

# **ASSESSING THE ROLE OF KNOWLEDGE MANAGEMENT PROCESSES IN IMPLEMENTING A KNOWLEDGE MANAGEMENT SYSTEM: AN APPLICATION OF THE CAPABILITY MATURITY MODEL TO THE LIBYAN BANKING SECTOR**

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It is widely acknowledged that knowledge management processes, senior management commitment, information technology, change management, and human resource management (in terms of knowledge management implementation) are essential considerations for organisations wishing to exploit and manage their holistic knowledge assets. This paper presents research undertaken within the Libyan banking industry using the Capability Maturity Model concept as a context for knowledge management implementation. The paper explains the involvement of knowledge management processes in supporting the implementation of knowledge management system, vis-à-vis understanding the user-requirements, planning for knowledge acquisition; creation; transfer; application and knowledge documentation within the Libyan banking industry. Key findings suggest that gap analysis should be undertaken in five key areas prior to implementation of knowledge management system.

Keywords: capability maturity models, knowledge acquisition, knowledge application, knowledge creation, knowledge documentation, knowledge management implementation, knowledge transfer.

## **INTRODUCTION**

Knowledge is an essential and critical function needed in order to obtain and facilitate competitive advantage in modern organisations. Hence, today's organisations are increasingly paying more attention in the initiation of knowledge management (KM) activities for building their assets (intellectual capital) and knowledge-based systems (processes) in order to maximise results. However, there are numerous issues concerning the promoters and dissenters of knowledge management implementation, for example, factors related to: organisation commitment (OC), information technology (IT) focus, change management (CM) procedures, and KM processes. The difficulty for many organisations arises from the fact that the 'implementation' component of the KM initiatives often faces barriers, especially no logical framework and methodology is adopted to support it (Kridan and Goulding, 2005).

This paper highlights the importance of processing knowledge (Knowledge creation; Knowledge acquisition; Knowledge transfer; Knowledge application; and Knowledge documentation).as the success of any KM initiatives depends upon how people

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process that knowledge, and their willingness, and their ability to share knowledge and use the knowledge of others.

## **RESEARCH METHODOLOGY**

The first step in any process improvement endeavour is to determine the baseline state. As the KM concept is still relatively new, the immaturity of this field makes it necessary for this research first to determine the critical areas the (variables) which require attention while planning the KMS, and discuss what is important and what is not; generally this is an effective solution for organisations that are still beginners in process improvement. For organisations with little KM process capabilities, a better choice is to begin with a self-assessment. In an organisation where process maturity is a new concept, a self-assessment (questionnaire) offers an easy entree to the world of process improvement. As the term implies, self-assessment is a means by which an organisation assesses compliance with a selected reference model or module without requiring a formal method. Self-assessment helps organisations find gaps between their current practices and those identified in the KMS. The results of the self-assessment can also be used to educate the organisation about the acquisition module as well as about the requirements of the formal appraisal method. The mechanics of a self-assessment are simple and can be done by use of a questionnaire administered by a face-to-face interview, requiring managers and employees to respond to a series of questions based on their understanding of how work is performed in their organisation. To encourage candour in the responses, the researcher should administer the questionnaire confidentially. The individual responses are then aggregated, averaged, and presented for discussion and further action (Blanchette, and Keeler 2005).

Any KM strategy must identify the key needs and issues within the organisation, assess them and provide a framework for addressing these areas. This creates the need for instruments and a process that can be used to evaluate an organisation’s current status relative to the critical knowledge implementation areas (CKIAs). A quantitative method has been developed for assessing and evaluating Libyan banks’ current status relative to the CKIAs because of the importance of understanding in detail, how banks work, and because the lack of literature on KM in the banking requires the use of case studies during this explorative stage (Yin, 1994). Also, Bell (1993) refers to the case-study approach as “... particularly appropriate for individual researchers because it gives an opportunity for one aspect of a problem to be studied in some depth within a limited time scale”. The literature on KM poses questions about knowledge and suggests a number of design principles for its implementation (Stebbins and Shani, 1995, Ware, 1997). The questions are generated as a result of an expansive review of several streams of literature, a pilot study and preliminary research. In this paper only KMP questions are dealt with:

Question C-4: Do the LPBs effectively processing knowledge that can provide full benefits to the banks and employees? This question has sub questions which are:

**Table 1:** Research sub-questions for KMP

<b>Q No</b>	<b>Activities</b>	<b>Sub question</b>
C-4-1	Knowledge Acquisition	Do the LPBs have the knowledge acquisition methods?
C-4-2	Knowledge creation	Do the LPBs have the knowledge creation methods?
C4-3	Knowledge Transfer	Do the LPBs have the concept of knowledge transfer?
C-4-4	Knowledge application	Do the LPBs have the knowledge applied in all the banks’ themes?
C-4-5	Knowledge documentation	Do the LPBs have the knowledge documentation methods?

As indicated, the methodology involved using a quantitative case study method, supported by face-to-face interviews, where the interviewees responded to a series of questions based on their understanding of how work is performed in their organisation. The individual responses were then aggregated, ranked, and presented in tables. These results will be considered in combination with the other questionnaire results (questionnaire of OC, CM and IT) to provide a full assessment that would have many more questions covering all the process areas described in the KMS implementation.

Many organisations have turned to the Capability Maturity Model (CMM) developed by the Software Engineering Institute (SEI) to improve their software engineering processes by setting goals to achieve higher SEI levels (Paulk *et al.*, 1993). In this paper CMM will be used as guideline to implement a knowledge management system within the banking industry. Each CMM level has several associated key process areas. The instrument allows for the determination of the score associated with the KM level, which the bank should try to achieve. Each key process area contains several key activities. the scoring guidelines for measuring how well an organisation implements a specific key activity, basing them on several common KM themes (CKIAs), and the activities were then expanded and grouped under five primary evaluation dimensions, using criteria which we also developed, for evaluating them (see Table 2, 3, 4, 5, 6).

**Table 2: KA (Knowledge Acquisition)**

Category	Interpretation
Category “A” KA satisfactory/best practice	<ul style="list-style-type: none"> <li>• Members of the organisation are collecting information about needs and wishes of clients and make a validation for it and are active in an external professional network or association as they are credited their knowledge form imitating knowledge from their competitors and then using it for their own advantages.</li> <li>• Member of the organisation regularly access to information and knowledge for developing new methods/approaches(list, tree, net), methods and they have the ability for presenting knowledge (knowledge maps, topic maps, associative nets, contents) and tools for converting, transforming and loading acquired knowledge into existing systems.</li> <li>• The organisation does research (i.e. with universities) to explore future chances/possibilities.</li> </ul>
Category “B” KA further improvement possible	<ul style="list-style-type: none"> <li>• The organisation is doing market research to find out about the customer wishes and needs and importing from external sources and helping it to draw on the expertise in customer, supplier, and partner relationships.</li> <li>• The access to information and knowledge bases is coded from the top, middle management, and some employees.</li> <li>• Possible sources could be information systems, stakeholders (e.g. customers, partners), other knowledge products (e.g. software or patents), or even production systems.</li> </ul>
Category “C” KA requiring more attention	<ul style="list-style-type: none"> <li>• Before developing products or services the organisation some times does marketing research among potential clients, these relationships often have excellent potential for providing knowledge, yet are not fully utilised.</li> <li>• Information access is limited to top management only.</li> <li>• Important knowledge is not easily available, the</li> </ul>

Category “D” KA urgently requiring attention	<ul style="list-style-type: none"> <li>organisation always buy it (i.e. advisers, licences) if needed.</li> <li>Knowledge acquisition includes buying or acquiring the critical knowledge capabilities missing in the organisation, the organisation hires new staff members who possess missing knowledge.</li> <li>Only the chairman or the deputy of the organisation has the information access.</li> <li>The clients’ wishes and needs only treated by guesses and imaginations.</li> </ul>
Category “E” KA not applicable	<ul style="list-style-type: none"> <li>There is no dedicated knowledge acquisition.</li> </ul>

**Table 3: KC (Knowledge Creation)**

Category	Interpretation
Category “A” KC satisfactory/best practice	<ul style="list-style-type: none"> <li>Knowledge creation methods are in place to serve new projects that depending on know-how and availability of knowledge.</li> <li>Knowledge gained by internal and external changes which cause business to adapt-for example the generation of new services or new technologies and social and economic changes.</li> <li>Knowledge gained by bringing together individuals or groups of people with different perspectives to work together on projects.</li> </ul>
Category “B” KC further improvement possible	<ul style="list-style-type: none"> <li>Some of the new projects at the organisation are depending on the knowledge that generated by expert staff.</li> <li>New ideas and insights lead is necessary to redesign of business processes and work methods at the organisation.</li> <li>Knowledge generated by informal networks- groups of people brought together by common interests of top management.</li> </ul>
Category “C” KC requiring more attention	<ul style="list-style-type: none"> <li>Changes are under consideration by senior management only to link the new projects with validity knowledge available.</li> <li>Input information level of rest of employees in this the organisation is not well managed.</li> <li>Only some members in the organisation promote new knowledge (products and services) internally.</li> </ul>
Category “D” KC urgently requiring attention	<ul style="list-style-type: none"> <li>There no link between new projects and knowledge creation.</li> <li>The set of the input or output of the information is unknown at the organisation.</li> <li>New services and production is not promoted at the organisation.</li> </ul>
Category “E” KC not applicable	<ul style="list-style-type: none"> <li>There is no dedicated knowledge creation method.</li> </ul>

**Table 4: KT (Knowledge Transferring)**

Category	Interpretation
Category “A” KT satisfactory/best practice	<ul style="list-style-type: none"> <li>The sharing and dissemination of knowledge within an organisation the industry and with the international organisation makes it easier for the organisation to turn isolated expertise and information into something of use to the whole organisation.</li> <li>The transferring of knowledge makes it easy for getting the right knowledge to the right place at the right time.</li> <li>The organisation is used many methods for knowledge transferring and tools such as (KMS/Knowledge Portal), a people-oriented method (Storytelling) and a combination method (Micro articles).</li> <li>Problems, failure, and doubts are discussed openly in the organisation, there are learning groups, where members from different departments can discuss their work experience and strategies</li> <li>Full knowledge and information transferring with international</li> </ul>

	organisations.
Category “B” KT further improvement possible	<ul style="list-style-type: none"> <li>• The environment at the organisation encouraging employees to freely transfer and share knowledge with expertise, and experiences with their peers out side the organisation.</li> <li>• Providing employees the flexibility to question existing ways of operating and experiment within broad boundaries with new methods or processes based on learning from outside their function or company.</li> <li>• Certain tools and techniques are frequently used to facilitate knowledge transferring process not just the establishment of networks which providing access to knowledge but also the transfer of people.</li> <li>• Colleagues inform each other regularly about positive experiences and successful projects.</li> <li>• Knowledge is transferred with international organisation.</li> <li>• Employees have to concentrate on their work, and they have a limited time for knowledge transferring and sharing.</li> <li>• Embedding knowledge in routine business processes rather than being seen as an additional activity over and above “routine” makes it very hard for employees to win work.</li> <li>• Limited tools are used in the organisation for knowledge transferring; it is limited to classic method only (face to face).</li> <li>• The trust among colleagues still in low manner which make knowledge transfer going very slowly.</li> <li>• Only some types of knowledge and information can be shred and documented.</li> </ul>
Category “C” KT requiring more attention	<ul style="list-style-type: none"> <li>• Knowledge is only transferred in very precise informal ways (“in the corridors”).</li> <li>• No informal tools for knowledge transferring or sharing at the organisation.</li> <li>• There are no regular meetings being organised in which professional matter are discussed to help employees in their work.</li> <li>• Employees have to keep their knowledge in their mind otherwise they will lose their positions.</li> <li>• Only by force knowledge and information is transferred with the international community.</li> </ul>
Category “D” KT urgently requiring attention	<ul style="list-style-type: none"> <li>• No knowledge transferring is dedicated.</li> </ul>
Category “E” KT not applicable	

**Table 5: KAP (Knowledge Application)**

Category	Interpretation
Category “A” KAP satisfactory/best practice	<ul style="list-style-type: none"> <li>• The existing of know-how in the organisation is used in a creative manner of new applications through effective decision making.</li> <li>• Selling knowledge, products, or services gets explicit attention and embedded in organisation’s business.</li> <li>• Failures and successes are evaluated and “lessons learned” are set down.</li> </ul>
Category “B” KAP further improvement possible	<ul style="list-style-type: none"> <li>• The organisation informs its members to systematically use knowledge in their day-to-day work.</li> <li>• Organisation’s members promote new knowledge (products and services) and occasionally they use it.</li> <li>• Experiences from others (e.g. clients) are used to improve products and services.</li> </ul>
Category “C” KAP requiring more attention	<ul style="list-style-type: none"> <li>• Decision making at the organisation depends only on senior managers’ ability of understanding the environment or the situation, only some decisions are depending on knowledge</li> </ul>

Category “D” KAP urgently requiring attention	<ul style="list-style-type: none"> <li>provided.</li> <li>Employees use knowledge and information only in some events.</li> <li>The organisation only depends on its knowledge in the day-to-day work, no partners or competitors knowledge provided.</li> <li>Decisions always taken without any consideration at the organisation.</li> <li>No development of products or services provided at the organisation.</li> <li>Only knowledge from the organisation parts (branches or departments) are used and considered.</li> </ul>
Category “E” KAP not applicable	<ul style="list-style-type: none"> <li>There is no dedicated knowledge application.</li> </ul>

**Table 6: KD (Knowledge Documentation)**

Category	Interpretation
Category “A” KD OCL satisfactory/best practice	<ul style="list-style-type: none"> <li>Full tools including IT application are used in storing knowledge at the organisation.</li> <li>Full systems are developed for knowledge protraction and safety.</li> <li>The feed back from organisation’s agents are effectively considered in the development of products and services.</li> <li>This organisation has its disposal up-to-date handbooks, which are frequently used.</li> <li>The organisation has documented the specific knowledge and skills of individual members</li> <li>Experts are urged to make explicit the methods they use in a retrieving knowledge.</li> </ul>
Category “B” KD further improvement possible	<ul style="list-style-type: none"> <li>Software (s) are developed for knowledge documentation.</li> <li>The software that developed for knowledge documentation has already knowledge security methods.</li> <li>All feed backs are considered but some of them are implemented in the development of the organisation’s product or services.</li> <li>The organisation is up-dated knowledge after filtering.</li> <li>The software that installed in the organisation used also in knowledge retrieving.</li> </ul>
Category “C” KD requiring more attention	<ul style="list-style-type: none"> <li>The organisation used the basic systems and the archives for storing knowledge.</li> <li>Knowledge is protected by the people who own it (tacit knowledge only).</li> <li>All feed backs are only archived at the organisation.</li> <li>Employees have to up-date their knowledge themselves.</li> <li>Knowledge is retrieved manually by the person who needs it.</li> </ul>
Category “D” KD urgently requiring attention	<ul style="list-style-type: none"> <li>Only manual archives exist at organisation for storing data and information.</li> <li>Knowledge is not protected at the organisation.</li> <li>The feed backs do not recorded at the organisation.</li> <li>No clear any up-date for knowledge.</li> <li>No formal retrieving system exists at the organisation.</li> </ul>
Category “E” KD OCL not applicable	<ul style="list-style-type: none"> <li>There is no dedicated knowledge documentation.</li> </ul>

Every analysis in this area was based on KMP literature, and 17 questions were used that seek important information about the development, procurement, and exploitation of KMP in the context of KM system. Each question was accompanied by a grid containing five possible answers (in scenario format as extracted from Martensson, 2000 and IT strategic health check questionnaire)), and respondents were asked to indicate their extent of agreement. The questions were designed to establish:, if KM

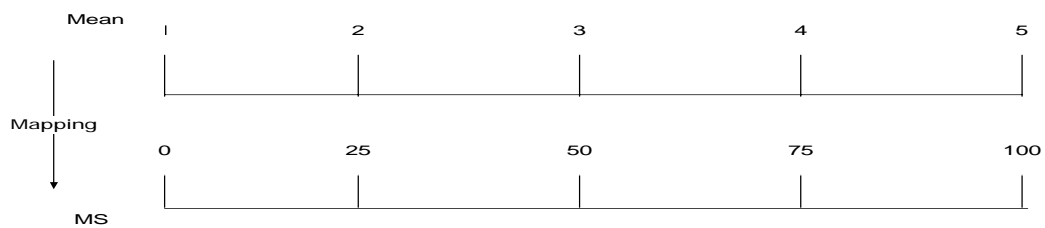
related issues were used as a strategic tool (satisfactory/best practice), if they were used as an operational tool (further improvement possible), if they had some value (requiring more attention), if they had a little value (urgently requiring attention) and if they had no value and the organisations would not use them theoretically (not applicable). The grid for assessment used the letters E = “not applicable” (N/A) = 1 ; D = “urgently requiring attention” (URA) = 2 ; C = “requiring more attention” (RMA) = 3 ; B = “further improvement possible” (FIP) = 4 ; and A = “satisfactory/best practice” (BP) = 5. Before any interview was conducted, it was important to explain to all participants the exact aim and objective of this questionnaire.

To encourage candour in the responses, the researcher administered the questionnaire confidentially with an assistant from the bank in question. They were used in three banks as a tool for gathering information regarding the overall use, application, and maturity of OC in the Libyan public banks, and conducted with five core members in each bank. The details can be seen in Table 7.

**Table 7:** Category of interviews

<b>Position in the Bank</b>	<b>Total No. of interviews</b>
Senior Manger (Head of the Bank or Deputy)	3
Executive (Head of IT, HR, Department)	3
Managerial (Head of Information, Training Division)	3
Technical (Structural Engineer, Programmer)	3
Administrative or Supportive (Secretary, Accountant )	3
<b>Total</b>	<b>15</b>

Each question was carefully explained because of the ambiguity of the concept of KM. To improve the data reliability all results were recorded anonymously. The data collected was analysed using the SPSS software and standard statistical analysis techniques, e.g.



**Figure 1:** Measure of Strength (MS)

- Frequency tables to present numbers and percentages of categorical questions.
- Descriptive measures such as mean, median, mode, standard deviation and Measure of strength (MS) = (mean-1)\*25 (see figure 1).

The descriptive measures for the effectiveness of the CKIAs related to OC in the all three banks, and the raw results from this questionnaire summarises the content of the 21 questions, shown in Table 7 below.

**Table 8:** Descriptive statistics of KM processes

No	CKIAs	Mean	Std. Deviation	MS %
1	Do business strategies in your bank have any influence on the capturing of information/knowledge?	1.87	.64	21.75
2	Is knowledge accessible to everyone in your bank?	2.00	.93	25.00
3	Does your bank gain knowledge about customers, clients, vendors and others?	1.87	.83	21.75
4	Do you think knowledge can be created and stored in paper or electronic documentation in your bank?	2.27	.96	31.75
5	How do you intend to up-date Knowledge processes projects and innovations?	2.47	.99	36.75
6	What is the impact of Knowledge sharing on your clients?	2.53	.74	38.25
7	Do you think sharing knowledge among employees will help you to win work?	2.73	.88	43.25
8	Does your bank have enough information technologies to enable knowledge sharing strategy?	2.27	1.16	31.75
9	How does your bank work to transfer knowledge between functions?	1.93	.88	23.25
10	At what level do individuals share knowledge in your bank?	2.60	1.12	40.00
11	How does your bank use knowledge in decision making activities?	1.73	.70	18.25
12	How does your bank integrate KM in its business activities?	2.27	.96	31.75
13	What is the level of participation of your IT tools in storage and formulation of your overall knowledge?	1.60	.63	15.00
14	What are the objectives of your KM protection?	1.80	.86	20.00
15	At what level does your bank get feedback from the customer regarding its services?	1.60	.63	15.00
16	Is it easy to get the knowledge needed in your bank on time and in a sufficient amount?	1.67	1.05	16.75

In Table 9 these 17 questions were categorised into five dimensions as can be seen in table 9, the descriptive measures for the overall effectiveness of the CKIAs related to KMP in all the three banks. The mean scores are between (1.67) knowledge documentation and the highest (2.41) knowledge transfer.

**Table 9:** Descriptive analysis overall effectiveness factors

No	Item	Mean	Rank	MS%
1	Knowledge acquisition	1.91	17	22.75
2	Knowledge creation	2.37	5	34.25
3	Knowledge transfer	2.41	4	35.25
4	Knowledge application	2.00	16	25.00
5	Knowledge documentation	1.67	18	16.75

Thereafter these results were applied to a matrix to help identify the exact status of KMP support in the all banks. Five outcomes in each area are presented as can be seen in table 10.



**Table 10:** The comparison guideline

Relevant Category	E	D	C	B	A
If the Mean	0-0.99	1-1.99	2-2.99	3-3.99	4-5
If the MS	0	0-25%	25-50%	50-75%	75-100%

Although the guidelines are generic, the assessor can easily use them to determine the level of each specific key activity. This progress-assessment process is not intended as a replacement for any formal assessment instruments developed by the SEI, but rather as an internal tool to help banks prepare for a successful implementation of KMS.

The precise interpretation based on the literature review of each of these categories (see table 2, 3, 4, 5, and 6), are combined with the interviews results as follows:

## SUMMARY OF FINDINGS

### Knowledge Acquisition

The assessment of this area in the secondary research shows that KA is still very weak at the LPBs as the entire mean of this area is (1.91) and MS of (22.75%) in comparison with the interpretation work (see appendix C table KA), these results are relevant to category (D) which mean that knowledge acquisition methods including buying or acquiring the critical knowledge capabilities are missing at the LPBs, moreover these banks are hiring the new staff members who possess the missing knowledge when they needed. These results also mean that only the chairman his/her deputy of the bank has the information access and the clients' wishes and needs only treated by guesses and imaginations.

### Knowledge Creation

In term of KC the effectiveness analysis (secondary research) show more effectiveness than KA with a mean of (2.37) and MS of (34.25%), that means KC process at the LPBs is still very weak and could be informal technique and insufficient in comparison to the size of the Libyan banks and its revenue; to compare these results with the interpretation work (see appendix C table KC), these results means that changes are always under consideration by the senior management at the LPBs and there is a weak link between new projects and validity knowledge available. Moreover, the input of information levels of the rest of employees in this these banks is not well managed; only some members in the banks promote new knowledge (products and services) internally.

### Knowledge Transfer

Considering the KT in the secondary research the findings show that there is a shortage in knowledge transfer amongst the LPBs with a mean of (2.41) and MS of (35.25%) although the LPBs are aware of the importance of KT; these results also could mean in comparison with the interpretation work (see appendix C table KT), that the employees at the LPBs have to concentrate on their work more than on transferring knowledge as they have a limited time for knowledge transferring and sharing. Moreover, embedding knowledge in routine business processes rather than being seen as an additional activity over and above "routine" makes it very hard for the employees to win their work, in addition to the lack of the tools that are used for knowledge transferring; it is only limited to classic method (face to face); furthermore,

the trust among colleagues still in low manner which make knowledge transfer going very slowly at the LPBs.

### **Knowledge Application**

In term of KAP the assessment of this area in the secondary research show a mean of (2.00) and MS of (25%), interpreting these results with interpretation work (see appendix C table KAP) means that decision making processes at the LPBs still depend only on senior managers' ability of understanding to the environment or the current situation, only some decisions are depending on knowledge provided. Moreover, the employees use knowledge and information only in some events. The LPBs still only depends on its internal knowledge no partners or competitors' knowledge is sought. Therefore, these results show that Knowledge utilisation and application at the LPBs is still in the low manner, this statement is very logic as no KMS has been implemented within the LPBs which should be responsible of providing knowledge and information that can be applied and used in the decision making and so fourth.

### **Knowledge Documentation**

Considering KD in the in the assessment study (secondary research) the result is quite opposite to the preliminary research as the mean of this research comes with a score of (1.67) and MS of (16.75%). These results could show in comparison with the interpretation work (see appendix C table KD) that only manual archives exist at the LPBs for storing data and information; furthermore, Knowledge is not protected by an advanced systems that make it very hard to be distributed to competitors or in case of the LPBs to the private banks that established recently and may compete the public banks. Moreover, these results reveal that all feed backs from customers, agents, stockholders are not recorded at LPBs; in addition to that the lack of Knowledge filtration systems and knowledge retrieving system makes the situation for implementing a successful KMS very hard.

## **DISCUSSION AND CONCLUSION**

At the LPBs there is a wide support to the classification made by (Yahya & Goh, 2002) as Knowledge management is a comprehensive process of knowledge acquisition, knowledge creation, knowledge transferring, knowledge application, and knowledge documentation. The coordination of these phases is critical, because short-circuiting any of the above phases may result in less than optimum outcome of the knowledge management. At the LPBs the KMP areas were ranked low as the other CKIAs at the banks.

It is not surprising that because there was no KM systems or program been implemented in the LPBs, this was the case, since processing such as knowledge acquisition; creation; transfer; application and documentation are what lie at the heart of KMS (Wong & Aspinwall, 2003). Hence, appropriate mechanisms and interventions should be in place to ensure that these processes are properly addressed, for example the concept of "knowledge application gap" is characteristic in many KMS applications. However, these gaps seem to persist across most of theoretical research and industry practices related to KMS implementation. As discussed in (Malhotra, 2000), such gaps have persisted over the past decade despite advances in understanding of KM and sophistication of technology architectures.

Therefore, to answer question C-4 "Do the Libyan banks effectively processing knowledge that can provide full benefits to the banks and employees", the analysis

shows many rooms have to be filled in term of KMP in KMS implementation. The wide gaps are exist within knowledge acquisition and knowledge documentation that mean the results are logically extracted, when there is no knowledge documentation at the organisations it is very hard to get knowledge acquisition which is depending on the accumulation of the past and future knowledge. Furthermore, as indicated in the literature it is important to store and document knowledge to be easily retrieved and re-used in future circumstances. Overall, the answer to question C-4 could be like that: KM processes are still in very weak manner at the LPBs, and these banks have not fully benefited from these processes so far.

As the banking industry has its own needs, knowledge management in banking should be developed to improve business efficiency. Therefore, it is essential to develop a framework which describes the fundamental problems facing the Libyan banking industry in the implementation of knowledge management system. Such a framework of "Knowledge Management" must embrace the SMC, IT, CM, HR, and KMP gaps that often occur when implementing knowledge management system, and provide several fundamental approaches to avoid these gaps e.g. a mitigation strategy. The preliminary framework should be taken as a basis for data collection and analysis, and further validity of the framework that refers to the extent to which data collection instruments are used. Through the definition of these four gaps, banks can assess their weaknesses before implementing their knowledge management initiatives. Furthermore, through the evaluation of the knowledge management gap, banks can make corrections and adjustments accordingly in order to enhance their chances of success of the implementation of knowledge management initiatives.

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