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# Knowledge Management Capability Maturity Level in Selected Public University Libraries in Ethiopia

**Muluken Gossaye (MSc) 1, Tibebe Beshah (PHD) 2, Joan Petit (MSLS) 3**

1 Department of Information Science, Mekelle University, Ethiopia

2 Department of Information Science, Addis Ababa University, Ethiopia

3 Department of Information Science, Jimma University Ethiopia

## Abstract

**Purpose** –In libraries, knowledge management maturity refers to a state that provides perfect environment to achieve library's objectives and missions. Knowledge management maturity provides a path and framework which enables firms to achieve excellence in knowledge management implementation. The current research is aims at assessing and determining the knowledge management maturity Level of the Universities libraries in Ethiopia by adopting the knowledge management Maturity Model (GKMMM).

**Methodology** – A self-administrated questionnaire was adopted in which 83 surveys were distributed to the selected public University libraries of Ethiopia.

**Findings** – The results of the knowledge management maturity assessment shows a basic knowledge of the concept of knowledge management implementation in the public Universities libraries. The findings and context of this study indicates that the current knowledge management maturity Level at AAU libraries KM in people area is at Level 1 and Level 3 both in processes and technology domain. On the other hand, DU and WKU libraries KM in all key process area are at Level 1. Generally, the 1st generation Universities reside in the higher Level of knowledge management maturity, while the 2nd and 3rd generation Universities are still in the Lowes Levels of maturity.

**Originality** – This is the first study to attempt the assessment of knowledge management maturity Levels by using maturity model in Ethiopia/developing countries Universities for identification of the libraries' placing in knowledge management implementation.

**Keywords:** Knowledge management, Key Process Areas, Knowledge Management Maturity, Knowledge Management Maturity Model

## 1. INTRODUCTION

Nowadays, knowledge management is one of the most important assets for any academic library to share value and sustainable competitive advantage. University libraries agree with the knowledge and the mission of the libraries is the knowledge management (Chidambaranathan & BS, 2015). Thus, an effective implementation of knowledge management can border the university library opportunities and enhance university libraries missions and objectives. Despite the effectiveness of knowledge management, University libraries are still facing a challenge with the rising budget of ICT infrastructure, lack of knowledge management practices and capabilities, knowledge management strategy, organizational culture, organizational structure, and level of knowledge management achievement and improvement. Knowledge management should be efficient and present the best possible way to promote in managing the tacit and explicit knowledge of employees (Chidambaranathan & BS, 2015). The majority of the organizations are actively connected with knowledge management have an issue to identify the effectiveness and maturity of knowledge management (O'Sullivan, 2010). Thus, knowledge management has to be seen as a platform for education sector and improving the University libraries productivity and performance. However, the process of assessing the value of knowledge management and knowledge itself is quite challenging in the organization (Jumo, 2011). Because knowledge management is a complex activity and task involving people, technology, and process, there is an increasing need for an understandable set of principles to show knowledge management implementations (Pillai et al. 2008; Wong and Aspinwall, 2004). With such complexity measuring the development of knowledge management is unavoidable and cannot be taken as simple (Chua & Chaudhry, 2008). Therefore, there is a need for an overall framework for guiding the adoption of knowledge management and improving the knowledge management practice key processes area to ensure improvements in knowledge management.

Knowledge management has spread widely among the University libraries in Ethiopia and has become one of the important strategic elements that are used in order to improve organization performance. Moreover, it has been noticed that most of the Universities libraries in Ethiopia are adopting knowledge creation and knowledge sharing, in which traditional and knowledge management are running in parallel; which means additional budgets. Therefore, public universities libraries in Ethiopia need to manage the asset of their knowledge management by adopting a model to assess and evaluate the effectiveness of their knowledge management

practice in improving the libraries. While knowledge management has been discussed in the previous research in Ethiopia, verities of studies have tackled the assessment of the capabilities and maturities of knowledge management. The purpose of this research is to assess and determine the knowledge management maturity Level of the selected public university libraries by adopting knowledge management Maturity Model (GKMM). The findings of this research will provide the library managements of the public university libraries in Ethiopia, with a guideline for assessing their asset in knowledge management projects and evaluating knowledge management capability maturity Level in providing a successful knowledge management practice. Knowing the knowledge management maturity level will help in understanding the library performance and points of knowledge management practice improvement. In turn, this serious information can be used at the managerial Level to plan for the next step for improving the knowledge management projects and progress to a higher level of knowledge management maturity to maintain a sustainable knowledge management achievement.

### **Knowledge management:**

KM is the management of the activities that enables the creation and sharing of knowledge within or outside the organization. Knowledge management manages higher institutions knowledge storage and retrieval capabilities. KM is a broad concept that it is about creation, sharing, storing and using of knowledge within organization. Knowledge management is a process of applying a methodical approach to acquire, structure, and disseminate knowledge throughout the organization to work faster, reuse best practices, and reduce costly rework from task to task (Dalkir, 2005). Knowledge management, according to King (2009), is concerned with the utilization and development of the knowledge assets of an organization with the view of enhancing organizational objectives. Moreover, knowledge management is considered as a deliberate and systematic coordination of an organization's people, technology, processes, organizational structure and organizational culture in order to add value through reuse and innovation. This coordination is achieved through creating, storing, sharing, and applying/using organizational knowledge.

### **Knowledge Management Capability Maturity:**

An organization's knowledge capabilities determine its effectiveness at creating value for the organization through its knowledge processes (Dawson, 2000). The success of the organization

depends wholly on its ability to perform each of these processes more effectively (Dawson, 2000). Measurement of organizational knowledge assets and their associated knowledge processes is necessary to determine the effectiveness of knowledge management initiatives (Kulkarni & Freeze, 2005). By assessing the knowledge capabilities of the organization and by advancing to higher maturity levels, an organization can fulfill its purposes much more efficiently (Berztiss, 2002).

### **Knowledge Management Capability Maturity Model:**

Knowledge management capability Maturity models are used in the assessment of effectiveness of knowledge management practice. The maturities models are also used to determine the development level of knowledge management. The knowledge management maturity models classify performance from low to high level. Schwartz and Tauber (2009) defined KM maturity model as “a mirror image of the distinct, repeatable, and identifiable stages that an organization goes through as it evolves from an initial stage to a final stage”. Kuriakose et al. (2011) viewed knowledge management maturity model as an application of structured approach to KM implementation and engineering of KM. The KM maturity models clarify on the growth of an entity over time, and this entity can consist of any desired topic, whether humans, or an organizational unit, technology and process.

Generally, the maturity models have the following characteristics (Klimko, 2000): Maturity models generally have four to six levels which show evolution of an entity. Each level must have requirement(s) that the entity has to succeed in that level, levels are ordered sequentially, from an initial level up to an ending level (the latter is the level of perfection), From the initial level (Level 0 or Level 1), maturity levels are ordered sequentially up to a last level(the bigger level shows more accomplishment). It is not possible to skip any level during measurement and the entity advances forward one level to the next level (Klimko, 2000).Many Organizations are working different stages in their maturation building regarding the implementation of KM.

According to Pee & Kankanhalli (2009) organizations could use KM Maturity Model to assess and guide the organization with the implementation of KM. Further they explained that KM Maturity should meet the following criteria: Provide a systematic and structured procedure to ensure the transparency and reliability of assessment, provide qualitative and quantitative results

for the organization, Comprehensible and allow cross references to proven management concepts and include technology, people, and processes aspects.

### **Assessments of Knowledge Management Maturity Level in the Ethiopia University libraries:**

Through the literature review, “Several knowledge management capability maturity models have been proposed with the aim of evaluating the quality of knowledge management programmes in organizations.” However, many of the knowledge management capability maturity models did not present adequate guidelines to develop an appropriate instrument for the organizations. When we do our research, The GKMMM is used in assessing and identifying the knowledge management maturity level of Ethiopian university libraries. Because GKMMM is a general model which is comes from different knowledge management models and most of knowledge management maturity model cannot suite the three performances key process areas. Then we do research on the GKMMM. We have to say that GKMMM gives much specific information to identify characters of each maturity level. GKMMM categorized the organizations maturity into five levels and evaluates the organization’s maturity on three performances key process areas which are people, process and information technology. The GKMMM uses different factors to formulate different levels’ requirement and let organizations evaluate knowledge management maturity by themselves. This model has it has its own criteria such as provide a systematic and structured procedure to ensure the transparency and reliability of assessment, provide qualitative and quantitative results for the organization, comprehensible and allow cross references to proven management which is really helpful for Ethiopian university libraries to know knowledge management maturity level. According to Pee & Kankanhalli (2009) organizations could use KM Maturity Model to assess and guide the organization with the implementation of KM. Further they explained that KM Maturity should meet the following criteria: Provide a systematic and structured procedure to ensure the transparency and reliability of assessment, provide qualitative and quantitative results for the organization, Comprehensible and allow cross references to proven management concepts and include technology, people, and processes aspects. Table 1.1 shows a way of G-KMMM Knowledge Management Maturity Level Model Stages (Pee & Kankanhalli, 2009).



Maturity Level		General Description	Key process area		
			People	process	Technology
1	Initial	Little or no intention to formally manage organizational knowledge	Organization and its staff member are not aware of the need of formal KM.	There is no formal processes to capture, share and reuse organizational knowledge.	There is 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 of formal KM.	Knowledge related to the routine task is documented.	There is Pilot KM projects in place.
3	Defined	Organization has put in place a basic infrastructure to support KM	<ul style="list-style-type: none"> <li>-Management is aware of its role to encourage KM.</li> <li>-There is a basic training on KM</li> <li>-There is a basic KM strategy.</li> <li>-KM roles are defined.</li> <li>-There is an incentive system.</li> </ul>	<ul style="list-style-type: none"> <li>-There is a formal KM Processes.</li> <li>-The use of metrics to evaluate the productivity due to KM.</li> </ul>	<ul style="list-style-type: none"> <li>-There is a basic KM Infrastructure</li> <li>-Usage of KM systems is at a reasonable level</li> </ul>



4	managed	KM initiatives are well established in the organization.	-Standard approach and Common strategy towards KM in organization. -KM is incorporated in organizational strategy -More advanced KM training.	Quantitative evaluation of KM processes.	-Availability of organization wide KMS -Fair use of KMS. -Integrated KMS and technology with content architecture
5	optimizing	-KM is deeply integrated into the organization and is continually evaluated and improved. -KM becomes automatic component in any organizational processes.	Culture of sharing is institutionalized.	-KM processes are constantly evaluated and improved. -Existing KM processes adapted to meet new business requirements. -KM procedures become an integral part of the organization.	Existing KM infrastructure is continually improved

*Table 1.1: G-KMMM (Pee & Kankanhalli, 2009)*

This model categorized the organization's maturity into five levels and evaluates the organization's maturity on three performance key process areas: people, processes, and technology. As we looked the Pee & Kankanhalli G-KMMM every area is also divided into smaller parts which are as follows: People: the aspects related to organizational culture, strategies, and guidelines supporting knowledge management ,Sharing knowledge throughout the



organization ,Supervising and applying knowledge ,Strategic consistency with the organization's goals ,roles, responsibilities, authorities, and resources motivation and reward. The aspects related to KM processes in an organization; Learning processes and techniques. The aspects related to the technological infrastructure which supports an organization's knowledge management; Technological empowering, etc.

## 1.2OBJECTIVES

- A. To determine the Level of knowledge management maturity in the selected public university libraries in Ethiopia
- B. To compare the differences regarding knowledge management maturity level in the selected public university libraries in Ethiopia
- C. To formulate recommendation to move the selected public university libraries to the required knowledge management maturity level

## 2. METHODOLOGY

We conducted the survey using a cross sectional survey research method this is because the cross sectional survey analyzes one time distributed data unlike longitudinal survey which depends on a sequence of data's to be collected. The data for items related to the KM maturity level is analyzed with the universal way of measuring maturity levels. There are rules to be followed in the maturity level analysis. Since, this study use Pee and Kankahalli's model as the base, we do the measurement of maturity levels according to each KPA in their model (Pee & Kankanhalli, 2009). In the G-KMMM used in this study, there are five levels of Maturity Level (1-5) in three KPAs (Key Process Areas) including KM and People, KM Processes, and KM & Technology. All the questions in the maturity level are using the five-point Likert Scale to reflect the respondent's answers and associated scores. The survey asked the participants to select a response from a range of Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), and Strongly Agree (5). The numbers after the responses represent the numerical weight assigned to that selection. It should be noted that the numerical weights (descriptive statistics) assigned to each response do not appear on the survey instrument. Based on the scores allocated to each question (for 5-point questions 1-5), the total agreement percentage with each question was calculated after inserting the data into SPSS in order to determine the total average score per the three key process area.

In the G-KMMM used in this study, there are five levels of Maturity Level (1-5) out of this level there is no requirement in the Initial level of maturity. Therefore, if the organization is less than 60%, the organization will automatically get the level 1(Initial). To get the level2 (Awareness) of maturity, practice in the level 2 should be 60% or more than. To get the level 3(Defined), practices in level 2 and 3 should be 60% or more than 60%, and so on. The same rules applied until the highest level 5(optimizing) of maturity level. The 60% figure is selected from the Rouhollah et al. (2013) or in research organization. To achieve the results, the researcher used Rouhollah formula to follow the rules. The formula used is determining the maturity level from the Initial /level 1 to the Optimizing/level 5. For example, if our statistical population includes 30 library staff for Addis Ababa University and the answers to a 5-point question are according to Table 2.1, then the total agreement with that question can be obtained from the following equation:

$$P_j = \frac{\left( \sum_{i=1}^{L_j} x_{ij} * n_{ij} \right)}{\left( \sum_{i=1}^{L_j} n_{ij} \right) * L_j} * 100$$

Where;

$P_j$  = agreement percentage with question j (at percentage)

$x_{ij}$  = the score of option i of question j

$n_{ij}$  = the number of people answered to option i of question j

$L_j$  = the number options of question j

Z

Table 2.1: Example of opinions distribution regarding the first question

Option	Option score	No. of people answering to each option ( $n_{ij}$ )
Strongly Disagree	1	3
Disagree	2	5
Neutral	3	5
Agree	4	8
Strongly Agree	5	9

As example in Table 2.1, the first question (Our organizational/library knowledge recognized as essential for the long term success of the library) in people area for AAU maturity score obtained from the questionnaires shows a 70% agreement which is higher than the acceptance value of maturity level (i.e. 60% which is determined based on Rouhollah et al. (2013) or research organization.

### 3. RESULT ANALYSIS:

Based on the results and findings of this study; the overall KM Maturity Level in the selected public university libraries, Ethiopia were mentioned under in this section.

#### 3.1. Demographic Information

Today university libraries in developing country like Ethiopia observing for a change which focuses on knowledge, knowledge management and information technology. This knowledge has become to the organization through librarian experience, knowledge shared between library staffs and technologies. Therefore, the role of library directors, middle managers and senior managers is unlimited. Figure-3.1 shows that among the 83 respondents about 36.1% respondents were from the Addis Ababa university libraries, 33.7%) were from the Dilla University and 30.1% respondents came from the Wolkite university libraries.

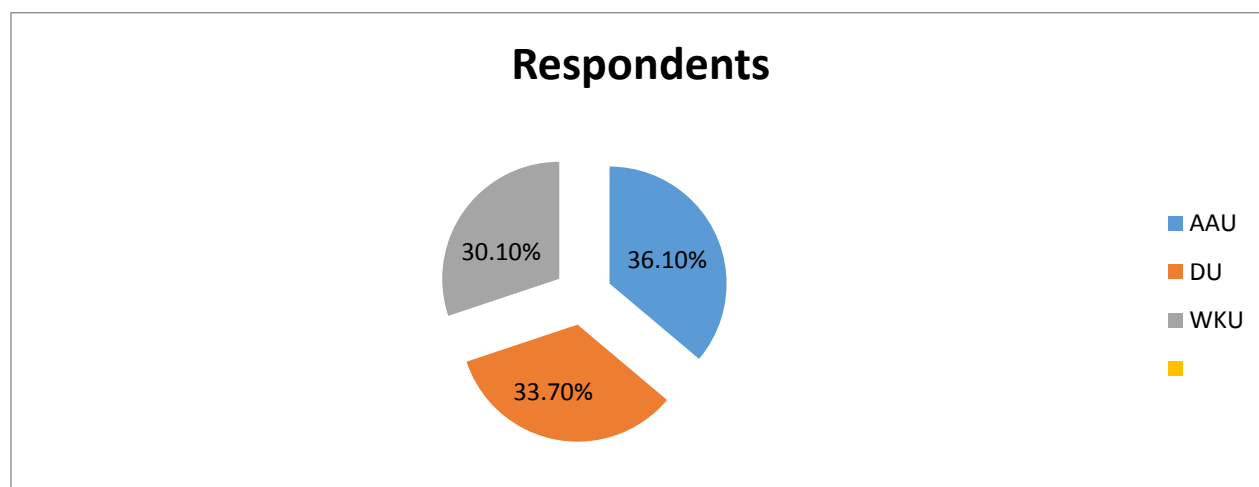


Figure 3.1 Distribution of the respondents over the three universities libraries

#### 3.2. Analysis of Questionnaire Data Regarding KM Maturity Level

This section is used to determine the data collected using questionnaire regarding KM maturity level. For simplicity, the questions were three different categories based on the KM components (people, process and technology). A number of questions were raised under each category. The categories are presented as follows. For the first category (Knowledge management and people), for the second category (knowledge management process) and for the third category (KM and technology). The assessment collected data that was used to examine each of the three university libraries which make up the KM maturity to conduct the analysis. The survey participants of each university name were identified by their university symbol.

The university name and their corresponding symbols are as follows:

Addis Ababa University	AAU
Dilla University	DU
Wolkite University	WKU

Table 3.1 lists the average scores that were established for each university in each key process area as a result of the survey responses. In order to determine the KM maturity level, the scores from each university were applied to the following. Table 3.1 depending on if the survey questions for that particular process area

<b>KM maturity Level in selected public university libraries in Ethiopia</b>			
<b>Maturity Level</b>	<b>AAU</b>	<b>DU</b>	<b>WKU</b>
<b>People maturity Level</b>	<b>Aware(Level 2)</b>	<b>Initial(Level1)</b>	<b>Initial(Level 1)</b>
Level 2	70%	55%	56%
Level 3	56%	40%	46%
Level 4	54%	39%	45%
Level 5	64%	43%	47%
<b>Process maturity Level</b>	<b>Defined(Level 3)</b>	<b>Initial(Level 1)</b>	<b>Initial(Level 1)</b>
Level 2	65%	50%	54%
Level 3	63%	48%	58%
Level 4	58%	44%	48%
Level 5	56%	44%	43%
<b>Technology maturity Level</b>	<b>Defined(Level 3)</b>	<b>Initial(Level 1)</b>	<b>Initial(Level 1)</b>
Level 2	67%	55%	52%
Level 3	62%	47%	45%
Level 4	56%	48%	46%
Level 5	73%	52%	62%
<b>Over all maturity Level</b>	<b>Defined(Level 3)</b>	<b>Initial(Level 1)</b>	<b>Initial(Level 1)</b>

*Table 3.1: KM key Process Areas maturity level*

As shown in Table 3.1, AAU libraries KM in people area is at “Awareness” Level, because the figure obtained from the questionnaires shows a 70% agreement which is higher than the acceptance value of maturity level (60%). It is significant that given that, according to G - KMMM, passing the maturity Levels should be continuous, thus in spite of the fact that the library has obtained 64% at “optimizing” level in the people domain, and it has not yet passed the “Defined and Managed “level (it has obtained less than 60%), thus maturity Level “Awareness” is acceptable for the AAU people domain. Similarly, AAU is at maturity Level “Defined” in processes and technology domain. Overall maturity Level “Defined” because the figure obtained from the questionnaires shows average score for people, process and technology which is lower than the acceptance value of maturity level (60%).

On the other hand, DU and WKU libraries KM in people, process and technology area are at “Initial” Level, because the figure obtained from the questionnaires shows agreement which is lower than the acceptance value of maturity level (60%). It is not possible to skip any Level during measurement and the entity advances forward one level to the next level (Klimko, 2000). Thus maturity level “Initial” is acceptable for the DU and WKU all domain.

The comparison between the total knowledge management maturity levels from the three selected public university library participating in the study is presented below:

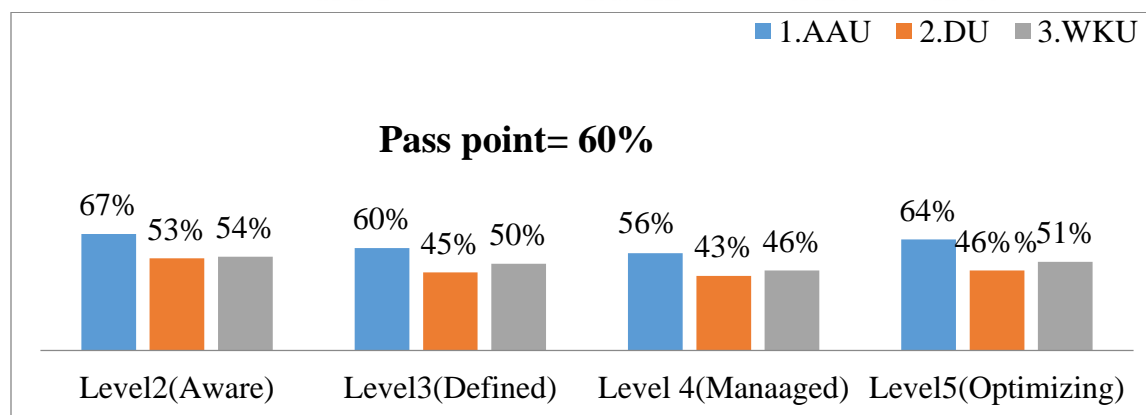


Figure 3.2 Total KM maturity level from the three selected public university libraries

## 4. DISCUSSION AND CONCLUSIONS

### KM maturity level

In the following discussion, findings related to important aspects of KM issues in the organization from the literature review will be the main focus. The quantitative findings provided some material that can serve as a basis to discuss the KM maturity of the selected public university libraries and essential reasons for the obtained maturity level by focusing on the three KM key process area.

The first key process area is KM and people. This phase of the KM key process includes organizational knowledge recognized as essential for the long term success of the organization ,Knowledge management recognized as organizational competence; staff willingly gives advice or help each other, incentive system to encourage Knowledge management, Knowledge management projects is coordinated by the management, Specific Knowledge management roles (Chef Knowledge Officers/Workers), clearly defined and documented knowledge management strategies in place, Clear vision for Knowledge management, Knowledge management training programs, regular knowledge sharing and transferring sessions, a budget specially set aside for Knowledge management and Knowledge management initiatives resulted in a knowledge sharing culture (Pee & Kankanhalli,2009).

As a result of the survey outcomes, the universities wide KM maturity level for this process area is rated as “Awareness” maturity level since this is the lowest level achieved in this area by any of the three selected public university libraries. As shown in Table 3.2, the average scored from each of the three selected public university libraries average score DU and WKU scored the lowest in this process area with average score of 55 and 56% and AAU was the highest with average score of 70%. AAU was recorded at the” Awareness” level of maturity and DU and WKU, which were at the “Initial” maturity level. Table 4.1 KM key Process Area: KM and people

KM Key process area	KM maturity level		
	University libraries Rating= <b>Aware/level 2</b>		
	AAU	DU	WKU
KM and people	70%	55%	56%
	Aware	Initial	Initial



An “Awareness” rating indicates that the selected public university libraries KM and people at this level are Organization is aware of and has the intention to manage its organizational knowledge, but it might not know how to do so (Pee & Kankanhalli, 2009). In the KM and people KPA, AAU was at Awareness level for the people KPA.

The library staffs were generally willing to give advice or help each other, knowledge was recognized as essential for the long term success of the library and KM was recognized as organizational competence and they were mostly aware of the need for formal KM.

It was examined that the DU and WKU were at Initial level for the KM and people KPA. In the WKU, although library staffs were generally willing to give advice or help each other, knowledge was not yet recognized as essential for the long term success of the library and KM was not yet recognized as organizational competence and they were mostly unaware of the need for formal KM. In the DU, although knowledge was considered as a key organizational competence, KM was not yet recognized as organizational competence and library staffs were not willingly give advice or help each others. Hence, they were considered to be at Initial level.

The second key process area is KM process. This phase of the KM key process includes routine task documented, knowledge management systems improve the quality and efficiency of work, formal knowledge management Process, existing Knowledge management systems are actively and effectively utilized, knowledge management processes has measured quantitatively, and existing Knowledge processes are easily adapted to meet new business requirements(Pee & Kankanhalli, 2009).

As a result of the survey outcomes, the universities wide KM maturity level for this process area is rated as “Initial” maturity level since this is the lowest level achieved in this area by any of the three selected public university libraries.

As shown in Table 4.2, the average scored from each of the three selected public university libraries average score DU and WKU scored the lowest in this process area with average score of 50 and 54% and AAU was the highest with average score of 63%. AAU was recorded at the “Defined” level of maturity and DU and WKU, which were at the “Initial” maturity level.

*Table 4.2 KM key Process Area: KM process*

KM key process area	KM maturity level		
	University libraries Rating= <b>Initial/level 1</b>		
	AAU	DU	WKU
KM process	63%	50%	54%
	Defined	Initial	Initial

An “Initial” rating indicates that the selected public universities libraries KM process at this level are Organization is Little or no intention to formally manage organizational knowledge and No formal processes to capture, share and reuse organizational knowledge(Pee & Kankanhalli, 2009). In the KM process Key process area, AAU was at Defined level for the process Key process area. The library has routine task documented, KM systems improve the efficiency of work and they were formal processes to capture, share and reuse organizational knowledge. It was examined that the DU and WKU were at Initial level for the KM process KPA. Both DU and WKU, although they were not yet routine task documented, KM systems improve the quality of work and they were mostly formal processes to capture, share and reuse organizational knowledge. Hence, they were considered to be at Initial level.

The final key process area is KM and technology. This phase of the KM key process includes Pilot KM projects that support Knowledge management, technology and infrastructure in place that supports Knowledge management, Knowledge management systems support the organization unit, knowledge management systems support the entire organization, knowledge management systems integrated with the processes and existing systems continually improved(Pee & Kankanhalli, 2009).

As a result of the survey outcomes, the universities wide KM maturity level for this process area is rated as “Initial” level since this is the lowest level achieved in this area by any of the three selected public university libraries.

As shown in Table 4.3, the average scored from each of the three selected public university libraries average score DU and WKU scored the lowest in this process area with average score of 55 and 52% and AAU was the highest with average score of 60%. AAU was recorded at the” Defined” level of maturity and DU and WKU, which were at the “Initial” maturity level.

*Table 4.3 KM key Process Area: KM and technology*

KM Key process area	KM maturity level		
	University libraries Rating= <b>Initial/level 1</b>		
	AAU	DU	WKU
KM and technology	62%	55%	52%
	Defined	Initial	Initial

An “Initial” rating indicates that the selected public universities libraries KM and technology at this level are Organization is little or no intention to formally manage organizational knowledge and no specific technology or infrastructure in place that support KM(Pee & Kankanhalli, 2009).

In the KM and technology Key process area, AAU was at Defined level for the technology Key process area. They were project, specific technology in place that supports Knowledge management. It was examined that the DU and WKU were at Initial level for the KM and technology KPA. They were not yet KM project and specific KM technology in place that supports Knowledge management implementations. Hence, they were considered to be at Initial level. Overall, it was observed that the KM maturity level of the selected public university libraries were lower level.

## 5. RECOMMENDATION

Based on the finding this part focuses on the knowledge management key process areas for the public university libraries and presents KM key process area improvement recommendations for the libraries to be considered in order to move the next maturity Level.

***KM and people***\_\_The University -wide maturity Level for KM and people was determined to be “Awareness/level 2” based on this was the lowest Level of maturity showed by the survey assessment results of the people key process area for the selected public university libraries. In order to move towards the next higher Level of maturity, and achieve a rating of “Defined, Managed and Optimizing “Level the public university should use the roadmap/assessment results and focus efforts to make certain that KM and people activities such as incentive system to encourage Knowledge management, Knowledge management training programs ,Specific Knowledge management roles , clearly defined and documented knowledge management strategies ,regular knowledge sharing and budget specially set aside for Knowledge management.

Provided this information, the public university libraries should utilize best practices and knowledge sharing of its more mature the other university libraries, AAU to bring DU and WKU up to the next highest level.

The public university libraries management should commit resources to provide focused and specific KM and people activities into its training program to ensure that formal KM are institutionalized throughout all of the public university libraries.

It is remarkable that since the public university libraries has not yet 100% passed the maturity level “Awareness” of people domains at “Awareness “level and also identifying the weaknesses which have hindered achieving a 100% people domains (it is fairly higher than 60%), therefore it is essential to define improvement plans for level “2” of people domains, by investigating the road map/questions related to people and success.

***KM Process***\_\_The University -wide maturity level for KM process was determined to be “Initial/Level 1” based on this was the lowest Level of maturity showed by the survey assessment results of the KM process for the public university libraries.

In order to move towards the next higher Level of maturity, and achieve a rating of “,Awareness, Defined, Managed and Optimized” the public universities should use the roadmap/assessment results and focus efforts to make certain that KM and people activities such as routine task documented, knowledge management systems improve the quality and efficiency of work, formal knowledge management process, existing Knowledge management systems are actively and effectively utilized, knowledge management processes has measured quantitatively, and existing Knowledge processes are easily adapted to meet new business requirements.

Provided this information, the public university libraries should utilize best practices and knowledge sharing of its more mature the other university libraries, AAU to bring DU and WKU up to the next highest Level. The public university libraries management should commit resources to provide focused and specific KM process activities into its training program to ensure that formal documented KM processes are standardized throughout all of the public university libraries.

***KM and technology***\_\_ The University -wide maturity Level for KM and technology was determined to be “Initial/Level 1” based on this was the lowest Level of maturity showed by the survey assessment results of the KM and technology for the public university libraries.

In order to move towards the next higher Level of maturity, and achieve a rating of “,Awareness, Defined, Managed and Optimized” the public university should use the roadmap/assessment results and focus efforts to make certain that KM and technology activities such as KM technology and infrastructure in place that supports Knowledge management, Knowledge management systems should support the library unit, knowledge management systems should support the entire organization and knowledge management systems integrated with the processes.

Provided this information, the public university libraries should utilize best practices and knowledge sharing of its more mature the other university libraries, AAU to bring DU and WKU up to the next highest Level. The libraries management should commit resources to provide focused and specific KM technology activities into its training program to ensure that specific KM technology are standardized throughout all of the public university libraries.

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## Appendixes

### Appendix: Questionnaires for library staff : Part I: General information

Please provide the answer by writing or ticking (✓) appropriately in the provided brackets.

1. Which university are you from? AAU ☐ DU ☐ WKU ☐

### Part II: Questionnaires to assess level of knowledge management maturity

Please indicate by a tick (✓) if you agree or disagree to each of the following, where;

1= Strongly Disagree, 2= Disagree, 3= Neutral, 4=Agree and 5= Strongly Agree.

Knowledge management and people							
Levels	S/N	Questions	Answer				
			1	2	3	4	5
2	1	Our organizational/ library knowledge recognized as essential for the long term success of the library					
	2	Our library Knowledge management recognized as organizational competence					
	3	Our library staff willingly give advice or help each other					
3	4	Our library has incentive system to encourage Knowledge management					
	5	Our library Knowledge management projects is coordinated by the management					
	6	Our library has Specific Knowledge management roles (Chef Knowledge Officers/Workers)					
	7	Our library has clearly defined and documented knowledge management strategies in place					
	8	Our library has Clear vision for Knowledge management					
	9	Our library has Knowledge management training programs					
4	10	Our library has regular knowledge sharing and transferring sessions					
	11	Our library Knowledge management is incorporated into the overall organizational strategy					
	12	Our library has a Budget specially set aside for Knowledge management					

5	13	Our library Knowledge management initiatives resulted in a knowledge sharing culture					
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Knowledge management process							
Levels	S/N	Questions	Answer				
			1	2	3	4	5
2	1	Our library has routine task documented					
	2	Our knowledge management systems improve the quality and efficiency of work					
3	3	Our library has formal knowledge management Process					
	4	Our library existing Knowledge management systems are actively and effectively utilized					
4	5	Our library knowledge management processes has measured quantitatively					
	6	Our library existing Knowledge processes are easily adapted to meet new business requirements					

Knowledge management and technology							
Levels	S/N	Questions	Answer				
			1	2	3	4	5
2	1	Our library has Pilot projects that support Knowledge management					
	2	Our library has technology and infrastructure in place that supports Knowledge management					
3	3	Our library Knowledge management systems support the business unit					
4	4	Our knowledge management systems support the entire organization					
	5	Our knowledge management systems integrated with the business processes					
5	6	Our library existing systems continually improved					