

# The Relationship between Knowledge Management Practices (KMP) and Academic Performance: A Case Study in Universiti Teknologi MARA (UiTM) Terengganu

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## ABSTRACT

*Knowledge management is one of the significant fields in the current organization in order to improve the performance. The aim of this study is to investigate the relationship between knowledge management practices and academic performance in public institution of higher learning. A questionnaire was used as the main instrument for the data collection. A total of 100 respondents answered the questionnaires which represent 54% of response rate. It was found that knowledge management practices namely knowledge generation, knowledge codification, knowledge sharing and knowledge utilization have positive and significant relationship with academic performance.*

### Keywords

*Knowledge Management (KM), Knowledge Generation, Knowledge Codification, Knowledge Sharing, Knowledge Utilization.*

## 1.0 INTRODUCTION

Many of the previous studies which have been done in business industries had identified a number of problems in Knowledge Management initiatives, which contributed to the poor performance of many KM functions such as an over emphasis on technology and the codification of information; the separation of knowledge from how it is used; difficulties in storing and transferring tacit knowledge; lack of understanding of the context in which knowledge is used; and a focus on specific practices over underlying philosophies (Smith et al., 2006; Pfeffer & Sutton, 1999).

Knowledge management has been investigated at business industrials and high schools level but, there has not been any studies done to investigate

knowledge management practices at a public institution of higher learning level. The purpose of this study is to investigate the relationship between knowledge management practices and academic performance in UiTM Terengganu, Dungun Campus. In the context of this study, two (2) objectives have been formulated as follow:

- i. to investigate the types of knowledge management practices which are most emphasized in UiTM Terengganu.
- ii. to investigate the relationship between knowledge management practices and academic performance in UiTM Terengganu.

## 2.0 BACKGROUND OF KNOWLEDGE MANAGEMENT

### 2.1 Definition of Knowledge

Knowledge has become the important capital in the present age, and hence the success to any organization lies in using it. As a result, many organizations adopt knowledge management (KM) to improve the performance. Thus, the aim of knowledge management is to continuously improve an organization's performance through the improvement and sharing of organizational knowledge throughout the organization.

Knowledge is an organized combination of data, assimilated with a set of rules, procedures, and operations learnt through experience and practice (Kaweevisultrakul & Chan, 2007; Keskin, 2005). On the other hand, Gorelick and Tantawy-Monsou (2005), defined knowledge as the know-how,

experience, insight, and capabilities that assist teams and individuals in making correct and rapid decisions, taking action and creating new capabilities. The knowledge can be intangible, fluid, personal, elusive, invisible, immeasurable, and ever evolving (Gorelick & Tantawy-Monsou, 2005).

The classification of knowledge falls into two categories namely tacit and explicit knowledge. Tacit knowledge is what we know but cannot explain (Kaweevisultrakul & Chan, 2007; De Long & Pahey, 2000). This form of knowledge; 1) is embodied in mental processes; 2) originates from practices and experiences; 3) is expressed through ability applications; and 4) is transferred in the form of learning by doing and learning by watching (Kaweevisultrakul & Chan, 2007; Choi & Lee, 2003).

Eucker (2007) stated that tacit knowledge consists of “know-how,” “know-what” and “know-who” that someone acquire and accumulate through practical experience, that they are often not even aware that they possess, and that cannot really be learned in any other way. In fact it is rare to find solutions to complex problems that are not dependent upon a significant amount of tacit knowledge (Eucker, 2007).

In contrast, according to Badruddin (2004), explicit knowledge could be expressed in words and numbers and shared from data, scientific formula, product specifications, manuals, universal principles and so forth. It can be created, written down, transferred, or transmitted among organizational units verbally or through computer programs, patents, diagrams and information technologies (Kaweevisultrakul & Chan, 2007; Choi & Lee, 2003; Perez & Pablos, 2003).

## **2.2 Knowledge Management**

According to Marques and Simon (2006), knowledge management practices refer to a more practical and perceptible level of research. From this dimension, knowledge management can be viewed as an organizational innovation involving important changes in the introduction of the strategy and in traditional management practices. Baskerville and Dulipovici (2006) stated that knowledge management has emerged as an important field for practice and research in information systems.

Knowledge management involves four key steps of creating/generating knowledge, representing/storing knowledge, accessing/using/re-using knowledge, and disseminating/transferring knowledge (Wickramasinghe, 2006; Markus, 2001; Alavi & Leidner, 2001; Davenport & Prusak; 1998).

## **2.3 Knowledge Management in Practise**

This study adopts a framework for the knowledge management process which has been developed by Zaim et al. (2007). In this conceptual framework, knowledge management is composed into four main processes, which are namely: knowledge generation and development; knowledge codification and storage; knowledge transfer and sharing; and knowledge utilization. However, for the purpose of this study, some changes have been made to the framework, to simplify the process and to suit a new purpose for this study by using a single term for each practice. Therefore, the four processes which have been modified are Knowledge Generation, Knowledge Codification, Knowledge Sharing, and Knowledge Utilization.

### **2.3.1 Knowledge Generation**

Knowledge generation concerns the practices of collecting or creation of new knowledge. Other terms that are being used are acquire, create (Kaweevisultrakul & Chan, 2007; Khalil et al., 2006) and identify (Egbu et al., 2005; Hussain et al., 2004).

### **2.3.2 Knowledge Codification**

Knowledge codification concern the practices of codifying or storage of new knowledge. Other terms that are being used are organize (Kaweevisultrakul & Chan, 2007; Hussain et al., 2004), store (Egbu et al., 2005) and documentation (Khalil et al., 2006).

According to Baskerville and Dulipovice (2006), knowledge codification involves the meticulous discovery of critical tacit knowledge that the organization has created, learned, or organized. Once discovered, this knowledge must then be articulated in a form that can be absorbed by others in the organization that could use the knowledge. (Baskerville & Dulipovici, 2006).

### **2.3.3 Knowledge Sharing**

Knowledge sharing concerns the practices of exchange of knowledge between the source of knowledge and the recipient of knowledge. Other terms that are being used are disseminate (Egbu et al., 2005; Hussain et al., 2004) and transfer (Kaweevisultrakul & Chan, 2007; Baskerville & Dulipovici, 2006; Khalil et al., 2006).

As Taylor (2006) stated, knowledge sharing arises from individual's efforts to transfer knowledge to others within the organization. Successful sharing also depends on the recipient's ability and willingness to learn. (Taylor, 2006).

### **2.3.4 Knowledge Utilization**

Knowledge utilization concerns the practices of using of knowledge that has been stored in organization. Other terms that are being used are application (Kaweevisultrakul & Chan, 2007; Khalil et al., 2006), implemented (Egbu et al., 2005) and reuse (Khalil et al., 2006).

Users utilize information and knowledge in a variety of ways for different purposes. According to Jamaliah (2008), knowledge utilization involves using and re-using knowledge to bring solutions to problems, reduce knowledge gaps, and inform decision making (Jamaliah, 2008).

## **3.0 KNOWLEDGE MANAGEMENT IN UNIVERSITI TEKNOLOGI MARA TERENGGANU**

### **3.1 UiTM Terengganu in General**

July 1<sup>st</sup> 1975 marked the date where UiTM Terengganu Campus was first established in Sura Gate, Dungun. The temporary campus which covered 17 of acres of land was initially a mining company which was rented from Perbadanan Memajukan Iktisad Negeri Terengganu (PERMINT). On the 19<sup>th</sup> October 1978, the cornerstone ceremony took place where it was officiated by the late Sultan Ismail Nasiruddin Shah in Sura Hujung. It covered an area of 1, 306, 536 square meter which is 342, 536 square meter in an area by the South China Sea and 964, 000 square meter at the Seberang Sura hill.

The main campus development was gradually implemented through several phases. Nowadays, the UiTM Terengganu Dungun Campus has managed to develop the whole seaward area and 500,000 square meters across the lake – as a result of the implementation of the four phases and the physical development in the 6<sup>th</sup> and 7<sup>th</sup> Malaysian Plan.

### **3.2 Current KM practice in UiTM Terengganu**

#### **3.2.1 Information Services Department**

One of the knowledge management practices in UiTM Terengganu could be referred to Information Services Department. The Information Services Department is responsible in developing and maintaining a collections of none book in nature. Reference and information services are provided by all libraries in the system. The library also provides a variety of user education programs to enable users to utilize the library to its maximum potential.

#### **3.2.2 ILMU**

On the other hand, the library system called ILMU (Integrated Library Management Utility) is a library

information and knowledge management software. ILMU derived from the need to provide a seamless but integrated information environment representing a modern library system. The end-product is a major step towards a true digital library. ILMU utilizes client-server technology and accommodates multimedia; OLE, event-driven program execution and Online Databases Collections (ODBC) connectivity, in addition to conform to international classification and standardization schemes.

#### **3.2.3 Academic Affairs Department**

Apart from that, knowledge management practices as applied in Academic Affairs Department is referred to the knowledge that has been received from the top management which then will be disseminated to all staffs depending on the requirement. For example, the instructions received from the circular will be shared with the rest of the staffs in UiTM Terengganu. This information is distributed to all staff using Groupware called “Lotus Notes” in which they can receive and send email to others within and outside of UiTM Terengganu. Besides that, this information is also shared through memo posted on bulletin board.

#### **3.2.4 Colloquium**

For the academic staffs, the colloquium session is organized to share the information to other staffs. This session is held on every Sunday, Wednesday and Thursday from 4:00 p.m. to 5:00 p.m. The presentation of colloquium is aimed to share the variety forms of academic information, current issues, findings and experiences gathered from previous research. During the session, experiences and knowledge that the participants get from attending workshops, seminars, conferences, exhibitions and courses are being shared with other staffs.

#### **3.2.5 ISIS**

Another practice related to knowledge management is the utilization of ISIS system. This system solely meant for staffs to view and feed the data on every students ranging from personal information, examination results, student status and any information related to students' record. The academic staffs are provided with the username and password to access the information.

## **4.0 METHODOLOGY**

In this study, the researcher has developed conceptual framework as adopted from past research conducted by Zaim et al. (2007). The conceptual framework came out with the independent and dependent variables. Figure 4.1 shows the details.

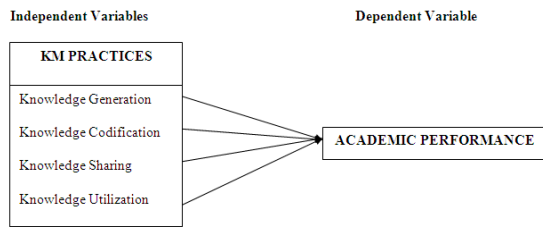


Figure 4.1: The Conceptual Framework is showing the Relationship between Knowledge Management Practices and Academic Performance

The independent variables in this framework were the knowledge management practices where it consists of four processes namely; Knowledge Generation, Knowledge Codification, Knowledge Sharing and Knowledge Utilization whereas the dependent variable for this study is academic performance.

#### 4.1 Research Design

This study was a correlation research due to nature of the study to see the relationship that exists among variable investigated (Sekaran, 2006). Data were obtained from primary and secondary sources. Primary sources refer to the information obtained from individual, experts and other people. Secondary sources on the other hand, refer to information gathered from the sources that already existed such as internet, journals, magazines and newspaper cutting. The primary data for this study was the information from the respondents, gathered from the questionnaires.

The questionnaires in this study contain closed-ended questions using a 5-point Likert scale. The 5-point Likert scale for this study adhered this distribution of values: 5 = Strongly Agree, 4 = Agree, 3 = Undecided, 2 = Disagree, 1 = Strongly Disagree. The seven (7) sections included in the questionnaires are as showed in Table 4.1.

Table 4.1 Sections in Questionnaires

SECTION A:	Demographic background. This demographic background contains several items such as gender, age, highest educational level, years of working experience working in UiTM, teaching position and department/faculty.
SECTION B:	Request for information to identify the knowledge generation as applied in UiTM Terengganu. (Questions were adapted from Khalil et al., 2007 and Dorrach, 2003)
SECTION C:	Request for information to identify knowledge codification as applied in UiTM Terengganu. (Questions were adapted from Khalil et al., 2007 and Al-Hawari, 2004)
SECTION D:	Request for information to identify knowledge sharing as applied in UiTM Terengganu. (Questions were adapted from Khalil et al., 2006 and Dorrach, 2003)
SECTION E:	Request for information to identify knowledge utilization as applied in UiTM Terengganu. (Questions were adapted from Al-Hawari, 2004)
SECTION F:	Request for measurement of quality objectives implementation in UiTM Terengganu. (Adopted from Quality Objectives Manual)
SECTION G:	Request for level of implementation of knowledge management in UiTM Terengganu.

## 5.0 DATA ANALYSIS AND FINDINGS

The data collection in the study was analyzed using the Statistical Package for Social Sciences (SPSS). The analysis involves descriptive statistics which include frequency, mean and standard deviation. In addition, the findings of the study and presentation of the data were supported with the illustration of tables and graphs. The data was also analyzed by using Pearson Correlation to identify the relationship and to test hypotheses between variables.

Table 5.1 Data Analysis

Research Objectives	Concept/Construct	Measurement	Scale	Statistics
Investigate the types of knowledge management practices emphasized in UiTM Terengganu.	Issues concerning which types of knowledge management practices are mostly emphasized in UiTM Terengganu.	What type of knowledge management practices most emphasized in UiTM Terengganu?	Interval	Descriptive Statistic - mean - standard deviation
Investigate the relationship between knowledge management practices and academic performance in UiTM Terengganu.	The issues concerning relationship between knowledge generation and academic performance are ; knowledge codification and academic performance; knowledge sharing and academic performance; and knowledge utilization and academic performance.	Is there any relationship between knowledge management practices and academic performance in UiTM Terengganu?  Is there any relationship between knowledge generation and academic performance in UiTM Terengganu?  Is there any relationship between knowledge codification and academic performance in UiTM Terengganu?  Is there any relationship between knowledge sharing and academic performance in UiTM Terengganu?  Is there any relationship between knowledge utilization and academic performance in UiTM Terengganu?	Interval	Pearson Correlation

Questionnaires were personally distributed to 186 academic staffs in UiTM Terengganu. From 186 questionnaires distributed, 108 were returned. However, out of the 108 returned questionnaires, only 100 were usable for analysis and therefore, the effective response rate was about 54%. Table 5.2 shows the details.

The analysis of descriptive statistics comprises of the minimum, maximum, mean, and standard deviation. The mean and standard deviation as stated by Sekaran (2006) is used in this study, the mean is a measure of central tendency that offers a general picture of the data without unnecessarily inundating one with each of the observations in a data set. Meanwhile, the standard deviation is another measure of dispersion for interval and ratio scaled data, and it offers an index of the spread of a distribution or the variability in the data.

Table 5.2 Rate of Survey Return in Actual Study

Academic Staff	Number of Questionnaires Distributed	Number of Questionnaires Collected	Number of Questionnaires Unusable	Total of Questionnaires Usable (Percentage of respond rate)
Female	125	67	3	64
Male	61	41	5	36
<b>Total</b>	<b>186</b>	<b>108</b>	<b>8</b>	<b>100(54%)</b>

\*78 questionnaires not returned at all

Table 5.3 illustrates the descriptive statistical analysis for knowledge management practices (KMP) study variables namely the Knowledge Generation, Knowledge Codification, Knowledge Sharing, and Knowledge Utilization.

Table 5.3 Descriptive Statistics of Knowledge Management Practices (n=100)

Knowledge Management Practices	N	Min	Max	M	SD
Knowledge Generation	100	2	5	3.81	.496
Knowledge Codification	100	2	5	3.78	.500
Knowledge Sharing	100	3	5	3.79	.480
Knowledge Utilization	100	2	5	3.84	.561
Overall Knowledge Management Practices	100	2	5	3.81	.458

As shown in the Table 5.3, the mean scores for the four KMPs namely, Knowledge Generation, Knowledge Codification, Knowledge Sharing and Knowledge Utilization range from 3.79 to 3.84. On the other hand, the standard deviation scores for all the practices of knowledge management range from 0.46 to 0.56. The findings described that the mean ratings for each of the practices in descending order from high to low were the Knowledge Utilization (M = 3.84, SD = .561), Knowledge Generation (M = 3.81, SD = .496), Knowledge Sharing (M = 3.79, SD = .480), and Knowledge Codification (M = 3.79, SD = .500). The overall knowledge management practices was (M = 3.81, SD = .458).

The relationship between knowledge management practices and academic performance was investigated using Pearson product-moment correlation coefficient (r). The Bivariate correlation was subjected to one-tailed test of significance from two difference levels. Table 5.4 below presents the relationship between knowledge management practices and academic performance.

Table 5.4 Correlation of Knowledge Management Practices and Academic Performance (n=100)

		Knowledge Mgt Practices	Knowledge Generation Practices	Knowledge Codification Practices	Knowledge Sharing Practices	Knowledge Utilization Practices
Quality Objectives	Pearson Correlation	.673**	.578**	.616**	.624**	.602**
	Sig. (1-tailed)	.000	.000	.000	.000	.000
	N	100	100	100	100	100

Table 5.4 indicates that the knowledge management practices (KMP) significantly and positively correlated with academic performance (r= .673, p<.01). Meanwhile, the correlation between the four KMPs namely Knowledge Generation, Knowledge Codification, Knowledge Sharing and Knowledge Utilization were also significantly and positively correlated with one another as well as with academic performance.

From the table also, it is found that there is positive and significant relationship between Knowledge Generation and academic performance (r= .578, p<.01). The relationship between Knowledge Codification is also positive and significant with academic performance (r= .616, p<.01). Apart from that, Table 5.4 also shows that there is a positive and significant relationship between Knowledge Sharing and academic performance (r= .624, p<.01). Lastly, Table 5.4 shows Knowledge Utilization significantly and positively related with academic performance (r= .602, p>.01). Therefore, the relationship between knowledge management practices and academic performance can be established.

## 6.0 CONCLUSION

The finding of this study found that all of the four of knowledge management practices were emphasized in UiTM Terengganu. The mean score values for the four practices were in the range from 3.78 to 3.84. Knowledge Utilization (M = 3.84, SD = .561) was found to be the most practice emphasized compared with Knowledge Generation, Knowledge Sharing and Knowledge Codification in UiTM Terengganu. Therefore, it can be concluded that most of the academic staffs perceived practice knowledge utilization within their organization.

Also, it was disclosed that knowledge management practices have positive and significant relationship with academic performance ( r=.673, p <.01 ). The existence of the relationship between knowledge management practices and academic performance shows the better practices made the more it will enhance the academic performance. Thus, in order to achieve higher academic performance, UiTM Terengganu has to ensure that the knowledge management practices are excellent.

## 7.0 RECOMMENDATION

Results pointed out that all practices in KM which conducted in this study (Knowledge Generation, Knowledge Codification, Knowledge Sharing and Knowledge Utilization) have positive and significant relationships with academic performance. Based on the findings, the following recommendations are proposed:

- i. UiTM Terengganu should emphasize the activities related to Knowledge Generation such as organizing regularly meetings, making staff appraisal and rewarding for developing new ideas.
- ii. The academic staffs in UiTM Terengganu need to stress on the practices in Knowledge Codification such as documentation of knowledge that is obtained from competitors or other universities which demonstrated the best practices for the improvement of the organization.
- iii. The top management and the academic staffs in UiTM Terengganu should practise good methodology in knowledge sharing. Techniques and technologies can be used to disseminate the information such as internet, intranet, video conferencing, websites, blogs, and others. Both can give opportunity to the community to share and exchange information, knowledge and experiences.
- iv. The top management in UiTM Terengganu should focus on the knowledge utilization to be more competitive. Knowledge utilization is effective for the purpose of ;1) to solve problems, 2) to adjust strategic direction, 3) to learn from mistakes and experiences , and 4) to take advantage of new knowledge.

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