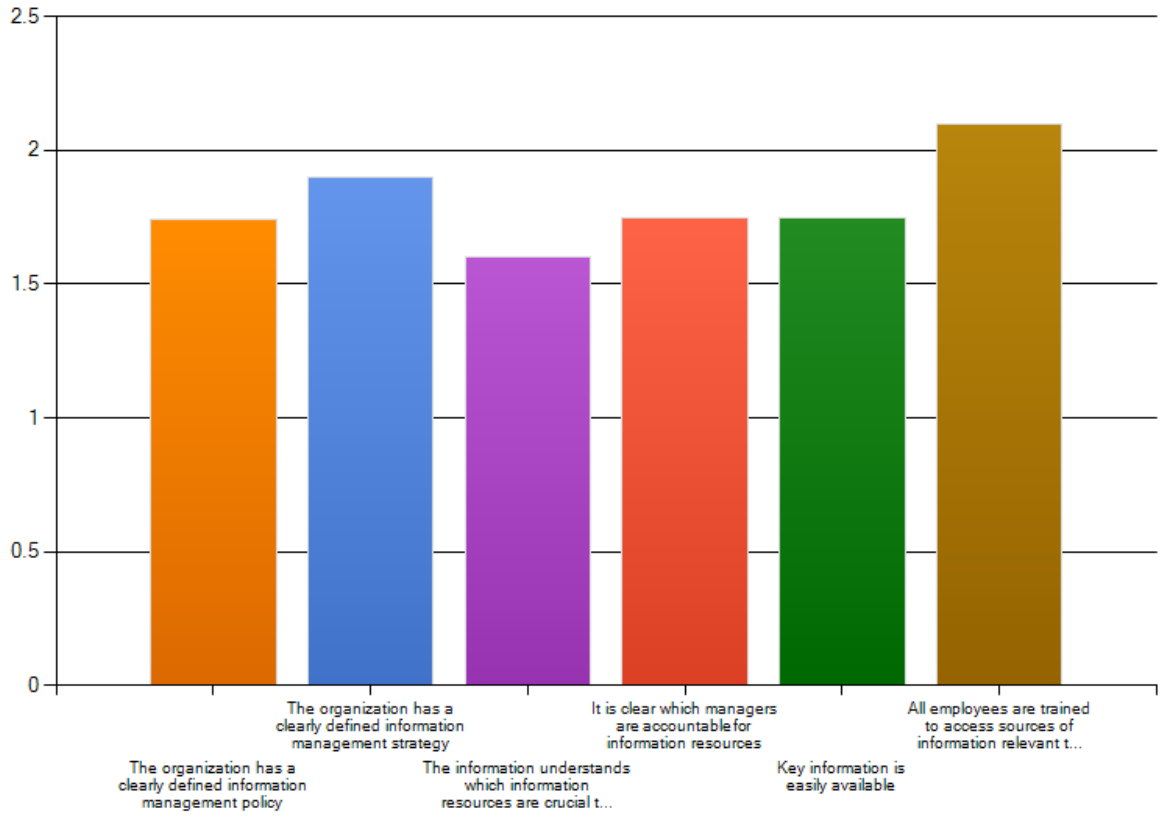
Table 2: Information Management as an enabler of KM – survey results

	Yes definitely	Yes but not significantly	No, but probably within the next 5 years	No	Rating Average
Identification of information needs	**55.0% (11)**	40.0% (8)	5.0% (1)	0.0% (0)	1.50
Acquisition of information	40.0% (8)	**55.0% (11)**	5.0% (1)	0.0% (0)	1.65
Information storage	**55.0% (11)**	35.0% (7)	10.0% (2)	0.0% (0)	1.55
Information distribution	40.0% (8)	**55.0% (11)**	5.0% (1)	0.0% (0)	1.65
Information retrieval	**40.0% (8)**	**40.0% (8)**	15.0% (3)	5.0% (1)	1.85
Information disposal	25.0% (5)	30.0% (6)	**40.0% (8)**	5.0% (1)	2.25
Protection of information	**45.0% (9)**	25.0% (5)	20.0% (4)	10.0% (2)	1.95
Determination of value and cost of information	25.0% (5)	**35.0% (7)**	**35.0% (7)**	5.0% (1)	2.20

Table 3: Institutionalized information management tools and services – survey result



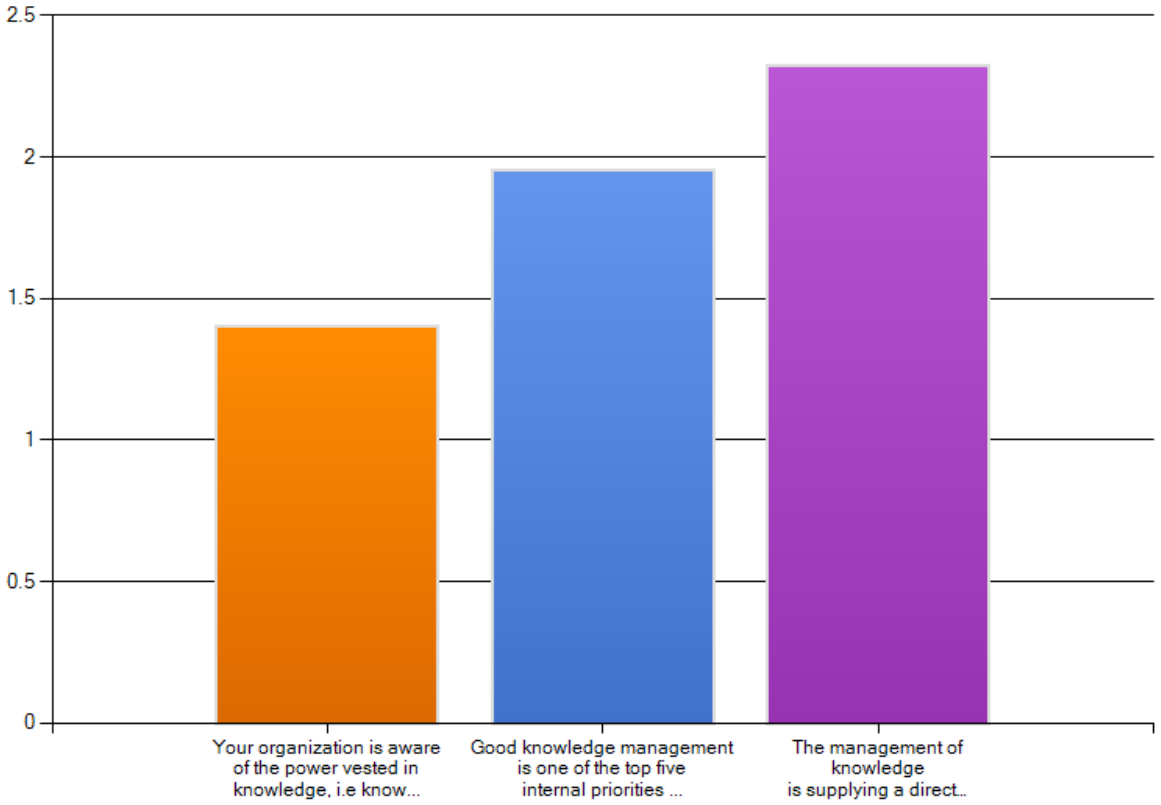
Pie chart 2: Information Management as an enabler of KM – how respondents organizations regard overall Information Management practices



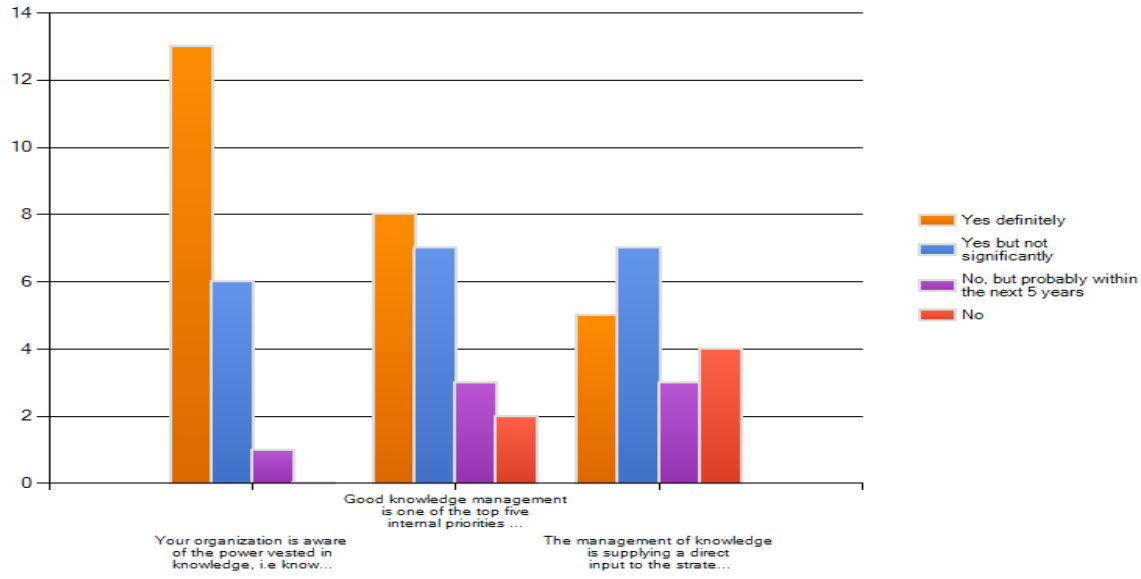
Graph 2: Information Management as an enabler of KM – average ratings

4.1.3 Formulation of Knowledge Management Principles, Policy and Strategy

Majority of the participants responded that knowledge is seen as a strategic resource in their organizations. In 42% of the organizations, Knowledge Management is one of the top 5 internal priorities while in 36.8% of these organizations KM as a strategic priority is not significantly influential. But even if most respondents felt KM is a key strategic priority, the actual management of knowledge supplying a direct input to the strategic process in their organizations was rated low (28%). 33% responded that the input exists but it's not significant enough to influence strategic directions.



Graph 3: KM as a strategic resource – average ratings



Graph 5: Strategic arrangements for suitable KM – response choices

These results can be further analyzed from the perspective of viewing organizational knowledge (both tacit and explicit) as a key strategic asset. Organizational knowledge as a subject of study has been around for a long time thanks to researchers such as Fredrick Hayek, Edith Penrose and Michel Polanyi (Easterby-Smith & Lyles 2003). One of the foundational works within the economics perspective is Nelson and Winter (1982), which emphasizes the importance of tacit knowing as a basis for individual and organizational competence. In contrast to explicit knowledge, which can be articulated or documented with relative ease, tacit knowledge is based on personal experience and skills. It is much less easy to express and can only be transferred through socialization processes, such as jointly performed tasks, face to face discussions etc.

A practical application can be found in Nonaka and Takeuchi's (1995) account of "the knowledge-creating company". Key findings in their work include: the significance of national culture to understanding the construction and communication of knowledge; the importance of dialogue between the policy domain and the operational levels in the creation of knowledge; and the general insight that most dichotomies, such as tacit/ explicit and action/thinking, are problematic to operationalize. Nonetheless, many of the developments within the stream have evolved around distinguishing and understanding different types and forms of organizational knowledge. Popular classifications are for example those of 'know what' (data/information), 'know how' (procedural knowledge), and 'know why' (understanding/wisdom) (Ackoff 1989); and the four dimensions of knowledge and awareness stretching from 'knowing what you know' to 'not knowing what you don't know' (Carayannis 1999).

Knowledge Management strategy Organizational knowledge cannot be retained or applied for effectiveness without the formulation and implementation of a sound knowledge management strategy that portrays the road map of where the organization wants to be in managing knowledge. Knowledge management strategy involves predicting, choosing directions, ways of solving problems, seeking the truth of the status quo and desiring the future. It also states whether or not knowledge codification or knowledge personalization is suitable, the level of IT support needed, definition of organizational domains, knowledge content structures and knowledge owners.

When knowledge management policy and strategy formulation is considered, two broad objectives are usually put forward: ensuring value and developing a capability that enhances knowledge sharing for effectiveness (Callahan, 2002). KM model in profit making organizations promotes a level of consensus that facilitates an organization's best use of its most valued resource, knowledge, to leverage competitive advantage. Callahan's argument claims that the key players for effective KM strategy formulation and implementation are individuals in the organization who are responsible for operationalizing business initiatives and maximizing profit.

Taking a different perspective from a similar literature, KM strategic perspectives can be differentiated on the basis of whether a focused, balanced, or dynamic approach is taken (Choi & Lee). When taking the focused approach, the focus rests on either technological (systems approach) or people-oriented (human-based approach). Systems approach emphasize codifying storing and sharing knowledge formally using information technology tools while human-based approach is focused on acquiring knowledge via dialogue with skilled personnel through social networks. Employee empowerment through informal knowledge sharing is highlighted in this approach.

The second strategic perspective is the balanced view whereby a mixture of systematic and human approaches is employed to balance the tension between these two extremes. Third is the dynamic approach where the characteristics of knowledge determine the focus of the KM strategy (Bloodgood & Sailsbury; Choi & Lee).

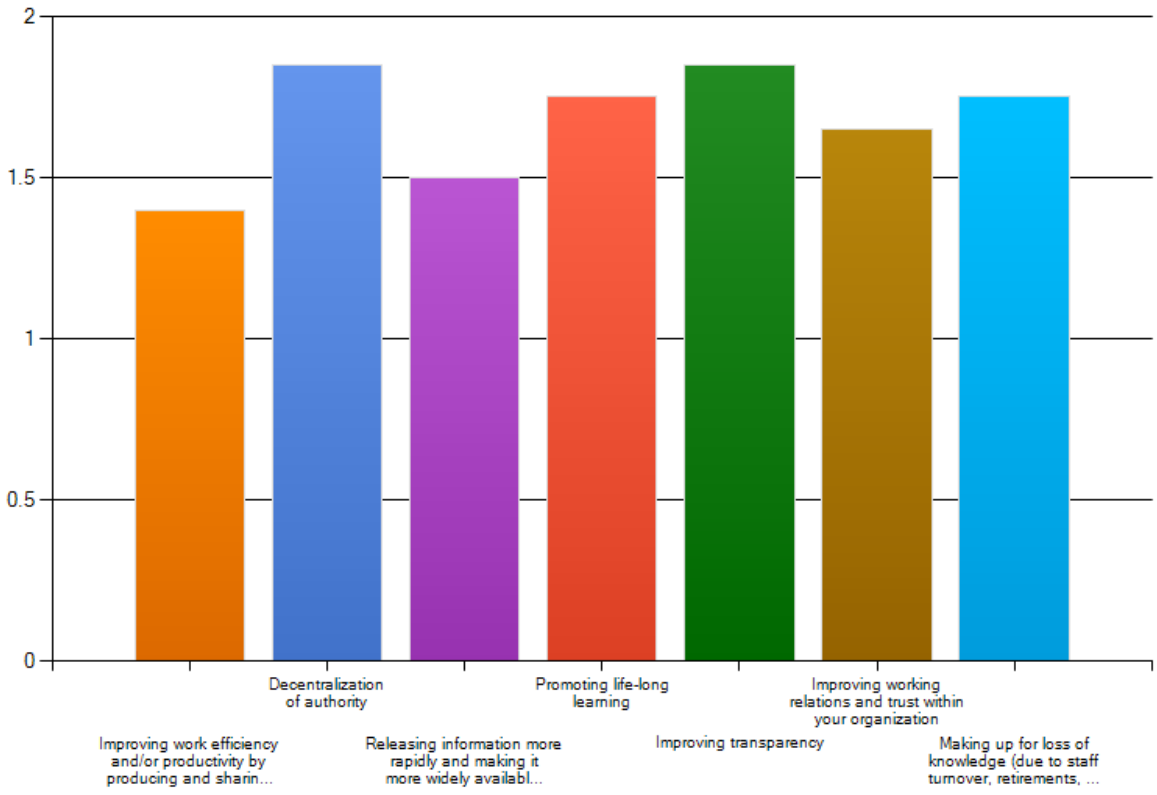
The nonprofit sector bases its strategic decisions around beneficiaries. Providing support to vulnerable communities and capacity building are among the focus areas. KM strategy in development aid thus needs to include the building blocks that maximize the effecient deliverables to beneficiaries. The results suggest that although KM is considered a key strategic priority, the systematic management of knowledge contributing directly into strategic performance is not widely implemented mainly due to limited knowledge management strategies at work. Even though it's difficult to find a one-size-fits-all KM strategy formulation directions, based on the gathered data and known phenomenon, the observed limitation can be alleviated by applying Choi and Lee's balanced approach to strategic KM perspective where the conjunction of technological and non-technological components are carefully considered to formulate KM strategy in development aid organizations.

i. Motivating factors for enhancing knowledge sharing practices

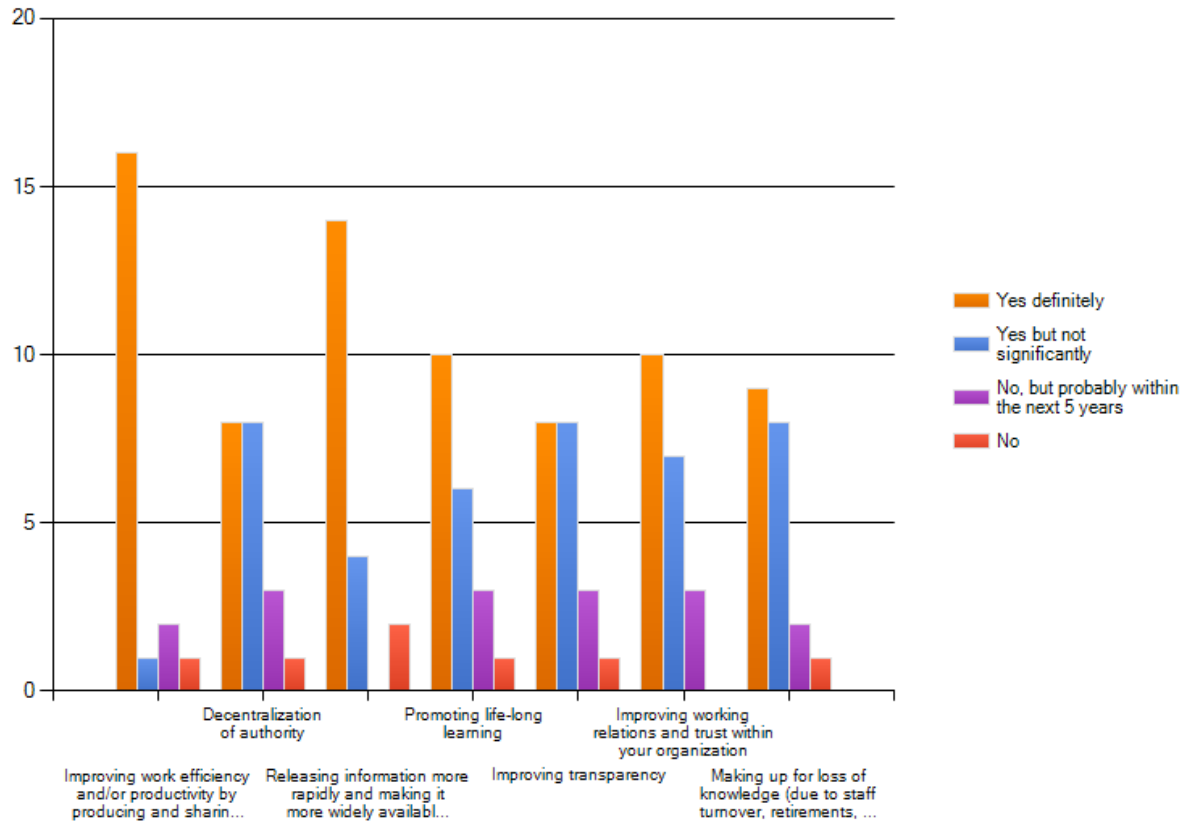
Majority of respondents (80%) confirmed that their organizations regard knowledge production and sharing as a motivating factors for improving work efficiency. 10% of respondents indicated that knowledge sharing for efficiency will be implemented in their organizations within the next 5 years. Of the top rated similar motivators are, rapid release and accessibility of information to all staff (70%) and improving working relations and trust within the organization (50%) and making up for loss of knowledge (due to staff turnover, retirement etc) (45%). Two factors, decentralization of authority and improving transparency, were rated either low or insignificant motivators for enhancing knowledge sharing practices in the organizations (40%).

	Yes definitely	Yes but not significantly	No, but probably within the next 5 years	No	Rating Average
Improving work efficiency and/or productivity by producing and sharing knowledge more rapidly within your organization	**80.0% (16)**	5.0% (1)	10.0% (2)	5.0% (1)	1.40
Decentralization of authority	**40.0% (8)**	**40.0% (8)**	15.0% (3)	5.0% (1)	1.85
Releasing information more rapidly and making it more widely available to staff	**70.0% (14)**	20.0% (4)	0.0% (0)	10.0% (2)	1.50
Promoting life-long learning	**50.0% (10)**	30.0% (6)	15.0% (3)	5.0% (1)	1.75
Improving transparency	**40.0% (8)**	**40.0% (8)**	15.0% (3)	5.0% (1)	1.85
Improving working relations and trust within your organization	**50.0% (10)**	35.0% (7)	15.0% (3)	0.0% (0)	1.65
Making up for loss of knowledge (due to staff turnover, retirements, etc)	**45.0% (9)**	40.0% (8)	10.0% (2)	5.0% (1)	1.75

Table 4: Motivating factors for enhancing knowledge sharing practices – survey results



Graph 4: Motivating factors for enhancing knowledge sharing practices – average ratings



Graph 6: Motivating factors for enhancing knowledge sharing practices – response choices

4.1.4 Implementation of knowledge management

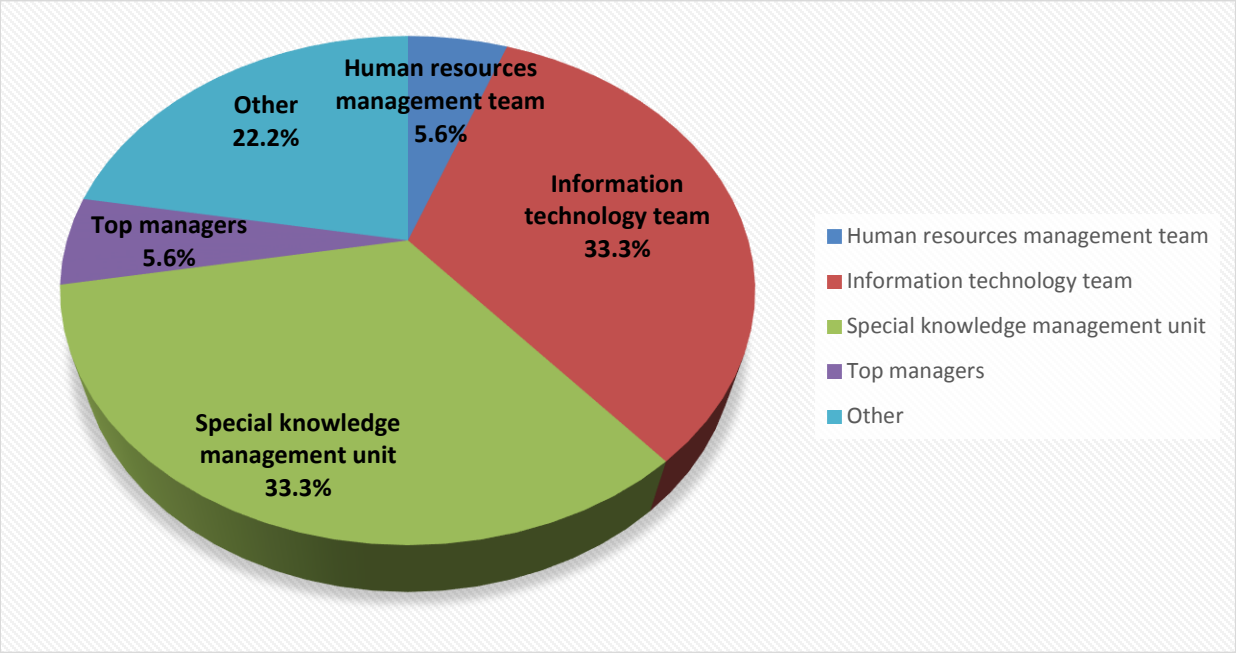
A number of initiatives were presented to respondents to assess strategic arrangements made to boost a working knowledge management function within the organizations and make knowledge accessible for sharing.

Easing up bureaucratic divisions, the creation of central coordinating unit, reorganization of offices, establishment of communities of practice, training programs and communication with beneficiaries are among the highest rated initiatives implemented resulting in more than 40% of responses for each indicated factor.

Factors such as appointment of chief knowledge officer (CKO) and incentive schemes for knowledge sharing are not yet widely implemented to facilitate knowledge sharing. The CKO position does not exist in 29% of organizations while it's planned to be implemented in the coming 5 years in 23% of the organizations. Incentives for knowledge sharing are planned as future actions in 47% of the organizations.

Information Technology department and its staff were indicated as the primary responsible entity by most respondents (36%). In 29% of respondent organizations a special knowledge management

unit runs knowledge sharing activities. In the remaining 35% of organizations Human Resources departments, management group and other units are responsible for knowledge management in the organizations accounting for 6%, 6% and 23% respectively.
Good work practices are stored in training manuals (82.4% of responses), in the form of guidelines (88% of the organizations) and in best practice documents in 76.5% of the organizations.



Pie chart 3: Organizational units responsible for KM

	Yes definitely	Yes but not significantly	No, but probably within the next 5 years	No	Rating Average
Opening up bureaucratic divisions	23.5% (4)	**52.9% (9)**	5.9% (1)	17.6% (3)	2.18
The creation of a central coordinating unit for Knowledge Management	27.8% (5)	**38.9% (7)**	27.8% (5)	5.6% (1)	2.11
The appointment of a Chief Knowledge Officer (CKO) with executive status	**27.8% (5)**	22.2% (4)	22.2% (4)	**27.8% (5)**	2.50
Reorganization of offices (e.g. open plan offices)	**33.3% (6)**	27.8% (5)	**33.3% (6)**	5.6% (1)	2.11
Establishment of informal networks (e.g. Communities of practice - groups of practitioners working on the same topic but not on the same project, and regularly sharing knowledge)	**44.4% (8)**	38.9% (7)	16.7% (3)	0.0% (0)	1.72
Institutionalization of training and mentoring programmes	33.3% (6)	**38.9% (7)**	22.2% (4)	5.6% (1)	2.00
Communication with customers	**44.4% (8)**	38.9% (7)	11.1% (2)	5.6% (1)	1.78
Establishment of incentive schemes for knowledge sharing	22.2% (4)	22.2% (4)	**44.4% (8)**	11.1% (2)	2.44
Communication with suppliers	**33.3% (6)**	**33.3% (6)**	16.7% (2)	16.7% (2)	2.17

Table 5: Strategic arrangements for KM implementation – survey results

a. Staff involvement in the flow of knowledge sharing

Most staff members are engaged in informational meetings and presentation of projects regularly (47% of respondents). Staff also share most of their information via email and electronic devices (94% of respondents). 53% of respondents indicated that staff engagement in peer review is minimal (not significant).

When respondents were asked about the knowledge sharing environment and staff, they also answered that knowledge sharing practice in their organizations are favorable for career development of staff (70%) and that staff members are active in organizing knowledge sharing events such as meetings with their peers from other departments (70%).

Knowledge Management is a cultural change process, and staff need to be coached through change to ensure effective implementation of knowledge management. Investment in ICT, such as the practices seen in the international development NGOs who participated in the survey, is an excellent start, and needs to be followed up with an equal, or greater, investment in coaching and training to deliver the full benefits of KM. The need for an equal balance of people, process, technology and governance is particularly true for Knowledge Management. No single one of these factors will deliver a transformation in strategic results; only a holistic combination of the four. The practical outcome of this is that KM implementation team should be split evenly between technologists, HR people, process people and change agents, and not exclusively between ICT and HR staff as the responses indicate.

	Yes definitely	Yes but not significantly	No, but probably within the next 5 years	No	Rating Average
Informational meetings	**43.8% (7)**	**43.8% (7)**	0.0% (0)	12.5% (2)	1.81
Peer reviewing/quality reviews	25.0% (4)	**56.3% (9)**	12.5% (2)	6.3% (1)	2.00
Presentations of projects and activities	**50.0% (8)**	37.5% (6)	6.3% (1)	6.3% (1)	1.69
Information sharing by electronic device (e-mail, etc.)	**94.4% (17)**	5.6% (1)	0.0% (0)	0.0% (0)	1.06
Building databases	**37.5% (6)**	31.3% (5)	18.8% (3)	12.5% (2)	2.06

Table 6: Staff engagement in KM – survey results

b. Progress assessment of KM implementation

Majority of respondents (65%) indicated that written and oral feedback are used as assessment tools in 65% of the organizations while the rest (41%) of the respondents do not use indicators for assessment. 59% of respondents said that specialized indicators are used to assess the implementation of knowledge management in their organizations

The use of Scorecards and comparisons between organizations are the least used in assessing progress on knowledge management in organizations, accounting for only 18% and 25% of responses respectively.

International development workers working in knowledge management are under constant pressure to justify the relevance and return on investment of KM initiatives by senior management, donors and stakeholders alike. KM practitioners do not have a formal directive or guideline on how to go about impact measurement of a KM initiative. This is in line with the findings of a recent study conducted by Walter Mansfield and Philipp Grunewald (2013). The researchers conducted a wide scale survey involving practitioners from across the international development sector globally to explore best practices of indicators used, common issues and challenges and collaboration to improve KM indicators specific to international aid.

The findings reflected that lack of organizational support and lack of tools for measuring the effectiveness of knowledge management are reasons for inadequate and inefficient methods for measuring knowledge activities.

The most frequent KM evaluation frameworks used by international development organizations around the world were discovered to be logical frameworks, theory of change, after action review, outcome mapping and KM maturity models. Less comprehensive methods to measure knowledge activities include web statistics, good practices, case comparison and knowledge audits.

The research also analyzed challenges in measuring KM:-

- A lack of data availability from knowledge systems
- No real idea of metrics for improved internal KM
- Not knowing how to capture Knowledge activities
- Lacking indicators for measurement
- Lack of metrics and tools for measurement
- Limited guidance in terms of best practice

Knowledge management initiatives and practices are often not measured to highlight the true impact of what they accomplish. In the researcher's experience, some organizations use software usage statistics to measure success of implementation. But usage statistics can be misleading; generally they are based on access metrics and are not true indicators of use, whether for quality assurance processes or for actual application. A better option is conducting process based interviews that trace the point of access to a point of action.

To measure the success of KM projects, it's essential to understand the drivers behind the project. One would start by asking what it was intended for and who are the beneficiaries of the initiative. The measurement of that would require process interviews, knowledge product footprint analytics, storytelling and end user value-based benefits.

In some cases it's better to assess in terms of value, which is less definitive and reflects the nature of the knowledge concept the organization is attempting to manage. Organizations and donors require evidence-based data and too many times impact measurement is produced through a one-off reductive process that miss the bigger picture of the whole. This can be best alleviated by linking knowledge and learning activities to HR processes where data collected can be embedded with ongoing organizational routine as opposed to a one-off measurement of a KM initiative at a particular point in time.

c. Implementation challenges

The most pressing factors indicated that hinder knowledge management practices are: -

- Lack of time or resources to concretely share knowledge on a day-to-day basis - 70%
- Staff not making documents available to others spontaneously- 70%
- Difficult in capturing employee's undocumented knowledge (know-how) - 81%
- Resistance of certain groups of staff - 52%
- Concern that other organizations/general public would be able to access sensitive/confidential information - 50%

The challenges least concerning for the respondents include:- The organizations putting strong focus on information and communication technology, rather than on people or organizational matters and knowledge and information management not being a top priority in the modernization programs of the organizations, accounting for 35% and 29% respectively.

According to Kimiz Dalkir The biggest barriers to Knowledge Management in general are :-

- Knowledge is power - Too often people see knowledge hoarding as a way to personal power.
- The Individual work bias of the past ("I have to solve this all by myself") is shifting to a teamwork and a collaborative bias.
- Local focus is often a perceived barrier to knowledge management, which can be converted to a network focus by the establishment of communities of practice.
- "Not invented here" can be a real barrier to the import of knowledge, if the relationship of trust is missing. Trust will grow with face-to-face knowledge sharing, and few people resist a request for help.
- People are often afraid that Errors will be penalized, and are therefore unwilling to share what they may see as failures.
- People feel they are not paid to share. Knowledge management is often seen as not part of normal business. Preserving the value of our knowledge assets is not seen as core business.

- People feel they have no time to share. This is a very real barrier; most people are 'maxed out' at the moment. So we need to make knowledge sharing as quick and efficient as we can, because really we have no time NOT to share

These challenges in KM can be summarized in the context of employee behaviors of sharing knowledge in formal interactions within or across teams or work units. Knowledge is shared through formal social interactions of a person-to-group channel. Personalization strategy of knowledge management and sharing of tacit knowledge through formal face-to-face conversation are strongly recommended for this type of knowledge sharing.

Organizational commitment can positively affect employees' attitudes and behaviors of knowledge sharing (Hislop, 2003, MacNeil, 2001). This is further motivated by employees' willingness to contribute knowledge to the success of team and organization.

In this situation, employees believe through knowledge sharing they can help the organization as a whole meet its business objectives, but not for their self-interests (Gurteen, 1999). When employees believe that their contributions will be valuable to the organization, they give themselves positive feelings of sociability or doing the right thing, and promote personal responsibility (Cabrera 2002).

And when the organization recognizes this behaviors, they are more likely to be considered and rewarded through the organization's incentive systems. Rewards at different levels (pay based or recognition based) enhances individual knowledge sharing within or across teams (Bartol & Srivastava, 2002).

KM also focuses on employees' contributing their ideas, information, and expertise through written documentation rather than dialogs, such as by posting ideas to organizational database and submitting reports which can benefit other employees and the organization. In this case, knowledge is shared through a person-to-document channel. Codification strategy of knowledge management and sharing of explicit knowledge are emphasized for this type of knowledge sharing.

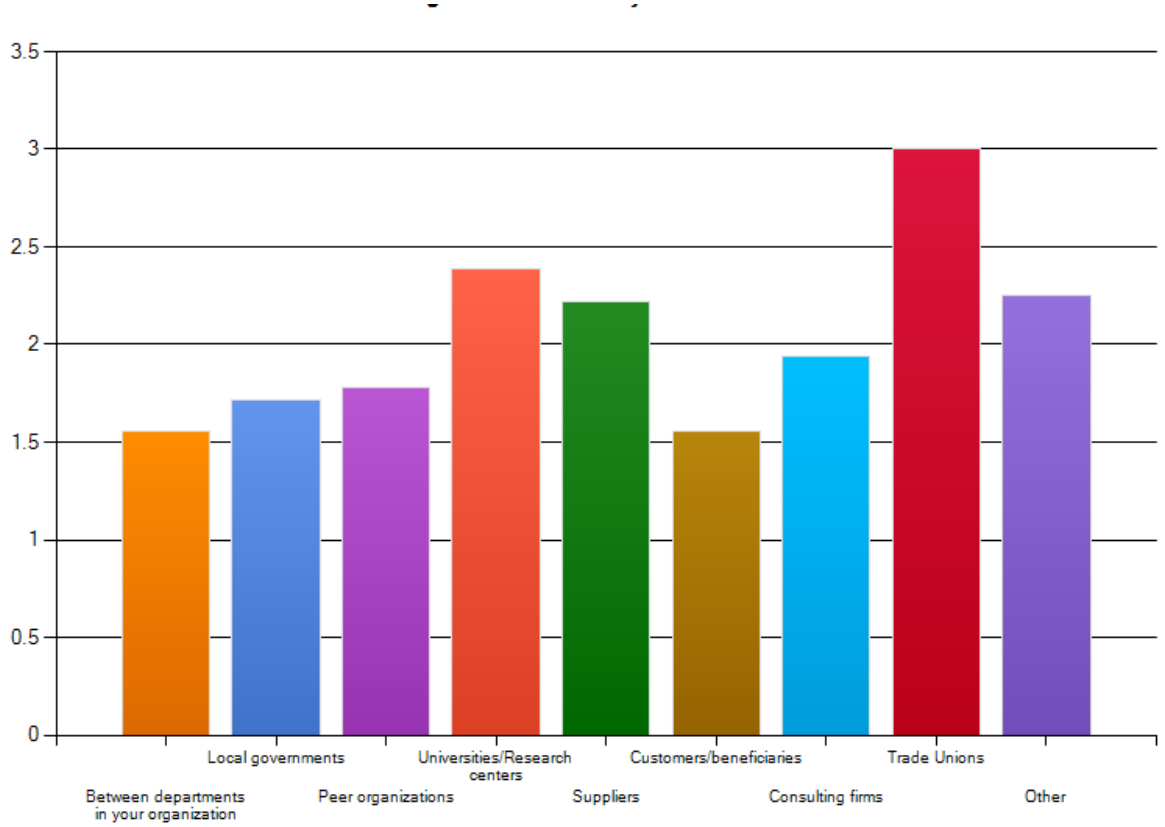
Associating rewards with contribution to a database can be applied here too. Contributions being easily tracked, accessed, evaluated, and recorded ensure employees that their knowledge sharing will not be ignored or devalued by the organization which in turn has a positive impact on the KM initiative as a whole (Bartol & Srivastava 2002).

4.1.5 Ubiquitous knowledge

Respondents were asked to identify internal and external knowledge sources and entities that the organizations increasingly reply on to carry out activities. Organizational departments, local governments, peer organizations and beneficiaries were listed as the most critical knowledge sources needed. Others such as universities, consulting firms, suppliers and trade unions were rated the lowest as key external knowledge sources.

	Yes definitely	Yes but not significantly	No, but probably within the next 5 years	No	Rating Average
Between departments in your organization	**61.1% (11)**	27.8% (5)	5.6% (1)	5.6% (1)	1.56
Local governments	**50.0% (9)**	33.3% (6)	11.1% (2)	5.6% (1)	1.72
Peer organizations	**44.4% (8)**	**44.4% (8)**	0.0% (0)	11.1% (2)	1.78
Universities/Research centers	**27.8% (5)**	**27.8% (5)**	22.2% (4)	22.2% (4)	2.39
Suppliers	22.2% (4)	**50.0% (9)**	11.1% (2)	16.7% (3)	2.22
Customers/beneficiaries	**55.6% (10)**	38.9% (7)	0.0% (0)	5.6% (1)	1.56
Consulting firms	33.3% (6)	**44.4% (8)**	16.7% (3)	5.6% (1)	1.94
Trade Unions	16.7% (3)	16.7% (3)	16.7% (3)	**50.0% (9)**	3.00
Other	**37.5% (6)**	25.0% (4)	12.5% (2)	25.0% (4)	2.25

Table 7: Ubiquitous knowledge – survey results



Graph 5: External knowledge sources – average ratings

Social mobilization in to development programming is widely adopted among international NGOs in Ethiopia. Communities of practice (CoPs) are established for the purpose of meeting development objective through dialogue and sharing information and experiences. Communities of practice of various development priority sectors made up of representatives from various international development organizations including government institutions are strong mechanisms for knowledge generation, learning and policy participation. The United Nations Ethiopia Country team (UNCT) programme coordination working groups, such as the Development Assistance Group (DAG) and United Nations Development Assistance Framework (UNDAF) can be good examples in this regard.

While the concept of CoPs is not new, in the researcher's experience, most of the interactions take place synchronously. The development of ICTs, combined with the need for more intentional, systematic management of knowledge means that using electronic communications for CoPs may afford an opportunity not only to manage knowledge as an asset but also to keep a pace of change and core knowledge requirements.

The potential power of virtual CoPs, that allow both synchronous and asynchronous interactions, is recognized by increasing interest in networked learning, e-learning and collaboration, as witnessed by the successes of global online networking platforms in the west that more and more

development organizations engage in. To strengthen this practice for effective development aid knowledge sharing, experts and researchers recommend the below adaptations:-

- Establishing a networked environment where the necessary interactions that improve learning can occur (Wenger et al, 2002).

- Implementing top-down approach to communities that consist of selecting best practice areas that are strategic to the objective, and proactively starting up communities to cover those knowledge areas and the bottom up approach to increase connectivity as opposed to promoting strategic communities.

- Promoting learning through social interaction and participating actively in a social settings in the workplace (Lave & Wenger 1991)

- Staff members participating in a virtual CoP facilitates gaining better knowledge/skills from fellow community members/colleagues (Fowler & Mayes, 1999)

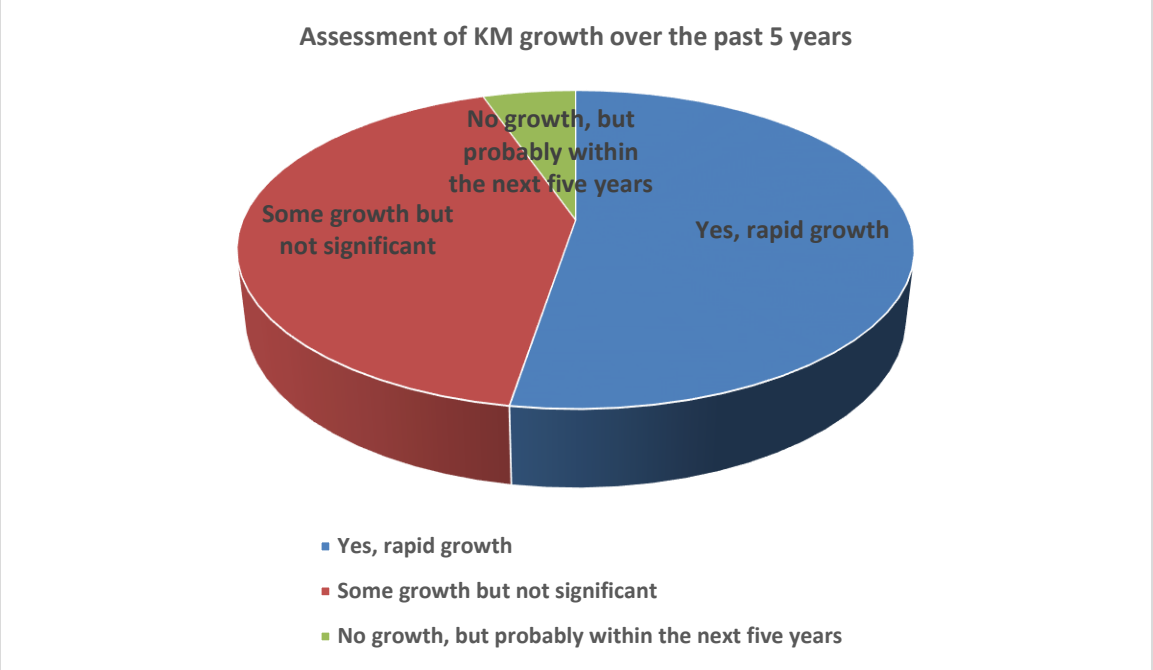
- "Knowing how to be in practice", rather than "knowing about practice" and thus involves a process of identity development for the newcomer through participation in the practice of the community (Brown & Duguid 2002).

- Paying attention to cross-national and cross-cultural dimensions in international online communities (Trayner, Smith & Bettoni 2006)

- Giving consideration to the influence of culture in the development of a community (Campbell & Uys 2007)

4.1.6 Growth of KM

It was reported, by 53% of the respondents, that there is rapid growth of knowledge management, over the past 5 years, in the respective organizations while 42% said that growth exists but not at a significant rate. The rest of the respondents indicated that even if there's no exhibited growth currently taking place, it is anticipated within the next 5 years.



Graph 7: Assessment of KM growth – survey results

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

As noted at the onset, this study was an initial step to assess the state of KM in development aid organizations in Ethiopia. The study also aimed at enabling development aid organizations to consider important factors when designing effective KM strategies, implement knowledge management initiatives and/or evaluate knowledge management activities already in place to improve their internal functions, processes, and operations as well as external strategic interventions. The findings are intended to shed light on what can be done to improve performance for better results in development aid by exploring the synergies between people, processes and technology. Contributing to the limited knowledge base of KM in the non-profit sector in the country and identifying possible directions for future research are also among the objectives of this study

The study started with the basic premise that implementing and diffusing KM projects or knowledge-sharing philosophies throughout organizations often requires understanding of organizational KM readiness. Fully embedding Knowledge Management (KM) is a change process, and the first step in the change is to determine out the current status - to see what is already being done, what works well, where the barriers and gaps are, and where the strengths are.

Given this idea, the study blended the KM and KM maturity literature to better understand KM readiness, finding that these literatures converged and suggested that KM readiness is a complex multifaceted concept influenced by the individual, the organizational context, the KM initiative's context, and the process used to introduce KM. From this, the study tests out an instrument that others can use as a starting point to guide subsequent empirical efforts to further develop theories and measures of KM maturity assessment.

Despite being based on a small number of targeted population, the researcher believes that this paper has demonstrated the value of applying assessment in relation to knowledge management. The survey comments served to confirm the researcher's belief that the Kruger & Synman KM maturity assessment instrument and the general knowledge management maturity model (G-KMMM) by Pee & Kankanhalli provide a useful framework through which to assess knowledge management.

Through a technique similar to critical success factor analysis, the three lenses of inquiry – information communication technology, strategic input and implementation issues - provide a rational and visible mechanism through which to conduct a knowledge management maturity and thereby assess an organization's current capability in relation to KM. With further research and development it is envisaged that the Kruger & Synman KM maturity assessment instrument will prove to be a useful diagnostic tool for those development aid organizations currently engaged in, or considering embarking upon, a knowledge management initiative.

Looking at the relations between the two chosen models used for this study (Kruger & Synman assessment instrument and the G-KMMM), even though one is a model and the other an assessment instrument, the fundamental issues discussed by both authors have similarities. GKMMM emphasizes maturity levels against key performance indicators of three core pillars: (people, process and technology). Each pillar is described by a set of characteristics that explain specify practices that, when collectively employed, can help organizations accomplish the goals of the particular maturity level they most likely resemble. The GMMK has five maturity levels that are measured against the key performance indicators namely, initial:- where little or no intention of KM is exhibited, aware:- Organization is aware of and has the intention to manage its organizational knowledge, but it might not know how to do so, defined:- basic infrastructure is put in place to support KM, managed:- KM initiatives are well established in the organization and optimized:- where KM is adequately integrated into organizational processes.

While Kruger & Synman focus on 6 main areas of assesment when evaluating KM in an organization. Kruger and Sunman's model incorporates the three main illars of the GKMMM in that the first two critical success factors:- ICT as an enabler of Knowledge Management and Information Management's role for knowledge management in an organization describe the technological readiness of the organization. similarly the two other success factors of Kruger and Synman namely Formulation of Knowledge Management principles, policy and strategy in an organization and 'Implementation of Knowledge Management in an organization' touch upon the processes involved for the smooth implementation of KM. The two factors assess the organizational processes that are essential for establishing a successful knowledge management initiative.

Kruger & Synman instrument also emphasizes on ubiquitous knowledge transfer which elaborates on the soft issues of KM implementation that primarily involve people's perception of KM processes and their behaviors towards it which directly relates to the GMMK's core pillar.

Based on the exploratory survey conducted, it appears that the vast majority of the firms examined are doing at least some initiatives in the name of either Information Management and/or Knowledge Management. It was found that higher levels of organization readiness for KM were indicative of more commitment and less pessimism about KM.

The majority of the organizations who participated in this study recognize the importance of managing knowledge and claim to be making serious attempts to establish active KM initiatives. Despite this enthusiasm, the actual implementation of KM still tends to be conducted on an informal, ad hoc basis with little evidence of effective co-ordination among departments.

The major findings of this survey can be summarized as : -

- There’s a rapidly growing interest and engagement to develop an effective KM initiative as an enabler of development assistance objectives within the non for profit sector in the country.
- Most organizations possess adequate ICT infrastructure that facilitate the implementation and growth of knowledge management initiatives.

- Most organizations have already in place a working knowledge management and information sharing systems even though a lot of them don't yet follow a systematic, well organized mechanisms of retaining and disseminating knowledge.
- Staff and knowledge workers in these organizations are actively involved in sharing information and knowledge resources as and when required for speeding up working processes. This positive attitude towards knowledge sharing with colleagues and stakeholders is a key conducive behavior to boost growth of KM.
- Albeit incomplete, development aid organization have put in place at least the basic prerequisites and strategic arrangements that enhance the sharing of knowledge within and outside their organizations.
- KM implementation challenges are well defined. The majority of the respondents find the absence of proper organizational guidelines on knowledge sharing, lack of knowledge of what colleagues need, and shortage of time and resources to facilitate knowledge sharing hindering their desire to share knowledge with colleagues within and outside the organization.
- Development aid organizations are actively involved in social mobilizations and group learning activities with their stakeholders through various communities of practice that frequently interact through face to face meetings.
- Despite all the above mentioned achievements, devising and implementing KM strategies aligned with the organizations' strategic priorities to guide future KM directions is still at a very early stage.
- Matching analysis of the results of the study against the G-KMMM model, most organizations fall under the third maturity level of the model titled 'Defined' (see Table 2).

While many of the respondents appeared to be critical of their respective organizations' development of KM strategy, they did feel that KM initiatives, current and future, represented a significant opportunity to improve their current work performance. Issues such as lack of time or resources, some staff members being reluctant to share knowledge and concern that sensitive/confidential information becoming public were mentioned as major hindrances to active knowledge sharing practices.

5.2 Recommendations

Like most development assistance programs around the world, international NGOs in Ethiopia face the need to improve the content, process and inclusivity of impact of their development assistance efforts. Most of these organization are knowledge based, processing data and key information for decision making on a daily basis. It is therefore pertinent that these organizations are capable of increasing knowledge in the development sectors they operate and/or leverage

existing knowledge to meet development goals. This calls for an efficient knowledge management strategies coupled with acquiring the necessary leadership and support for implementation.

Looking at the diffusion of KM initiatives throughout an organization using a change lens, the process of implementing KM would be expected to unfold through a series of stages. Readiness, the initial stage, would occur when the organizational members' attitudes are such that they are receptive to a forthcoming KM effort. Adoption occurs when the organizational members alter their attitudes and behaviors to conform to the expectations of the KM effort. Institutionalization occurs when KM becomes a stable part of employees' behavior and fabric of the organization. According to the responses, most organizations are at the readiness level.

Because knowledge management implementation and integration is a cultural change process, which involves changing the hearts and minds and work habits of staff, it can't be done overnight. It may take at least a couple of years before KM is fully institutionalized across the entire organization. To achieve that development aid organizations need to continue their dedicated implementation efforts, focused on breakthrough and delivery of new ways of working, which lasts until they start to establish rules and disciplines for KM, a knowledge management strategy.

Based on the survey results and considering the observed KM readiness of the organizations who participated in this study, the author forwards the following recommendations that further enhance conducive conditions for effective knowledge sharing that support development goals and in the long run can integrate leveraging organizational knowledge within strategic directions.

- Initiating formal trainings (including e-learning based), peer learning, experience sharing and similar other formal and informal learning interactions, through knowledge management initiatives, to meet the knowledge needs of the majority of staff.

- Provision of regular training and practical opportunities aimed at building and sustaining the different knowledge creation and sharing skills to all staff of different levels. Establishing knowledge sharing skills development strategies as well as programs to popularize knowledge sharing among the staff of the organizations.

- Strengthening peer learning schemes using different mechanisms (such as communities of practices and regular e-discussion) that best allow bringing together the knowledge of staff members with experts from outside of the organization to ensure that continuous and focused learning takes places within and outside development aid organizations.

- Virtual communities of practices could also be used for facilitating exchange of knowledge across units. Initiating discussion forums, composed of face-to-face and e-discussion, to create the

platform that would enables sharing experiences and lessons in turn building an environment of trust with all its stakeholders and partners on a regular basis.

- Building knowledge sharing environment by combining the already popular knowledge sharing mechanisms (such as face-to-face meetings and e-mail) with those not widely used e by the respondents (such as e-discussions and virtual CoPs) in a balanced way to make the most of available knowledge sharing mechanisms.

- Encouraging the use of e-mail based e-discussions. The organizations could then build on the skills, experience, and interest that staff would have acquired in using the e-mail based e-discussions to introduce and popularize web-based e-discussions and virtual forums.

- Making accessible knowledge resources (both tacit and explicit) to encourage self-teaching (including e-learning resources) particularly on those areas of knowledge identified as strategic input. Training and resource building by the organization therefore should be built around meeting the knowledge needs of the staff.

- Making sources of knowledge relevant to the development objectives of the organization more accessible both physically and electronically visible to encourage more use of the sources. Making accessible knowledge products such as lessons learned documents, best practices documents, peer learn files, and after action reports to all stakeholders involved in common areas of concern are one of the key strategies that the knowledge management program has to consider to strengthen discussions and exchange of knowledge across units of the organization.

- Making knowledge products easily accessible from centralized repository of easy to use interface that can be accessed from different locations as prioritized by the knowledge needs and other relevant criteria that the development assistance programs require.

- Strengthening and financing units responsible for knowledge management to facilitate further identification of knowledge needs, training needs, barriers to knowledge sharing, and so on.
- Although the positive attitude towards sharing knowledge is an important asset for development aid organizations in the country, more work needs to be done by the organizations to develop the

appreciation and enthusiasm in all staff to engage knowledge sharing with experts and stakeholders outside of the organization as well. It is important for the organizations to instill the value of the importance of knowledge sharing across the board to make knowledge sharing a norm. Creating awareness as to the personal and organizational values of knowledge and knowledge sharing, provision of incentives for engaging in organizational knowledge sharing (through institutional recognition of time spend on knowledge sharing, making knowledge sharing as one area of competence the performance of staff would be assessed for, and so on), and provision of tools and skill sets required to engage in knowledge sharing are the primary measures that the organization has to take in order to improve knowledge sharing.

- Putting in place proper organizational guidelines, proper tools, and identification of the knowledge that need to be shared should be considered as one of the primary measures to be taken by the organizations to build their knowledge management programs on solid foundations. This can be addressed through developing knowledge management strategy as one of the first steps.

The researcher hopes this investigation serves as a building block for subsequent research that not only explores other facets of KM maturity assessment in development aid organizations, but also advances the level of sophistication of the research. As previously implied, future efforts can use this work to guide studies that examine the entire process that organizations might go through as KM is introduced. It is envisaged that future studies, based on these findings, will build on providing a pre and post implementation assessments of the success of KM initiatives, hopefully with wider scope and coverage.

References

1. Agnes Maciocha and Jerzy Kisielnicki. 2008. Intellectual Capital and Corporate Performance. The Electronic Journal of Knowledge Management. UK

2. Alan Fowler. 1992. Prioritizing Institutional Development: A New Role for NGO Centres for Study and Development. International Institute for Environment and Development. UK

3. Alfred Maizels and Machiko K Nissanke. 1984. Motivations for aid to developing countries. Elsevier Inc. USA

4. Arthur Andersen and The American Productivity and Quality Center. 1996.The Knowledge Management Assessment Tool. External Benchmarking Version. USA

5. Alavi, M., Leidner, D. E. 2001. Review: Knowledge Management and Knowledge Management Systems: Conceptual Foundations and Research Issues. MIS Quarterly.USA

6. Ben Ramalingam.2005. Implementing Knowledge Strategies: Lessons from international development agencies: Overseas Development Institute (ODI). UK

7. Boisot, M. 1987. Information and Organizations: The Manager as Anthropologist. Fontana/Collins. USA

8. Christina Macneil. 2001. The Supervisor a a Facilitator of Informal Learing in Work Teams. Journal of Workplace Learning, Vol 13 No 6. UK

9. Davenport, Thomas H. Prusak, Laurence. 1998. Working Knowledge: HBS Press. USA

10. Donald Hipshop. 2003. Linking Human Resource Management and Knowledge Management via Commitment: A review and research agenda. Employee Relations Vol. 25 No. 2. USA

11. Edward Szczerbicki and Ngoc Thanh Nguyen. 2010. Smart Information and Knowledge Management: Springer. USA

12. EwenLeborne and Simon Hearn. 2011. Monitoring and evaluating development as a knowledge industry: ideas in current practice: IKM Emergent. GERMANY

13. Feagin J.R, Orum A.M &Sjoberg G. 1991. A Case for the Case Study. UNC Press.USA

14. Frid, R. 2003. A Common KM Framework For The Government Of Canada: Frid Framework For Enterprise Knowledge Management. Canadian Institute of Knowledge Management. CANADA

15. Gashaw Kebede. 2010. KM an information science perspective: International Journal of Information Management. USA

16. Georg Hüttenegger. 2003. Knowledge Management System Building Blocks: Academic Conferences Limited. UK

17. Hedlund, G. and Nonaka, I. 1993. Models of Knowledge Management in the West and Japan. Macmillan. USA

18. Henderson, K. 2005. The knowledge sharing approach of the United Nations Development Programme : KM4D Journal.UK

19. IFAD. 2007. Knowledge Management Strategy. Palombi e Lanci. ITALY

20. Irma Becerra-Fernandez, Rajiv Sabherwal. 2010. Knowledge Management Systems and Processes. M.E. Sharpe, Inc.USA

21. Kimiz Dalkir. 2007. KM in theory and practice. Elsevier Butterworth-Heinemann.UK

22. Kogut, B. & Zander, U.1993. Knowledge of the Firm and the Evolutionary Theory of the Multinational Corporation.USA

23. Marc Demarest. 1997. Knowledge Management: An Introduction. Elsevier. USA

24. M.W. McElroy. 2000. Integrating Complexity Theory, knowledge management and organizational learning: Journal of knowledge management.Emerald.UK

25. Mthuli Ncube, Charles Leyeka Lufumpa, Leonce Ndikumana (2010), Ethiopia's Economic Growth Performance: Current Situation and Challenges, Economic Brief vol.1,Issue5. NIGERIA

26. Nonaka, I.1994. A Dynamic Theory of Organizational Knowledge Creation. Organization Science. USA

27. Organization for Economic Cooperation and Development. 2008. DAC Report on Multilateral Aid. SWITZERLAND

28. Paul Griffiths and Dan Remenyi. 2008. Aligning Knowledge Management with Competitive Strategy: A Framework. USA

29. Paul Mosley.1980. Aid, savings and growth revisited. Oxford Bulletin of Economics and Statistics.UK

30. Peter Drucker. 1994. Post-Capitalist Society. HarperCollins Publishers. USA

31. Robert D. McKinlay, Richard Little. 1979. The U.S Aid Relationship: A Test of the Recipient Need and the Donor Interest Models. Political Studies. USA

32. Shawn Callahan. 2009. Crafting a Knowledge strategy: Anecdote pty Ltd.USA

33. Stankosky and Baldanza. 2001. A Systems Approach To Engineering A KM System.

34. T.A Scwandt.1994. Constructive, interpretivist approaches to human inquiry. Sage Publications

35. Walter Mansfield and Philipp Grunewald. 2013. The use of indicators for the Monitoring and Evaluation of knowledge Management and Knowledge Brokering in International Development. Loughborough University. UK

36. Yin, R.K.1984. Case Study Research: Design and Methods. Sage Publications.USA

ANNEX

Annex I: Questionnaire

Section 1 – ICT as an enabler Knowledge Management

1.1 To what extent do your organization's information and communication technolgoy activities comply with the following statements;

1. The organization is capable of evaluating an ICT system
2. The organization is capable of designing an ICT system
3. The organization is capable of planning an ICT system
4. The organization has an effective ICT infrastructure

1.2 The organization regards ICT and the management thereof as…….
(please mark only one answer)

1. An enabler of knowledge management
2. knowledge management

Section 2 - _Information Management in the organization

2.1 To what extent does your organization comply with the following statements?

1. The organization has a clearly defined information management policy
2. The organization has a clearly defined information management strategy
3. The information understands which information resources are crucial to the business
4. It is clear which managers are accountable for information resources
5. Key information is easily available
6. All employees are trained to access sources of information relevant to their job

2.2 Is your organization proficient in the following information management activities?

1. Identification of information needs
2. Acquisition of information

3. Information storage
4. Information distribution
5. Information retrieval
6. Information disposal
7. Protection of information
8. Determination of value and cost of information

2.3 In your organization, the following information management tools and services have been institutionalized

1. Inventory of information entities
2. Information management systems
3. Databases
4. Information service/ Library

2.4 The organization regards Information Management as (Please mark only one answer)

1. A prerequisite for knowledge management
2. Knowledge Management

Section 3 - Formulation of Knowledge Management principles, policy and strategy

3.1 How would you rate the following statements?

1. Your organization is aware of the power vested in knowledge, i.e knowledge is seen as a strategic resource
2. Good knowledge management is one of the top five internal priorities of the organization
3. The management of knowledge is supplying a direct input to the strategic management process i.e the Chief Knowledge Officer is an active participant in the formulation of business strategy

3.2 Are the following goals important in motivating the establishment of knowledge management practices in your organization?

1. Improving work efficiency and/or productivity by producing and sharing knowledge more rapidly within your organization
2. Decentralization of authority
3. Releasing information more rapidly and making it more widely available to staff
4. promoting life-long learning
5. Improving transparency
6. Improving working relations and trust within your organization

7. Making up for loss of knowledge (due to staff turnover, retirements, etc)

3.3 In your organization, the following initiatives have been taken to manage knowledge

1. There is a conscious decision to invest in knowledge management
2. It is agreed upon that there is a need for hybrid knowledge management environments, i.e technology and people
3. High-ranking knowledge champions are identified
4. There is commitment from top management to the establishment of a formal knowledge management function
5. A decision was taken by top management to judge people according to their ability to share knowledge
6. A decision was taken by top management to constantly improve knowledge work processes
7. There is a conscious drive to get all employees involved in knowledge sharing exercises

3.4 To what extent does your organization comply with the following statements?

1. The organization has clearly defined knowledge management policy
2. The organization has clearly defined knowledge management strategy
3. The KM strategy has been communicated widely to staff

3.5 If your organization already has a knowledge Management (KM) strategy/strategies, which key element does it include?
(If your organization does not have a KM strategy, please continue to section 4 below)

1. Information management
2. Information technology aspects
3. Human resources management aspects (incentives, recruitment, training, mentoring, etc.)
4. Organizational aspects (communities of practice, decentralizing authority, networks, etc.)

Section 4 - Implementation of Knowledge Management

4.1 In your organization, the following initiatives have been taken and organizational arrangements made.

1. Opening up bureaucratic divisions
2. The creation of a central coordinating unit for Knowledge Management
3. The appointment of a Chief Knowledge Officer (CKO) with executive status
4. Reorganization of offices (e.g. open plan offices)
5. Establishment of informal networks (e.g. Communities of practice - groups of practitioners working on the same topic but not on the same project, and regularly sharing knowledge)
6. Institutionalization of training and mentoring programmes
7. Communication with customers

8. Establishment of incentive schemes for knowledge sharing
9. Communication with suppliers

4.2 Which of the following groups has the overall responsibility for knowledge management in your organization? (Please mark only one answer)

1. Human resources management team
2. Information technology team
3. Special knowledge management unit
4. Top managers
5. Other

4.3 In your organization, staff members spend an increasing amount of time on the following activities:

1. Informational meetings
2. Peer reviewing/quality reviews
3. Presentations of projects and activities
4. Information sharing by electronic device (e-mail, etc.)
5. Building databases

4.4 In your organization, good work practices have been outlines and updated on a regular basis, in documents such as:

1. Training manuals
2. Best practices
3. Guidelines

4.5 Which follow-ups are conducted to assess the progress made in implementing knowledge management practices in your organization?

1. The use of indicators to assess the implementation of knowledge management practices
2. Use of scorecards
3. Written/oral feedback from staff on achievements in knowledge management
4. Comparison are made between your organization and other organizations in your industry

4.6 Do you consider that the culture of your organization has changed in the following ways:

1. Staffs now consider that sharing knowledge will be good for their career in your organization
2. Staffs spontaneously organize knowledge events such as meeting with staff from other divisions/departments
3. Staffs make documents available to others more spontaneously

4.7 Has your organization experienced difficulties in implementing knowledge management practices, because of the following factors?

1. Your organization has put a strong focus on information and communication technology, rather than on people or organizational matters
2. Lack of time or resources to concretely share knowledge on a day-to-day basis
3. Resistance of certain groups of staff
4. Staff do not make documents available to others spontaneously
5. Difficult in capturing employee's undocumented knowledge (know-how)
6. Concern that other organizations/general public would be able to access sensitive/confidential information
7. Knowledge and information management is not a top priority in the modernization programme of your organization

Section 5 - Ubiquitous knowledge

5.1 Does your organization increasingly rely on outside knowledge coming from the following entities/organizations to carry out its activities?

1. Between departments in your organization
2. Local governments
3. Peer organizations
4. Universities/Research centers
5. Suppliers
6. Customers/beneficiaries
7. Consulting firms
8. Trade Unions
9. Other

5.2 Staff is encouraged to take up positions in:

1. Between departments in your organization
2. Local governments
3. Peer organizations
4. Universities/Research centers
5. Suppliers
6. Customers/beneficiaries
7. Consulting firms
8. Trade Unions
9. Other

Section 6 - Assessment of Knowledge Management Growth

6.1 Please reflect on the growth of knowledge management in your organization over the past 5 years

Annex II: Covering Letter Accompanying Questionnaire

1. Overview and Participant Consent

Welcome! Thank you for choosing to answer these assessment questions and for supporting this study that that seeks to discover knowledge management maturity levels in development aid organizations in Ethiopia.

Purpose: The study is part of an Msc thesis work at Addis Ababa University, School of Information Science. Responses will provide insight for the development of a concise baseline that not only helps researchers to study further the research topic but also to enable development aid organizations to consider important factors when designing effective KM strategies, implement knowledge management initiatives and/or evaluate knowledge management activities already in place to improve their internal functions, processes, and operations as well as external interventions.

Participants: This survey targets development aid organizations in Ethiopia that have planned, implemented, or evaluated KM initiatives to rate factors that influenced the success of their Knowledge Management activities. These selected organizations were identified on the basis of having relatively better internet access and ICT infrastructure, relevant Knowledge management experience due to their affiliations indicated either through professional partnerships, personal interactions and online professional communities with interests relevant to Knowledge Management.

Your privacy: Under no circumstances will data of your personal profile be shared with anyone. Also note that data specific to your organization's activities will not be shared with anyone outside of the research interest.

The Questionnaire - What to expect

You will be presented questions that aim to explore your organization's maturity level in Knowledge Management for Development. The primary topics include (pertaining to your respective organization)

- ICT as an enabler of Knowledge Management
- Information Management in your organization
- Formulation of Knowledge Management principles, policy and strategy
- Implementation of Knowledge Management
- Ubiquitous knowledge transfer
- Assessment of Knowledge Management Growth

Point of Contact

Please direct any questions and inquiries about the questionnaire to the principle researcher, Hermella Ayalew, hermella.ayalew@gmail.com, +251922112348

Skype: hermellaa

Completing the questionnaire indicates your voluntary participation in the study. Select "Yes" to confirm you are 18 or older, to acknowledge the purpose of this questions, and to grant your consent for your responses to be included in the research data. Select "No" if you do not grant consent. (If you elect to participate, but quit prior to completing the questionnaire, your responses will not be used.)

Yes
No

2. General Instructions

Please answer a question by selecting an appropriate number from the given choices in the table next to it. When you make your selection please use the code:

1 = Yes definitely
2 = Yes but not significantly
3 = No, but probably within the next 5 years
4 = No

Annex III: Declaration

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

_____ _____

Date Signature

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

_____

Advisor