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An Empirical Research on Effectiveness of Knowledge Management in Achieving Project Success through Malaysian Government Agencies

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ABSTRACT

As knowledge is being accepted as an inseparable imperative strategy of organization, organizations look at knowledge as a power which drives advantages to them. However, many organizations believe it is not about just the existence of knowledge but the organizational growth is being driven from the act of knowledge sharing. Through many established surveys, it is believed that in those organizations that their management and staff focus on practicing knowledge management and knowledge sharing will grow stronger and turn to be more competitive indeed rather than those organizations which lack of knowledge management practices. As modern economy takes knowledge as a point to achieve project success, utilization of information and data coupled with the harnessing of people's skills and ideas as well as their commitments and motivations. Therefore, it is undeniable that today knowledge is an essential asset of every single organization and it has become more important than land, labor or capital in today's economy. This paper investigates on the importance of knowledge management in generating of project success by analyzing whether or not government agencies in Malaysia, practice Knowledge Management. In this regard, a research has been conducted amongst fifteen Malaysian government agencies to find how effective project managers in Malaysian government agencies, integrate Knowledge Management criteria and factors in order to achieve project success and enhance citizen loyalty as well as gaining competitive advantage, the findings of this research worth to be considered.

Keywords—*Knowledge Management; Project Success; Citizen Loyalty, Competitive Advantage; Project Manager; Malaysian Government Agencies*

1. INTRODUCTION

Knowledge is one of the most vital resources in organizations. According to MAMPU (2011), Knowledge Management (KM) helps to improve business performance and enables organization to meet its mission and goal [2]. It is a proven fact that those government agencies practicing KM are more proactive than those organizations lack of KM practices. However, success might have different meanings for different organizations, yet KM is an important component in leading an organization towards success. Knowledge could be defined as information that has been combined with experience, context, interpretation, and reflection. Given the value of this asset to organizations, it is not surprising that greater attention is being paid to the subject of knowledge makes profound differentiations as well as adding more value to inter-organizational processes [28]. Nonaka I. et. Al (1994) mentions unfortunately, discussions of knowledge, its use and management devolved easily into highly abstract musings on the importance of knowledge, or on the emergence of knowledge-based economies and organizations, while this type of conceptual analysis is of little use to the practitioner faced with the task of what specifically is required to accomplish as a knowledge manager [28].

2. LITERATURE REVIEW

The Malaysian Public Sector ICT Strategic Plan (MPSISP) 2011-2015 emerged with slogan "Powering Public Sector Digital Transformation" had been launched by MAMPU on 7th July 2011 and defines the drivers that drive the need for change including Government 2.0 (new generation) and increasing need to do more with less and Pervasiveness of technology (Ubiquitous Access) [2]. The Public Sector ICT Strategic Vision provides the direction for Government use of ICT in the next five years and its emphasis is on delivering innovative, efficient and quality citizen and business-centric services by leveraging on the pervasive use of ICT. The ultimate aim is to achieve a Citizen-Centric and "Whole of Government" Public Service, which means that the Public Sector must meet and exceed the expectations, preference and needs of Citizens and Businesses. The expectations demand that the government adopt the qualities of a Cost- Effective, Innovative, Transparent and Productive Government as the guiding principles. The pervasive use of ICT would also optimise the operations and the management of the Government in providing the highest quality of service to the citizen. The Malaysian Public Sector ICT Strategic Direction finds consonance with the Government Transformation Agenda, has built-in flexibility and future thinking elements to accommodate advances in the use of ICT. This direction is one step forward in charting our paths towards a developed nation status by 2020 [2, 3].

The Information and communications technology (ICT) application is effectively used in multiple service delivery and the internal operations of government agencies in Malaysia. This is the primary keys that hold to achieve national aspirations. E-Government applications under the Multimedia Super Corridor (MSC) initiative like eKL project to deliver government services to provide the appropriate platform for ICT implementation in government agencies. Citizen-centred projects such as myService, myForms, myNews, myBayar and

mySMS has been introduced to ensure the ICT is adopted on ad broader scale. Study done in 2011 indicated that 35% of government services are available online while 43% are transacted online. Social media tools have paved the way to engage the government and its clients innovatively [2]. To align with the "whole-of-government" concept outlined in the 10th Malaysia Plan, government agencies have started to work across portfolio boundaries towards shared goals to fulfil the needs of citizens and businesses. The Public Sector ICT strategic direction is designed to meet seven strategic objectives in line with the national transformation agenda. The objectives are to streamline ICT architecture; consolidate ICT operations; intensify inter-agency collaboration; rationalise ICT governance structure; attract, develop and retain top talent in the Public Service; strengthen performance culture; and foster a knowledge-based environment. This shows that Knowledge Management is one of the main objectives in prospering the ICT in Malaysian government agencies [3].

According to the Compatibility Maturity Model assessment of the Malaysian Public Sector ICT effectiveness, the findings shows that most agencies processes are at Level 3 which means that its management are defined, documented and communicated for all the areas assessed. Meanwhile for Change Management processes, most of the agencies are at Level 2 that means there is a good level of awareness and efficient planning to implement but there are challenges in implementation. However, the findings for knowledge management was found to score low at Level 1 which indicates that processes are ad-hoc and there is a need for plan which communicates the importance and benefits of KM implementation and acculturation [2]. Government agencies need to communicate the importance and benefits of Knowledge Management whilst setting key definition, guidelines and boundaries of knowledge within the agency in order to raise awareness. The vision of public sector knowledge management is "Knowledge Excellence as Catalyst towards Effective Service Delivery". To achieve the vision, MPSISP 2011-2015 has identified two strategies namely inculcating the culture of Knowledge Management and strengthens Knowledge Management initiatives in the public sector [2, 3]. Considering the second strategy, the levels of knowledge management implementation in the government agencies need to be measured and then identified the gap analysis to get through the end state of Knowledge Management excellence in public sector. In addition, active managing of knowledge can help government agencies increase their chances of achieving success by facilitating decision-making, providing efficient learning environments by making learning as a routine process, and stimulating cultural change and innovation. By proactively implementing knowledge management systems, government agencies can re-write the old saying, "Change is inevitable, growth is optional" to "Change is inevitable, growth is intentional".

In this researched success is being defined through three main objectives includes achieving organization's mission, gaining more citizen loyalty and seeking competitive advantage. Therefore framework concentrates on active integration of three initial KM success keys (people, processes and technology) relating to KM criteria(s) which focuses on organizations performance from four main perspectives including financial perspective (IT-value), internal perspective (operational excellences), citizen perspective (users / public) and growth perspective (future orientation), and proves how applying all these measures through knowledge management lead an organization towards success [4].

3. CONCEPT AND FRAMEWORK

As mentioned above the framework used for this research is developed from Four Project Success Criteria (financial, customer, internal and growth perspectives) of Forrester Research adopted from Robert S. Kaplan and David P. Norton (2005) from organization business perspective and KM Diamond framework from Wickramasinghe (2006) that stress on 3 elements that are people, process and technology. The relationship between these two frameworks are analysed so that the government agencies can achieve project success through three success keys and knowledge management criteria. This research shows how government agencies invest for people, process and technology as main success keys and adapt knowledge management criteria to drive success [4].

Likewise, Artto K. et. Al (2004) mentions that Success achievement is the main goal of every organization and the key to unlock organizational objectives it so understand and align KM success key elements that are people, process and technology with great degree of knowledge by increasing the efficiency of people and process elements and then work more proficiently at a lower cost by utilizing technology [1]. Azarian M, et. Al (2013), indicated Organizations rarely used technology to solve complex problems and find that technology only multiplies the impact and visibility of the problem this will only provide temporary solution to complex operating and internal problems while it is proved that alignment with KM can effectively make technology as a permanent solution to inter-organizational challenges [4].

3.1 People

People are the most important elements in achieving project success. People can be categorized into two main teams that are staffs and customers, customers for government agencies are public users and citizens. Staffs motivation and willingness in sharing knowledge to fulfil their task effectively are the main drives to gain customers trust and thus contributing to success. Framework (See Figure 1) shows that citizen perspective is one of the four project success criteria(s) that contain number of indicators to enhance and upgrade government agencies services to the customers.

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3.2   Process

This element contributes by creating and transferring existed knowledge within the people in the organization. This contributes in enhancing staff productivity and communication efficiency. Financial perspective is one of the four project success criteria that involve organizational processes to increase asset utilizations, improve cost structure, a strategic financial plan and simultaneously enhance customer trust.

3.3   Technology

Information and Communication Technology (ICT) plays and important role in influencing the way people communicate with the government agencies. The qualities of service are accelerated by being more visible and offer viable solutions by facilitating in solving challenges. Electronic governments are good example of how technology effectively enhances communication of two elements that are the people and the processes involved.

Knowledge management initiatives combine with technological advancements upgrade the interaction of customers and the government agencies. This will help in meeting organization's vision and mission and drive project success.   Internal perspective includes number of indicators that shows technology causes operational excellence by optimization of internal processes, standardization of platforms and providing end user's IT support.
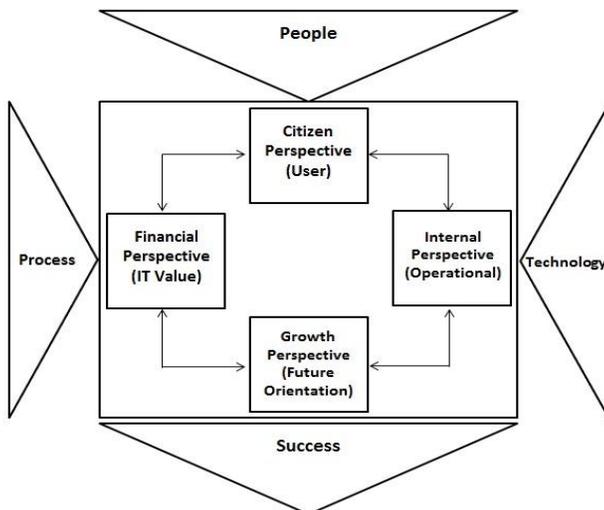

Figure 1: KM Key Success Elements and Project Success Criteria(s) Drive Success [4]

The fourth project success criteria shows organizational growth that lead to future orientations, growth perspective indicators (business internationalization, improve accurate knowledge of business and manage organizational culture effectively) help facilitate organization to achieve its goal.   All four project

success criteria can be supported by three KM success keys in order to achieve project success in government agencies [4].

4.   RESEARCH DESIGN

Guided by the literatures reviewed and proposed framework, this study has designed a research methodology to empirically test the effectiveness of KM in achieving project success in Malaysian government agencies. Firstly, relevant scope and material sources are reviewed. Relevant articles are published in a wide variety of journals. As KM is still an emerging research area, mostly the research is published in conference proceedings. Online academic journal and conference from different online databases such as ProQuest Direct, ScienceDirect, ACM digital library, IREP and others were reviewed. The papers that are relevant are the reviewed backwards to find other authors as well as the citations. The keywords that are searched are "Project Success", "Knowledge Management", "Project Management" and "Government Agencies" in the abstract or relevant papers and journals. The term 'survey' is commonly applied to a research methodology designed to collect data from a specific population, or a sample from that population, and typically utilizes a questionnaire or an interview as the survey instrument [5]. This research has been conducted through 15/fifteen Malaysian government agencies (see figure 2) and conducted questionnaire-based and web-based survey. Each of research indicators were measured using a five-point rating scale (1= very little extent; 2 = little extent; 3 = do not know; 4 = good extent; 5 = very great extent). A total of 75 individuals responded and their responses were collected through web-based survey, after examining questionnaires, this research kept only those were fully completed by the respondents. For the successful completion of this research this study has deleted 25 questionnaires and has kept 50 questionnaires for further analysis.
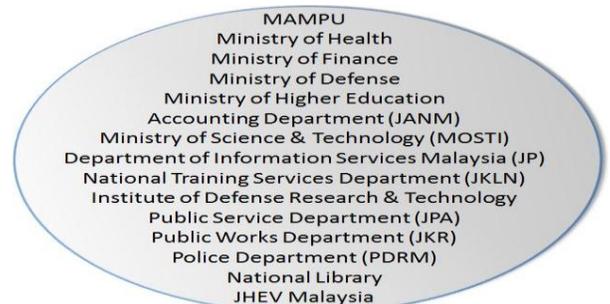

Figure 2: Malaysian Government Agencies

5.   RESULTS AND DISCUSSIONS

Based on research question this research aimed at determining how effective knowledge management is being applied through Malaysian government agencies and to what extent applying

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knowledge management leads to achieve success. Since mentioned earlier this research defines "success" through achieving organizational mission, gaining more citizen loyalty and seeking competitive advantage. Various indicators have been determined to measure the extent of applying knowledge management initiatives in alignment with organizational financial, internal, citizen and growth perspectives. One hundred questionnaires were distributed among one hundred employers of Malaysian government agencies occupied in fifteen various government agencies such as MAMPU, MOSTI, ministry of defence, ministry of finance, ministry of higher education, etc (N=100). A total of 75 questionnaires were collected. Among 75 respondents, 25 did not fill out questionnaires completely. This result yielded 50 usable questionnaires. As figure 3 illustrates (see figure 3), the highest rate of organization's methodology was in house/custom methodology while the lowest rate returned to the prince methodologies, the rest were fluctuation between 14 and 22 percentage. The latter was the combination between different methodologies such as in house and prince 1.
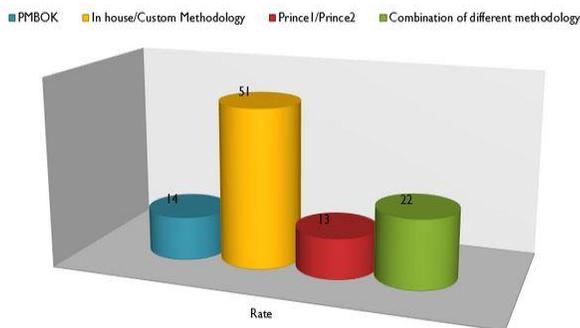

Figure 3: Project Methodologies Used by Government Agencies

Moreover, 33% of 50 respondents indicated that their organizations use "prototyping" as software development methodology and significantly 21% pointed at RAD methodology whereas only 1% illustrated the use of "extreme" method. Similarly, based on results of research, over 50 respondents there were no missing information (0) and all were valid (50).

5.1   Citizen Perspective

As citizen perspective (user) of research indicates three main indicators for assessing that to what extent organization's project managers deliver values to public, satisfy citizen by service and quality and solve citizen's problems, based on framework (figure 1.) this perspective is integrated with first major KM success key (people) and leads organizations towards more citizen satisfaction and trust (citizen loyalty), and citizen loyalty is one of the major objectives of government agencies, according to research result over 50 respondents 71% identified solving citizen's problems is performed in "good" extent and surprisingly 31% claimed they do not know how effective their project managers use Knowledge Management in

order to deliver values to public and satisfy citizen by service and quality, however only 15% indicated "satisfying citizen by service and quality" are applied in "very great" extent.

Table 1: Citizen Perspective KM Indicators in Percentage

	Very Little	Little	Do Not Know	Good	Very Great
1.delivering values to public	0	6	31	55	8
2.satisfying citizen by service & quality	0	3	31	51	15
3.solving citizen problems	0	3	14	71	12

5.2   Financial Perspective

The second KM criteria is Financial perspective (IT value) in which emphasizes on four main indicators (improve cost structure, managing fixed costs, managing variable costs and increasing asset utilization), to analyse how effective project managers utilize these KM indicators to achieve success (organizational mission/objective), this perspective is considered as a part of third KM success key (process). Based on result of survey, 72% of respondents argued "managing fixed costs" are being applied in a "good" extent, relatively 65% presenting "managing variable costs", 60% indicate "improving cost structure" and 57% claim that "increasing asset utilization" are in a "good" extent whereas, 8% identified managing fixed costs are being applied in "little" extent. On the other hand, 31% over 50 respondents claimed they "do not know" how effective "improve cost structure" and "increasing asset utilization" are being applied through their governmental agency.

Table 2: Financial Perspective KM Indicators in Percentage

	Very Little	Little	Do Not Know	Good	Very Great
1.improve cost structure	0	3	31	60	6
2.managing fixed costs	0	8	14	72	6
3.managing variable costs	2	5	22	65	8
4.increase asset utilization	2	5	31	57	6

5.3 Internal Perspective

Internal perspective which illustrates organization's operational excellences is the third KM criteria which is being expected to lead organization to achieve organizational mission and objectives (success), this KM criteria is integrated with second KM success criteria (technology) and focuses on both business and technological excellences through Malaysian government agencies, indicators highlighted to assess efficiency of performance are proposing enabling solutions, understanding emerging technologies, improving risk management, applying change management, enhancing enterprise integration, improving business automation services and improving decision making (table. 3). Out of 50 respondents 77% believe "improving decision making" is being applied in "good" extend, the second highest percentage goes to "applying change management" which 68% of respondents believe it is being applied in "good" extent, only 14% indicated "proposing enabling solutions" are in "very great" extent whereas, 37% claim they "do not know" to what extent enabling solutions being proposed.

Table 3: Internal Perspective KM Indicators in Percentage

	Very Little	Little	Do Not Know	Good	Very Great
1.propose enabling solutions	2	2	37	46	14
2.understanding emerging technologies	0	3	29	55	12
3.improving risk management	2	3	26	65	5
4.applying change management	2	5	17	68	9
5.enhancing enterprise integration	2	5	34	52	8
6.improving business automation services	0	5	34	57	5
7.improving decision making	2	0	18	77	3

5.3 Growth Perspective

Lastly, the forth KM criteria is growth perspective (future orientation) based on literatures reviewed this criteria leads to competitive advantage, as governmental agencies emphasize on enhancing their citizen loyalty perspective need to perform well through other KM practices as well as practicing number of new generation indicators as "developing business internationalization" and "improving accurate knowledge of business". Similar to all above results gathered from other three KM criteria, on the average respondents believe internationalization and improvement accurate knowledge of business are being applied in "good" extent (55%-51%), whereas 31% claim "they do not know" how efficient these two KM indicators are being applied through their governmental agency.

Table 4: Growth Perspective KM Indicators in Percentage

	Very Little	Little	Do Not Know	Good	Very Great
1.Develop Business Internationalization	0	6	31	55	8
2.Improve accurate knowledge of business	0	3	31	51	15

Overall, research result indicates general optimism of employers as the majority believed project managers of their government agencies apply most of Knowledge Management initiatives and practices in good extent and few of them claimed effective KM indicators are performed in great extent but the significant result drawn out of this research is that the overall percentage of respondents who replied "do not know" are high, and the second highest percentages goes to the scale of "do not know" this communicates the message that yet KM awareness is needed to be investigated more through Malaysian government agencies. This research indicates the importance of improving knowledge management awareness through governmental agencies and how KM leads organizations to achieve success.

6. CONCLUSION & FUTURE RESEARCH

This research had been conducted to provide an insight view of Malaysian Government Agencies from four main KM criteria (citizen, financial, internal and growth) integrated with three KM success keys (people, process and technology) to analyse how effective Knowledge Management initiatives and practices are being applied in order to achieve success. This research defined success as achieving organizational mission and objective, enhancing citizen loyalty (satisfaction and trust) and gaining competitive advantage. As "people" are the most significant success key, future researches and studies should emphasize on alter natives to increase KM awareness through governmental agencies' employers because as mentioned through results of this research yet a significant number of employers are unaware of knowledge management initiatives and their potential effectiveness through financial, internal, citizen and growth aspects of organization.

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