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Empirical Research on Project Success and Knowledge Management (Km) Practices in Malaysian Institution of Higher Learning (IHL)

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ABSTRACT

The aim of this study is to find out what are the project success factors that may play significant role in knowledge management dissemination through the Malaysian Institute of higher learning. In general this study wish to build a research framework based on a strong theoretical and literature review background. The survey instruments employed in Malaysian Higher learning Institutes knowledge management practices. To show the current situation and future prediction it was necessary to examine variables through Statistical analysis with the software package for windows. This paper reviews and identifies required variables that are associated with the successful knowledge transfer and project success in Malaysians Institutes of Higher Learning (IHL). Knowledge Management Independent variables should reflect successful knowledge transfer and project success, as direct and indirect relationships exist between procure proper knowledge and practices, Strong leadership, Robust ICT Infrastructure, Value based organization, Successful knowledge Sharing and project success. The proposed model idea & elements emerged from successful frameworks and partially tested in Malaysians Institute of higher Learning. Due to the small number of sample size and the convenient method of data collection, the possibility of biases of the authors may play a major role of the study output. The focal objective of the research is that it's proposing a new model for gaining project success through successful knowledge transfer. This study proposed a conceptual framework that requires further exploration and leading away for future research.

Keywords: *Project Success, Knowledge Management, Malaysian Institute of Higher Learning, knowledge transfer.*

I. INTRODUCTION

Recently, there is clearly increasing interest on management of knowledge in both business-industry and education fields. Within knowledge management an organization can organize, develop, improve, and share knowledge. It's believed that knowledge management is the most important and the key factor for any project success as well as the top importance of change in the new revolution of the knowledge economy. (Al-Zayyat, Al-Khaldi, Tadros, & Al-Edwan, 2010).[2]

Knowledge can be categorized into two types, namely tacit knowledge and explicit knowledge. According to (Bin, 2010), tacit knowledge Unwritten, unspoken, and hidden vast storehouse of knowledge, it's personal and difficult to be understood and shared by other persons [4]. Explicit knowledge, on the other hand, is the knowledge that we can touch and found in books, materials, articles, on the web, and other visual and oral means. Moreover, it's easy to communicate, store, and distribute.

The college academy and staff have a lot of knowledge, they can realize and believe that share and communicate the knowledge with others is the key factor for enriching and increase and innovate of their own knowledge, by doing so; they can improve their work qualities in teaching and researches. According to (Hasanali, 2002), there are many factors and indicators which play an important role in the success of a knowledge management effort. He emphasized five types or categories of these factors which are culture, structure, procedures and responsibilities, leadership, and measurement [5].

To support understanding the relationship between the success of projects and the knowledge management processes usage, it is important to investigate and review the three (3) following questions: What is knowledge management (KM) all about?, What practices and processes have been done so far to improve the relationship between knowledge management and project success in Malaysian institution of higher learning (IHL)?, Is there any research or studies to date concerning the use of knowledge management processes to achieve project success in contest of Malaysia?

Therefore, this paper proposes some practices of knowledge management. These practices may have real significance in the success of any project. We will discuss in brief the important key concepts of project success and knowledge management (KM) practices in Malaysian institutions of higher educations including public and private ones and the main factors that may help to improve the knowledge transfers within the universities. The study used quantitative methods with a naturalistic approach to data collection and the author itself as an instrument of research. Data collection techniques used in this study include: (1) sending a questionnaire to 24 public & private universities over Malaysia which have around 75 respondents who are expert in the field of IT project success and knowledge management, and (2) the study of literature which was done by searching the literature relevant to this research material. The returned

questionnaires have been analyzed by SPSS program as well as Excel 2010.

II. LITERATURE REVIEW

Institutions of higher education (Higher Education Institutions / HEIs), according to (Avdjieva & Wilson, 2002) is a learning organization that managed to become a learning organization, where internal stakeholders also provide interpretation and assessment of the quality of the organization of higher education [3]. The Malaysian HEIs play a significant role in the development of the nation's workforce and the economy in general, particularly after 1996 where private universities were established along with the public-owned tertiary institutions to provide more opportunities for Malaysians to pursue higher education within the country (Ramachandran, 2011) [8].

There is no general definition of knowledge management, just as there is no agreement as to what creates knowledge. Knowledge has been identified as one of the most essential resource that helps and contributes to the competitive advantage of an organization as well as universities (Suhaimee, Abu Bakarb, & Alias, 2006) [14]. It is believed that the real organizations rely and depends more on ideas, insight and information that the staff have in their head. We can find three types of knowledge in any public or private sector organization namely Explicit, & Tacit Knowledge. According to (Santo, 2005), Explicit knowledge is formal and quantifiable [12]. It can be captured, stored and distributed. It is public and known as the conventional form of knowledge which can be found in books, reports, journals and mass media such as internet, newspapers, or television. Tacit knowledge, on the other hand, refers to the insights, feelings and intuition of individuals and it's hard to formalize. However, explicit knowledge quickly loses its meaning without tacit insight. Knowledge is created through interactions between explicit and tacit knowledge and not from either explicit or tacit knowledge alone. Knowledge management is an old concept; knowledge is well-known as an important tool which we can use it on the available data or information to make a high quality decision. KM involved people, procedures, processes, tools and technology that influence the knowledge within any organization or firm to achieve their vision and mission (Usman, 2013). Knowledge management may be conceived in terms of people, processes or structures, culture and technology [15].

In spite of fewer numbers of researches have been done in the field of knowledge management practices in Malaysian higher education, (Abdullah, Selamat, Jaafar, Abdullah, & Sura, 2008) Find that, the culture of transferring and sharing knowledge in Malaysian HLIs is still not well institutionalized however that knowledge management practices have been implemented there [1]. According to (Usman, 2013) in his research about "Using Knowledge Management for Organizational Learning", he mentions that, the main six areas which Knowledge management is attributed to managing can be concluded as the following: learning organization, innovation, intellectual capital, information management, knowledge-based systems, and business transformation [15]. Moreover, other researchers have compared and examined the knowledge management processes between public and private HEI in Malaysia and they have concluded that in an institution-wide, improvement and development of tacit and explicit knowledge as well as increase and expand the performance of Higher Education Institutions is the main goal of implementing Knowledge management practices (Ramachandran, Chong, & Ismail, 2009) (Steyn, 2004) [9] [13]. (Razi, Nor Shahriz, & Norshidah, 2011) Argue that the lack of information and researches in the field of knowledge management in HEI motivates and supports the essential and important to conduct more studies to measure the KM readiness of higher education institution in Malaysian context [10].

Last 5 decades ago, many studies and project management researchers have been trying to highlight which practices lead to project success. No doubt that project management is emphasized and known as the process of making decisions and/or implement certain plans, strategies, policies and tactics to bring the project to success (Wai Kuen, Zailani, & Fernando, 2009) [16]. A research has been done by (Mobey & Parker, 2002) conclude that, An understanding of what are the critical factors to success, to systematically and quantitatively assess these critical factors, predicting possible effects, and then choose suitable methods of dealing with them, are the main important way in order to improve or increase the chance of project succeeding for any organization [6]. A comprehensive reconsidering the three processes-based measures of project success namely time, cost, and product's quality. So each project should be considered by those three factors and we should concern if it came in on schedule (time), on a budget (cost), and if the requirements were met (product). On the other hand, we should consider three outcomes-based measures of the project's success: if the outcome product or service was actually used (as), if project helped to prepare the organization for the future (learning), and (value) if the project improved effectiveness or efficiency of the client organization (Nelson, 2006) [7].

Thus, based on literatures and researches have been done in the last decades, it's clear that any project success definitely depends on knowledge management practices and sharing. We conclude these factors in four dependent variables. It is believed that the project success in a knowledge management implication project depends on other independent variables which play a vital role for strong ground. These factors are procuring proper knowledge and practices, strong leadership, robust ICT infrastructure, and value Based Organization.

III. RESEARCH QUESTIONS

- What is proper knowledge? How proper knowledge can be procured and influence in knowledge sharing as well project success?
- What is the role of leadership in the promotion of knowledge management Malaysian HLI? Does it competencies contribute to project success?
- What is robust ICT? Is the influence of ICT on the motivation for knowledge sharing as well as lead to project success?
- Does value based organization play an important role in success of knowledge projects?

IV. METHODOLOGY

As this was a conceptual study, only few universities subject matter experts consider as focus group and studied in this research. Respondents are those working in the institute as project manager or a project management expert. The study used modified framework which absorbed the contents from existing frameworks based on implementing knowledge management through successful knowledge transfer and its result on project success. All variables included in the questionnaire were set on a five-point scale (5=Strongly Agree and 1 is strongly disagree) and these scales were used to conduct a descriptive analysis. First, data were analyzed with the Statistical Package of Social Sciences (SPSS) version 19 using Descriptive Analysis (DA). For measuring and identification of the main factors procure proper knowledge and practices, Strong leadership, Robust ICT Infrastructure, Value based organization, Successful knowledge Sharing and project success. Hence, this study considered for the significant factors advance and offers ideas.

V. QUESTIONNAIRE SURVEY AND DATA COLLECTION:

The population of the study emphasized on the expertise of higher learning Institutes of Malaysia. In this study, the main focus group that studied is project management professionals and experts from various universities around Malaysia. A convenient Stratified sampling method was used so it embraces a number of distinct categories of the entire population .By explaining satisfactory sample size in descriptive research is eventually a matter of judgment and relies on the specific research method. For this small scale research a total 70-sample sizes found to be valid and instantly distributed to the targeted respondents in this research. The reply received and screened systematically for error, incomplete and missing responses. However unanswered or left incorrect answered questionnaire discarded from the data analysis in order to create rationality through paper representation. After the screening process completed 28 responses found valid for data analysis. After that we have analyzed the received responses using SPSS (V19) to compute their mean score, median, Standard deviation and skewness, thus supporting a better understanding of the each variables necessity.

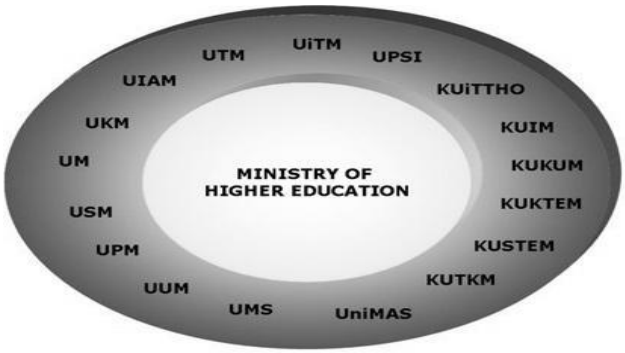

Figure 1... Malaysian HLIs

VI. RESULT AND DISCUSSION

Institution's Profile and Background Information

Based on the Institution's background information obtained, out of 28 respondents 78.6% were working in public universities which represents 22 respondents while 6 of them were working in private universities '21.4%'. About 28.6% of the institutions have employees less than 100 staff, 25.0% between 100 and 150 staff, and 46.4% were more than 150 employees. Most of the respondents' institutions have been established more than 15 years which represents 53.6% while 39.3% established before 5-15 years ago and 7.1% established recently below 5 years ago. Table 1 below gives respondents' Institution's background information.

Table 1: Institution's Profile and Background Information

	Institute		Number of Employees			Institute_ Establish		
	Public	Private	<100	100-150	>150	<5 yrs	5-15 yrs	>15 yrs
Valid	28		28			28		
Mean	1.21		3.04			3.18		
Count	22	6	8	7	13	2	11	15
Percentage	78.6%	21.4%	28.6%	25%	46.4%	7.1%	39.3%	53.6%

Respondent's profile and background information

Based on the Institution's background information obtained, Table 2 refers to the demographic information on the respondents. The questionnaires were distributed to

IS project managers in education sectors, covering universities and colleges in Malaysia by hands, faxes and via emails. It can be seen, 42.9% of respondents have work experience in the IT field services more than 10 years, while 32.1% have worked in the period between 5 and 10 years. A quarter of them have worked less than 5 years. As we can see, 42.9% of respondents have experience in project management between 3-5 years. 21.4%, on the other hand, have less than 3 years' experience in project management. 53.6% of employees have been involved in successful projects more than 10 years, while 35.7% of them between 5-10 years. However, 10.7% handled in projects less than 5 years. 71.4% were involved in a train in project knowledge, while 28.6 claim that they did not involve in any train in KM projects. It's clear from the table that 87% of our respondents have more than 10 staff in their IT department/division.

Table 2: Respondent's Profile and Background Information

	Service Length in IT field"yrs"			Experience in Project Managment 'yrs'			Successful Projects handled			Trained in knowledge Project Managmt area?		Number of IT Staff in Division		
	<5	5-10	>10	<3	3-5	>5	<5	5-10	>10	YES	NO	<10	10-20	>20
Valid	28			28			28			28		28		
Mean	2.18			2.14			2.61			1.29		2.14		
Count	7	9	12	6	12	10	3	10	15	20	8	6	12	10
Percentage	25%	32.1%	42.9%	21.4%	42.9%	35.7%	10.7%	35.7%	53.6%	71.4%	28.6%	21.4%	42.9%	35.7%

Is the Term Project Success and Knowledge Management used in your Institution?

The bar graph illustrates the usage percentage of term project success and Knowledge management. It can be seen that, 68% of our respondents agreed that the term exists in their institution, while 25% of them disagree. On the other hand, 7% of respondents did not know if the term of project success and knowledge management used in their institution or not. Overall, the majority of Malaysian HLIs, which represents 68%, implements the knowledge management term to help and lead to project success, then, improve the university innovation and learning quality.

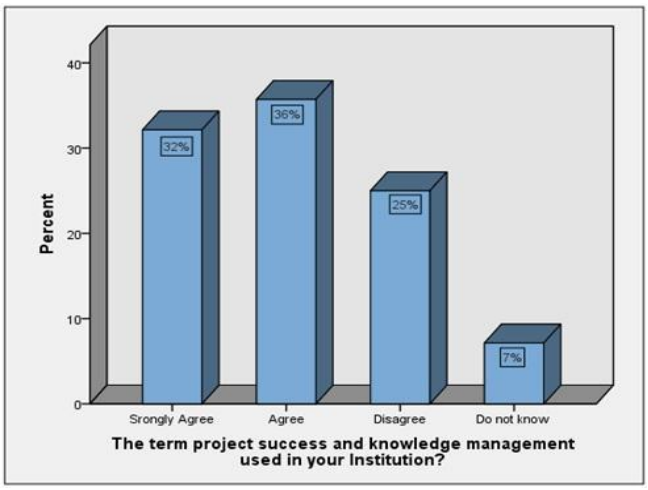

Figure 2: Is the term project success and knowledge management used in your institution?

Procure Proper Knowledge and Practices

Based on table 3 it shows that the mean for procure proper knowledge and practices perspective the mathematical average of four key questions got 4.14, 4.14, 4.18 and 3.61 consecutively. Which shows the positive probability defined by distribution for the existence of procure proper knowledge and practices variable and from figure 3, it's clear that 28% respondents agrees with providing formal training for KM implementation and get better project success where 29% believe inspire employee to share their knowledge, 36% believe that proper documentation can lead to project success and 7% believe that measuring effectiveness can help to enhance implementing KM and Leads to project success.

Table 3: Respondent's Profile and Background Information

Statistics

		Provides formal training and self learning related to knowledge management practices? (Training and Mentoring perspective)	Inspire experienced project team members to share their knowledge to rest members? (Training and Mentoring perspective)	Preparing written documentation such as lessons learned, training manuals, good work practices, articles for publication, etc. (organizational memory)? (Communication Perspective)	You measure the effectiveness of your institution 's knowledge management practices? (Effectiveness of Knowledge Management Practices perspective)
N	Valid	28	28	28	28
	Missing	0	0	0	0
Mean		4.14	4.14	4.18	3.61
Median		4.00	4.00	4.00	4.00
Mode		4	4	4	4

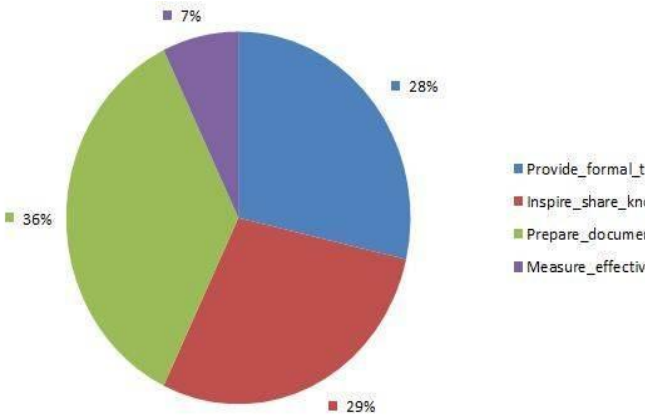

Figure 3: Procure proper knowledge and practices

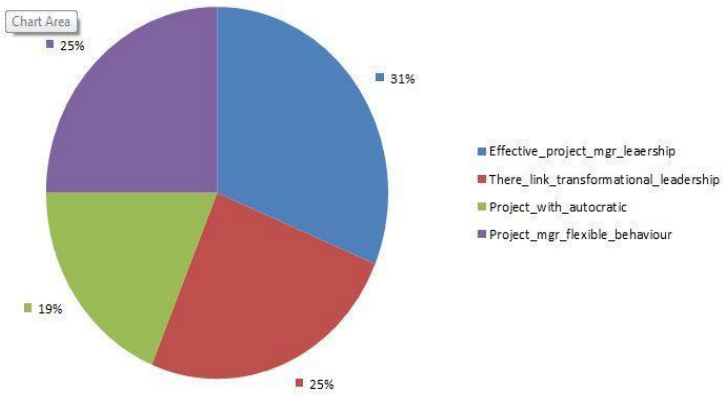

Figure 4: Strong leadership

Strong leadership

In table 4 from the strong leadership perspective the mean for four key questions have 4.58, 3.92, 3.83 and 4.00 consecutively which shows the positive probability defined by distribution for the first question regarding effective of project manager leadership variable median get higher. Even though high end value is higher which caused median higher than mine but due to the short differences it proves that Strong leadership is an important factor for KM implementation and project success. Other hand figure 4, 31% respondents believes that Effective project manager leadership 25% agrees with the Link transformational leadership character and flexible behavior only 19% believes that Strong leadership mean leader should have autocratic behavior. Yet it is assumed from the above discussion that strong leadership plays an important role.

Table 4: Strong Leadership

Statistics

		Effective project manager leadership is an important success factor on projects. The capabilities of a manager involved in resolving extraordinary situations and unforeseen problems are an important key to project success	There is a link between transformational leadership and project success.	Projects With Mainly Autocratic Project Leadership Tend to be More Successful	Project manager whom displaying flexibility behaviors towards the individual team members will lead to more project success.
N	Valid	12	12	12	12
	Missing	0	0	0	0
Mean		4.58	3.92	3.83	4.00
Median		5.00	4.00	4.00	4.00
Mode		5	4	3	4

Robust ICT infrastructure

Robust ICT infrastructure is necessarily an important variable. From the table 5 it is visible that respondents have a positive attitude about Strong ICT infrastructure but due to lack of resource and knowledge respondents unable to identify. Due to those lacking some questions median suppress its mean and its proving that high end values have input in the analysis which significantly proving the unawareness of respondents. Though the study strongly agreeing with the existence of Robust ICT infrastructure.

Statistics

		Which of the following groups is responsible for the knowledge management practices currently in use in your institution ?	Do the knowledge management practices currently in use in your institution have dedicated budgets or spending?	What would you choose for the most important critical success factors for IT projects?	What would you say have been major obstacles of (or limitations to) that project? Describe	How does leadership in your agency demonstrate support for KM strategies?
N	Valid	28	28	28	28	28
	Missing	0	0	0	0	0
Mean		2.75	2.25	4.93	2.07	3.39
Median		2.50	1.00	6.00	2.00	3.50
Mode		2[a]	1	7	2	5

Table 5...Robust ICT infrastructure

Value based organization

It is visible from the table 6 that respondents believe value is a strong key element for project success as we can see from the questions asked them they expect management approval they have agreed with other questions regarding value based organization perspective where the difference between mean and median very low and it says that respondents either strongly agree or disagree in this perspective. From the figure 5, it is assumed that 25% respondents believe that project success can be achieved through improve worker retention and project professionals negotiation can influence project success as well KM implementation. 31%agrees that knowledge management approval before going to the next phase due to the hierarchical reason. 19% say that their organization has written documents

regarding knowledge sharing. It seems that the respondents do not like to get approval due to some office hegemony but they do not reject the hierarchical responsibility.

Table 5: Value Based Organization

Statistics

		All projects deliverables must get management approval before going to the next phase	My institution obtains a written knowledge management policy or strategy and it has values system or culture intended to promote knowledge sharing? (Policy perspective)	The institution emphasizes on knowledge management policy to develop a clear, simple, compelling project strategies to achieve the vision.	Knowledge management programs intended to improve worker retention and uses partnerships or strategic alliances to acquire knowledge? (Policy perspective)
N	Valid	28	28	28	28
	Missing	0	0	0	0
Mean		4.64	4.11	4.00	4.11
Median		5.00	4.00	4.00	4.00
Mode		5	4	4	4

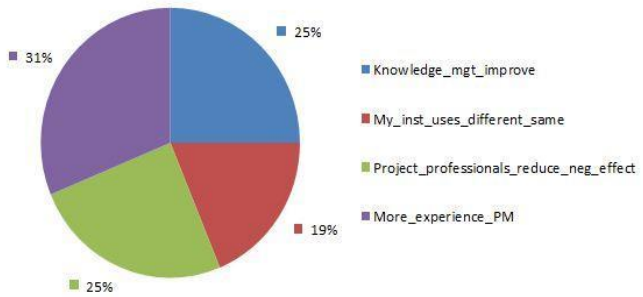

Figure 5: Value based organization

VII. CONCLUSION AND LIMITATION

Based on existing literature a conceptual model has developed and tested using information and data gathered via questionnaire survey which is covering the main attribute of project success and KM implementation in the Malaysian Institute of higher learning (IHL) This study used descriptive analysis to measure the acceptance and necessity of gaining project success through KM implementation. This also allows us to examine to have a close look on the relationship. The discoveries also help us to understand the relationship between variables and successful knowledge sharing which leads to project success to regulate where they should focus to achieve their goals. In this study it was found that procure proper knowledge influence over project success. Hence, Institute of higher learning should be more aware about acquiring knowledge. It is obvious that acquire knowledge is important but other variables such as Strong leadership, Robust ICT infrastructure and Value based organization have influence over project success where these variables do not act directly to influence but they go through successful knowledge dissemination which helps to achieve project success. In this era no research is perfect. This study data is not beyond those limitations, the bias playing role may exist on the outcome of the study. Future research should require with a bigger sample size to get better results. Nevertheless this study opens door to a conceptual model and an empirical base for future research.

REFERENCES

[1]. Abdullah, R., Selamat, M., Jaafar, A., Abdullah, S., & Sura, S. (2008). An Empirical Study of Knowledge Management System Implementation in Public Higher Learning Institution. IJCSNS International Journal of, 281-290.

[2]. Al-Zayyat, A. , Al-Khaldi, F., Tadros, I., & Al-Edwan, G. (2010). The Effect of Knowledge Management Processes on Project Management ... An Empirical Study on Information Technology Industry in Jordan. Journal of IBIMA Business Review, 1-6.

[3]. Avdjieva, M., & Wilson, M. (2002). Exploring the development of quality in higher education. Managing Service Quality, 372-383.

[4]. Bin, Z. (2010). Study on the Strategies of Tacit Knowledge Sharing for College Teachers from the Perspective of Knowledge Management. Journal of Chongqing University of Posts and Telecommunications.

[5]. Hasanali, F. (2002). Critical success factors of knowledge management.

[6]. Mobey, A., & Parker, D. (2002). Risk evaluation and its importance to project. International Journal of Productivity and Performance Management, 202 - 208.

[7]. Nelson, R. (2006). Project Retrospectives: Evaluating Project Success, Failure, and Everything in Between. MIS Quarterly Executive, 361-372.

[8]. Ramachandran, S. D. (2011). Organisational culture An exploratory study comparing faculties' perspectives within public and private universities in Malaysia. International Journal of Educational Management, 615-634.

[9]. Ramachandran, S. D., Chong, S. C., & Ismail, H. (2009). The practice of knowledge management processes: A comparative study of public and private higher education institutions in Malaysia. Information and Knowledge Management, 203 - 222.

[10]. Razi, M. J., Nor Shahriz, A. K., & Norshidah, M. (2011). Knowledge Management Readiness Measurement: Case Study at Institution of Higher Learning in Malaysia. International Conference on Research and Innovation in Information Systems (ICRIIS), 1-5.

[11]. RICHMAN, L. (2011). Successful Project Management. New York: American Management Association.

[12]. Santo, S. A. (2005). Knowledge management: An imperative for schools of education. Tech Trends, 42-49.

[13]. Steyn, G. (2004). Harnessing the power of knowledge in higher education. Higher Education, 615-631.

[14]. Suhaimee, S., Abu Bakarb, A., & Alias, R. (2006). Knowledge Sharing Culture in Malaysian Public Institution of Higher Education : An Overview. Proceedings of the Postgraduate Annual Research Seminar, 354-359.

[15]. Usman, M. (2013). Using Knowledge Management for Organisational Learning. International Journal for Management Science And Technology (IJMST), 1-12.

[16]. Wai Kuen, C., Zailani, S., & Fernando, Y. (2009). Critical factors influencing the project success amongst manufacturing companies in Malaysia. African Journal of Business Management, 016-027.