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Assessing Knowledge Management Maturity level of a university library: a case study from Sri Lanka

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Abstract. The purpose of this paper is to present the findings of a study carried out to assess the Knowledge Management Maturity in a university library of Sri Lanka using Kruger's (2008) Knowledge Management Maturity (KMM) Model.

Using an adaptation of Kruger's model, KMM of the library was assessed. It was established that overall levels of maturity of different aspects vary. Analysis of the scores by managerial level indicated that there are variations in the perceptions across management levels. As a whole, according to Kruger's classification, case study library has entered phase two but is not yet ready to reach phase three. Based on the findings, a number of recommendations were made to improve the KMM level.
Keywords: Knowledge Management, Knowledge Management Maturity, Knowledge Management Maturity Models, Knowledge Management Maturity Assessment, University Library, Sri Lanka.

1. Introduction

The purpose of this paper is to present the findings of a study in a university library to investigate its Knowledge Management Maturity (KMM) status and to make recommendation to move the organisation to the required KMM level. In this study KMM of the library was assessed on six aspects; ICT management, Information management, Formulation of knowledge management principles, policy and strategy, implementation of KM, ubiquitous knowledge and Knowledge Management growth.

Durant-Law (2008) argues that KM maturity should not be assessed because there is no agreed definition of KM yet and he continues to say that KMM models only provide some guides on how to measure the initiatives but they do not provide external or internal bench-marking. However, Fry (2008) argues that whether KM is alive, dead or never existed are very much secondary to the question "How well are you doing the KM processes. Hauschild, Licht, and Stein (2001) also argues that a knowledge culture need to be developed in the organization because organizations in which knowledge creation, application and distribution are encouraged have been proved as successful than the

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organizations that do not encourage these processes. The library is not forced to adopt KM initiatives by its immediate environment or the parent body therefore one option is to do nothing about it, but based on the arguments of Fry (2008), Hauschild, Licht and Stein (2001), Nonaka and Takeuchi (1995) etc in support of managing knowledge for business success, the author of this paper strongly believe that the case study library needs to gradually move towards phase 6 through phases 3, 4 and 5 to achieve the optimum level of KM maturity. Several options were identified to implement this initiative and these will be discussed in the following section.

The case study university library is the main library of a network consisting of two branch libraries and the main library. It serves a user community of about 5000 consisting of undergraduate and postgraduate students and staff members from five faculties. Nine executive and fifty para-professional staff work in five sub departments (Acquisitions, Periodicals, Cataloguing, Reader Services and General Administration).

The environment in which the library exists is highly volatile as a result of social, political, cultural and economic reasons and it is increasingly felt by the researcher that organisational knowledge needs to be leveraged in a more organised manner in the library. For this, Knowledge Management (KM) needs to be applied strategically. As a prerequisite of planning KM implementation initiatives it was necessary to study the current KMM of the library.

2. Methodology

Of a multiplicity of research methods available it was decided that the case study approach was the most suitable because "In a case study …the researcher explores a single entity or phenomenon ("the case") bounded by time and activity) a program, event, process, institution or social group) and collects detailed information by using a variety of data collection procedures during a sustained period of time" (Cresswell 1994: 12). Preliminary preparation was accomplished by carrying out a literature review to formulate the theoretical foundations of KMM Assessment and a structured interview schedule based on KMM Model of Kruger and Snyman (2007) and Kruger (2008) was used to gather data.

The base of many Knowledge Management Maturity models seems to be the Capability Maturity Model (CMM) developed by the Software Engineering Institute/ Carnegie Mellon University and an interesting comparison of 10 models can be found in (Khatibian, Pour and Jafari 2010). However, the author's experience was that most of these papers discuss the model but not the instruments used for measurement, adequately. Most did not present an instrument to be used in a library context or adequate guidelines to develop an appropriate instrument for the library context.

Therefore it was difficult to make a direct judgment on the appropriateness of any particular model, but based on the literature, the author decided that CMM based models are too technical and neglect the strategic management dimension as Kruger and Snyman (2007) comments. Author also had doubts that most of these models will be useful in the university library context.

The model developed by Kruger (2008) was chosen for the study because it eliminated the drawbacks of the CMM-based models. After a pilot study the term "orgnisation" used in the original instrument was changed to "library' to avoid respondents misinterpreting the term "organisation' as the "*parent organisation"*. No other changes were made to the original instrument.

The study sample consisted of the seven executives in the main Library representing the top, middle and junior management levels. Data collected were assigned numeric values according to a pre-defined format and MS Excel was used for data analysis and graphical representation. Literature on KM applications in the universities and the organisational strategic plan was also used to support the findings. Based on the overall findings recommendations were made for the library to progress towards KM maturity.

Three limitations were encountered with regard to the study; 1) Lack of time available to carry out an in-depth study (e.g. obtaining perceptions of academics Administrators and students) about KM maturity of the library. 2) Absence of knowledge on KM maturity among the operational staff of the library (therefore they had to be excluded from the survey and 3) Absence of research literature on KM maturity of university libraries to underpin the study.

2. Findings of KM Maturity Assessment

Following section present the findings on overall KM Maturity level of the library, KM Maturity level by managerial level followed by a discussion of the findings.

2.1 Overall KM Maturity level of the library

The overall KM maturity scores assigned by the seven executives of the case study library are given in Table 1. ICT Management and Information Management have received scores of 70 per cent and 69.36 per cent respectively. Yet formulation of KM principles, policy and strategy and implementation of KM have gained only 48.05 per cent and 49.08 per cent respectively. While ubiquitous knowledge has obtained a score of 59.77 per cent KM growth has obtained a score of 14.29 per cent.

Table 1 - Overall KM Maturity level of the library

Aspects	L	S1	S2	S3	A1	A2	A3	Total	%
1. ICT Management	18	20	13	11	12	12	12	98	70.00
2. Information Management	60	56	37	57	53	53	53	369	69.36
3. KM Principles, Policy and Strategy	52	32	28	40	48	48	48	296	48.05
4. Implementation of KM	51	31	32	61	53	53	53	323	49.08
5. Ubiquitous Knowledge	44	60	48	40	42	42	42	318	59.77
6. Assessment of KM growth	2	1	0	1	0	0	0	4	14.29
Total	227	200	158	210	208	208	208		

Note; L=Librarian, S=Senior Asst. Librarian, A=Asst. Librarian

Kruger (2008) identified four levels of KM maturity based on six phases in his model, as *Initial, Aware, Manage* and *Optimise*. In order to explain the findings of this survey, percentage values were assigned to these four stages e.g. 0-25% - Initial, 26-50% Aware, 51-75% Manage and 76-100% Optimum and the numerical findings are interpreted using this code.

According to the four levels of knowledge maturity of Kruger (2008), the overall scores indicate that none of the elements out of six is at the optimum level. The managerial staff perceives ICT and IM are *managed*, library is *aware* of formulation and implementation of KM, ubiquitous knowledge is *managed* but growth in KM is at the *initial* stage. While ICT, IM and ubiquitous knowledge has to move up one step to reach optimum level, formulation of policies and implementation of KM have to move up two steps to reach optimum level. KM growth has to move up three steps to reach the optimum level.

2.2 KM Maturity level by managerial level

The scores assigned by the seven executives in the three managerial groups (Librarian, Senior Asst. Librarians and Asst. librarians) are depicted in Table 2.

Table 2 - KM Maturity level by managerial level

Aspect	Librarian	SALs	ALs
1. ICT Management	90.00	73.33	60.00
2. Information Management	78.95	65.79	69.74
3. KM Principles, Policy and Strategy	59.09	37.88	54.55
4. Implementation of KM	54.26	43.97	56.38
5. Ubiquitous Knowledge	57.89	64.91	55.26

6. Assessment of KM growth	50.00	16.67	0.00
Overall score	63.40	52.88	58.10

Librarian assigned an overall score of 63.40 per cent and ALs assigned an overall score of 58.10 while the Senior Asst. Librarians (SAL) rated it at 52.88 per cent. This indicated a 10.52 per cent variation in the score between the Librarian and SALs, although Librarian has assigned highest scores for four out of six elements. *SALs have assigned the lowest scores for three elements.* As a result a difference of 13.16 per cent in the scores for Information Management, a difference of 21.21 is in the scores for formulation of KM principles, policy and strategy and a difference of 33.33 per cent is indicated in the scores for KM growth is indicated between the Librarian's and SALs' scores.

However the difference between the overall scores assigned by the Librarian and Asst. Librarians (AL) is only 5.30 per cent. A significant fact noted is that the ALs have scored the highest for KM implementation (56.38%) and lowest scores for ubiquitous knowledge (55.26%) and KM growth (0.00%) (Table 2).

The overall scores indicated ICT and IM are at a managed level but as SALs' and ALs' have indicated (Table 2) has scope for further development. The reason for these two elements to receive a higher score is that most IM activities are already available in the library and to support IM initiatives a reasonably well-developed ICT infrastructure is already available. Low scores (overall as well as by different managerial levels) assigned to formulation of KM principles, policy and strategy and implementation of KM portrays an under-developed status in these domains. While slightly higher overall and managerial level scores for ubiquitous knowledge indicates that it is at a slightly satisfactory level but with a considerable scope for development, the low score obtained by KM growth indicates a weak status of KM development.

The specific differences between the scores of Librarian and SALs have occurred across three elements for which the SALs have assigned the lowest scores: a difference of 13.16 per cent in the scores for Information Management, a difference of 21.21 in the scores for formulation of KM principles, policy and strategy and a difference of 33.33 is indicated in the scores for KM growth. However the overall scores assigned by the Librarian and ALs did have only a difference of 5.30 per cent. A significant fact noted is that the ALs have scored the highest for KM implementation (56.38) and lowest scores for ubiquitous knowledge (55.26) and KM growth (0.00) (Table 2).

There is a considerable variation in the assessment by the three managerial groups (Librarian, Senior Asst. Librarians and Asst. librarians). A difference of 10.52 per cent between the overall scores of the Librarian and SALs is evident but the difference between the overall scores assigned by the Librarian and Asst. Librarians (AL) is only 5.30 per cent.

According to Kruger's (2008) classification Librarian perceived ICT and IM as on an *optimum* level while formulation of policies, implementation of KM are perceived as *managed.* Only *awareness* was indicated in ubiquitous knowledge and KM growth. SALs perceived ICT, IM and ubiquitous knowledge as *managed* while they perceived an *awareness* of formulation of policies and implementation of KM. They perceived KM growth as at *initial* level. ALs perceived all aspects as *managed* while KM growth is at *initial* level.

The inclusive perception and the access to latest strategic management information and policy making regarding the library as well as the positive outlook as the top manager towards the resources, functions and policies may have affected the highest scoring of the Librarian while the low scores assigned by the SALs can be attributed to two factors: 1) their recent exposures to advanced library systems of foreign universities. All SALs who responded to the survey have recently obtained doctoral degrees or in the final stages of their studies at foreign universities and 2) their daily interactions with customers which provide better insights about the infrastructure and policies of the library.

The ALs have just completed the taught elements of Masters in Library & Information Science and hence have high opinions of the ICT infrastructure and the information management and the highest value for KM implementations, and lowest values for ubiquitous knowledge and growth of maturity could be attributed to their less developed perceptions of the overall activities of the library.

2.3 Discussion

According to Kruger and Snyman's (2007) definitions of KM maturity phases, it indicates that the case study library has moved from Phase 1 and entered phase 2 because it possesses two characteristics of phase two; 1) ICT systems within the organization evolve to a level where the organisation knows what constitutes data and information systems and 2) There is a realization of importance of knowledge (Kruger and Snyman 2007). Yet it is not possible to say that the library is ready to move in to phase 3 because it lacks three characteristics of phase two; 1) Recognition a formal knowledge management function. 2) An associated drive to instill this realization into all levels of the knowledge and 3) There is a distinct expression of the future state of knowledge within the organization (Kruger and Snyman 2007).

This trend in the case study library is not unusual according to the literature related to KM in the universities (Arntzen et.al. 2009, Cranfield & Taylor 2008, Kidwell, Vander Linde, and Johnson 2000). Although there was no evidence of KMM assessments literature related to university libraries all these authors have established that KM initiatives are not well developed within the universities.

3. Recommendations

Adopting a logical sequence for the implementation of KM policies and activities in order to reach the optimum level of maturity several recommendations are made under four types of activities;

1. Policy - Formulate a KM and IM policy for the library, recognising KM as one of the five priorities of the library and incorporating these IM/KM policies with the goals and strategic plan of the library.
2. Strategy - Appointment of a senior staff member from within the library to co-ordinate KM activities, identify a group of executives to support the co-ordinator, planning strategies to implement KM within the library by the KM group and implementing the strategies.
3. Education and Training - Raising general awareness of KM and value of knowledge of all staff through seminars, developing confidence and competences of managerial staff in kn. sharing through seminars / workshops, documenting good practices and follow-ups and offering advanced training programmes in knowledge Management to executive staff.
4. Infrastructure - Evaluating and preparing proposals to improve IT and IM infrastructure, requesting additional funding for infrastructure development and calling for specifications, planning and developing knowledge repositories to suit KM initiatives, evaluating and improving current IM activities and developing ICT and IM tools and services to suit the KM initiatives.

4. Conclusion

Knowledge has become the most vital resource in any organisation today; hence management of knowledge as a strategic activity has received much attention although it has not attracted the attention of libraries yet. This is not unusual as many researchers have established that application of KM is slow in the university sector due to a number of reasons. However the author believes that KM can make a significant contribution to the effective and efficient functioning of the library as many researchers have proved its contribution in increased productivity. An assessment of the current KM maturity level was carried out before planning a KM strategy for the library. A focus group meeting and the strategic plan of the library was used to augment the findings of the KM maturity assessment. It was established that the library is in phase two of the maturity cycle according to Kruger's (2008) scale. Based on the identified factors, a development plan was provided to move the case study library gradually from phase 2 to phase 6. However the full implementation plan is not provided here as it is the subject of the next assignment.

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