Using Soft Systems Methodology (SSM) in Formulating Knowledge Management Systems (KMS) Strategy for Malaysian Public Institutions of Higher Education (PIHE).

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Abstract

The purpose of this paper is to discuss both the methodology and the finding on how Soft Systems Methodology (SSM) is used as a basis for formulating KMS strategy in four case studies conducted within Malaysian Public Institution of Higher Education (PIHE) context. The concept of SSM was used to integrate two streams of cultural analysis and logic-based analysis to understand the ill-structured problem situation in the context. Throughout the analysis Multiple Perspectives (MP) Theory by Mitroff and Linstone (1993) is employed to differentiate between the Technical Perspective, Organizational Perspective and Personal Perspective of the formulation of KMS strategy in the context. This approach presents a holistic view of formulating KMS strategy by combining both technical and non-technical issues including business processes and human activities within an organization. The processes reflect upon the objective to answer the two main research questions; (a) How to formulate a holistic strategy for KMS implementation? and (b) What are the factors influencing the formulation of KMS strategy?

Keywords: Soft System Methodology, Multiple Perspectives Theory, Knowledge Management System Strategy.

1.0 Introduction

KMS is used to leverage the potential organizational knowledge through the support of technology. Consequently, prominent global organization focused their attention to the value creation through leveraging knowledge, for example HP, Xerox, BP and Dell (Housel & Bell, 2001).The wide acceptance of KMS implementation in various types of business sectors has also stimulated many researchers to explore KMS implementation in Institution of Higher Education (IHE) context where their core business is primarily related to knowledge activities. If Peter Ducker is the management guru in corporate world, Kidwell, Linde and Johnson (2000) are among the earlier notable authors in initiating KM concepts within the IHE context. This paper demonstrates the use of SSM as a framework to make sense of the situation under study in which KMS strategy will be implemented. Furthermore, information from this case study also provides insight into and makes sense of the human issues and management within an organization.

KMS strategy refers to a range of potential tactics to enhance the process of managing organizational knowledge by employing advanced technological tools and application in business activities. This is similar to Henderson (1977) in his article 'The Origin of Strategy', which he emphasized on strategic thinking from

'imagination' and 'logic' to develop a potential plan to achieve predefined objectives. KMS differs from the traditional Information Systems (IS) because KMS is not merely concerned on identifying tacit and explicit of organizational knowledge, but also incorporates of integrated applications and collaborative technology with the convergence of electronic network and social network environment to ensure knowledge can be stored, disseminated and utilized in an organization. This is supported by Barnes (2003) as he defines KMS as '*…not a single technology, but instead a collection of indexing, classifying and information-retrieval techniques coupled with methodologies designed to achieve results for the user*.' In a similar vein, Tsui (2003) assert that '*KMS is any organizational information system that integrates various knowledge processes to solve one or more business problems.*'.

2.0 Components of Multiple Perspectives Theory

MP theory provides a holistic view in solving real world problem. The three generic elements are Technical (T), Organizational (O) and Personal (P). MP theory as a tool to analyze KM literature was introduced by Alias and Md Saad (2004) is now extended in this paper to study issues covering KMS strategy formulation. The MP model for formulating KMS strategy will be developed to highlight the ill-structured problem of social issues in various contexts in interacting with technology. This model has a potential in assisting IHE in implementing KMS initiatives by introducing a more holistic approach. The Technical (T) perspective of KMS strategy is mainly discussed in information technology and communication area comprising of network infrastructure, intelligent systems, technology equipment and internet/intranet tools in supporting KMS implementation. The Organizational (O) perspective on KMS research is described by social science and business management discipline related to the context under study. In the case of formulating KMS strategy, O perspective reveals the ways organization manage resources according to business direction and processes within its environment that supported with appropriate KMS technology. For example, organization can utilize KMS technology to enhance performance, increase collaboration and improve customer service. The Personal (P) perspective in KMS strategy is concerned on the issues related to human factor within the context comprising psychology and sociology aspects. This perspective helps researcher to understand the complex human issues of the organization. It reveals the strategic approach to ensure individual contribution to the success of KMS implementation. For example, role, attitude and behaviour of stakeholders.

3.0 Overview of Soft Systems Methodology

Substantial advancements of technology for supporting back room operation has been extended to support front office activities prominently for decision-making purposes. The wide spread use of technology embodies social complexity rather than solely focusing on technical issue. There is a continuing technology with organization, shows a continuing evolution from advancement of technology tools applications to cognitive level involving messy human problem within the social context in a particular given environment. The traditional systems engineering approach does not take into consideration the social and cultural context in which to ensure the success of KMS implementation to achieve organizational objectives. Thus, in early 1980s, SSM was introduced by Professor Peter Checkland based on his multiple experiences as an scientist working in laboratory, a technologist inventing new things, a manager handling complex problems and an academic working with theories and research (Checkland, 2000). From a wide experience of technical and non-technical issues, Checkland believes that conflict in technology and organization are not technical issues per se, but are also associated with human affairs. SSM contributes as a problem-solving method tool emphasizing on system thinking idea in complex problem involving human affairs. The advent of SSM to IS literature introduced a softer approach encompassed with problematic social intervention in real life situation (Checkland & Holwell, 1993).

The concept of SSM employs system thinking approach as an alternative to the reductionist approach of breaking the system into smaller subsystem. To put it simply, SSM enable "seeing the forest not just the trees, where in order to understand any particular tree in a forest we not only need to understand the whole components inside the forest itself but also relation among trees. For example, we need to understand the soil, the living creatures inside the forest, the weather, and how they interact with each other.

4.0 Background of Case study

In this research, multiple case studies were conducted in four PIHEs. The selection of case study sites is derived from access approval. In addition to that, because of time consideration to conduct this study, the selection of case sites also take into account the institution that gave the fastest respond to allow researcher access to their institutions. The main objective of the case study is to obtain qualitative interpretation of the real situation. Interview were conducted with both technical professional and non-technical professional as influenced stakeholders in formulating KMS strategy. They are IT directors, IT managers, deans and other administrative directors. This data analysis provides essential foundation to generate greater insight. For the purpose of this study, the population of the case studies are categorized into two groups: older PIHEs (Case A & Case B) and newer PIHEs (Case C & Case D). The description of the background of case study is depicted in Table 1

Table 1
Background of the Four Case Studies

Case	Background
Case A	University A is one of the oldest PIHE in Malaysia. The university was established for over 30 years to serve the community and national agenda particularly in the area of higher education program, research and development activities, training and consultancy services, education and business related services.. This university is considered one of the largest university in the country which currently employs about 7000 staffs and has around 27 000 students.
Case B	University B was also established for over 30 years. This university is considered one of the largest university in the country which currently employs about 5000 staffs and has around 33 000 students. As one of the established university, the commitment is to offer wide range of advance scientific and technological programme to cater the skilled human resource for various businesses and industry needs. This university also contributes its R&D in the related industrial area.
Case C	University C is one of the newest PIHE in Malaysia that was established in 2002 to focus on technical-based university specializing in technical courses as manufacturing, chemical and biological engineering. The size of this new university is relatively small which currently employed about 600 staffs and has less than 6000 students. The national aspiration for this university is to focus on producing technically skilled students for manufacturing and industrial needs.
Case D	The University D was established in 2001 to focus on science, technology and management of natural resource. This university is specialized in the area of Marine Science and Fishery programmes This university is considered one of the smallest universities in the country which currently employed about 800 staffs and has around 6000 students.

5.0 Data Analysis

The role of researcher in the context of SSM approach is to identify the ill-structured problem and try to improve the problem in a given situation. In this case, we considered the process of formulating KMS strategy as an ill-structured problem. The formulation of KMS strategy is more problematic compared to formulation of information systems strategy. Not only does KMS require advanced technological tools and applications to manage and leverage potential organizational knowledge, but also KMS is concerned about tacit knowledge incorporating human factors and organizational factors to ensure the continuous process of capturing, storing, disseminating and applying knowledge across organization.

For the purpose of this study, SSM was used to assist researcher to explore the real world situation of KMS approach in four different PIHEs. This study extended Alias's (1997) methodological research framework to explore Multiple Perspectives of IS quality. The two streams of inquiry process from Checkland's SSM bring the researcher to two distinctive mutually influencing streams of analysis. This methodological framework illustrates how both

cultural stream of analysis and logic-based stream of analysis are used to formulate KMS strategy. These two streams of enquiry to be used in this study is shown in Figure 1. Combing these two streams of enquiry can lead the researcher to understand a wider scope of facilitate organizational context to address issues of cultural, political, human as well as technical issues. Each component represents relevant conceptual elements which can better understand the process of formulating KMS strategy.

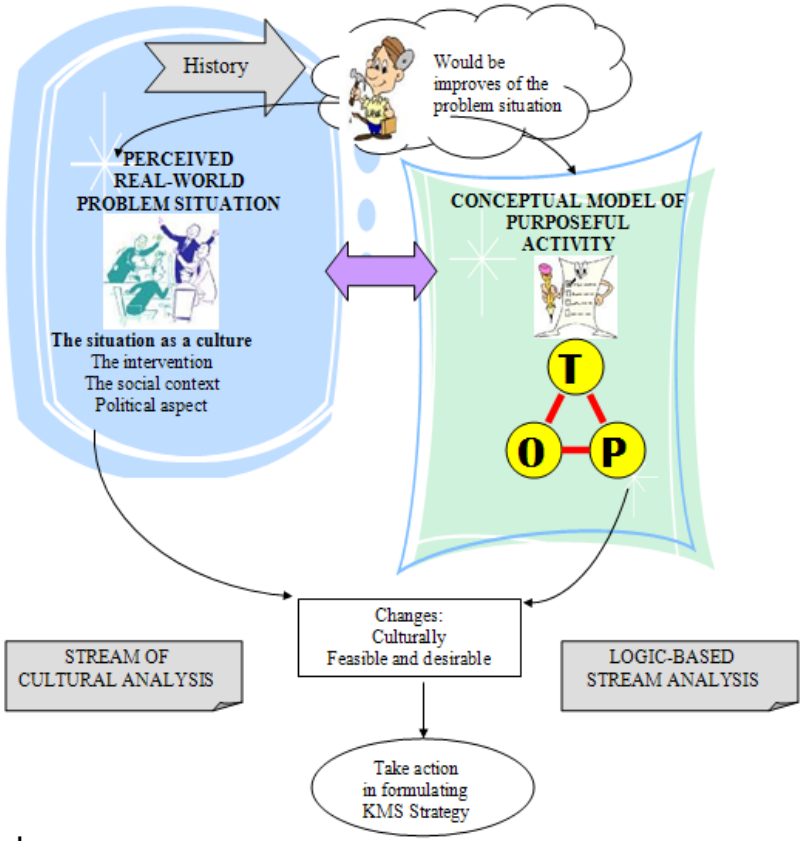

Figure 1
A Multiple Perspective SSM Framework in Formulating KMS Strategy

5.1 Culture Stream of Analysis

SSM is employed to investigate the organizational context under study. This investigation involved a stream of culture analysis that provided a basic for identifying the relevant issues, actors, structure, and conflicts in the problem situation. The main purpose of this data analysis is to reveal the current approach of KMS and identify what are the challenging issues in KMS implementation. This was done through semi-structured interviews of various

stakeholder points of view about their objective towards KMS implementation and knowing the challenging factors to ensure the success of their current KMS strategy.

Using this rich information, an interpretive approach expose researcher to a wider scope to address issues of cultural, political and human that will shape social environment related to the problem situation. This information enables researcher to gain insights into the psychological and sociological aspects of the organization. Once the social relation issues have been analyzed, the researcher has to design a pictorial representation that would present the nature of the problem situation. Thus, the rich picture is to provide a complete understanding of the whole problem situation perceived by the constellation of stakeholders. Table 2 shows the summary of real world situation in organizational context for four case studies.

Table 2
Cultural Stream Analysis of Four Case Studies

Culture Analysis	Case A	Case B	Case C	Case D
Social Analysis	• KM awareness is relatively low. • Lack of teamwork and collaboration work between different functional areas. • Limited budget to cater up-to-date application & infrastructure for the whole organizational needs. • Various functional areas require IT manager to support their operation.	• KM awareness is relatively low. • Lack of teamwork and collaboration work between different functional areas. • Assign IT manager at faculties. • Limited budget to cater up-to-date application & infrastructure for the whole organizational needs.. • ICT management experienced difficulties to catch up with latest advancement technology.	• KM awareness is disseminated to all staff across organization. • Lack of knowledge sharing culture across organization. • Lack of teamwork and collaboration work between different functional areas. • Assign IT manager to monitor ICT project at faculties.	• KM awareness is relatively low. • Lack of knowledge sharing culture across organization. • Lack of teamwork and collaboration work between different functional areas. • The ICT management does not have any formalized ICT strategy to support long-term business goals.
Political aspect	• Relatively difficult to get access and collect knowledge from distributed data management systems.	• Relatively difficult to get access and collect knowledge from distributed data management systems.	• KM centre much depend s on ICT centre to develop KMS application, thus it takes some times for improvement or changes of systems application.	• Relatively difficult to get access and collect knowledge from distributed data management systems

5.2 Logic-based Stream of analysis:

The logic-based analysis is to identify the Root Definition and Conceptual Model. At this stage, the systems thinking process is initiated where the main concern is to formulate root definition. Root definition is a concise description consists of essential nature of problem situation understanding. A root definition produced using CATWOE must take into account six important factors, which can be remembered easily by the letters of the mnemonic CATWOE: **C**ustomers (the victims or beneficiaries of T); **A**ctors (those who do transformation); **T**ransformation (the conversation of input to output); **W**eltanschauung (Worldview) (the worldview which makes this transformation meaningful in context); **O**wners (those who could stop transformation) and **E**nvironment

(elements outside the system which it takes as given) (Checkland & Sholes, 1999). The entire CATWOE analysis of the four case studies is depicted in Table 3.

Table 3
CATWOE Analysis

CATWOE	In the Context of Formulating KMS Strategy
Customers	Faculty, administrator, student
Actors	ICT Centre Staff. KM Centre staff
Transformation	Unmanageable Organizational Knowledge transform to manageable knowledge among campus community which promote innovation, creativity and competitive to become knowledge university environment
Weltanschauung (Worldview)	Appropriate KMS technology are necessary for enhancing KM implementation
Owners	ICT Centre, KM Centre
Environment	Government Policy, Organizational Policy, Faculty, administrator, student

Root Definition of relevant purposeful activity systems

> *"A KMS owned by university for the faculty, administrator and student to manage organizational knowledge supported by appropriate KMS applications & technologies to ensure knowledge can be captured, stored, disseminate and utilized across organization with the convergence of electronic network and social network environment."*

After understanding of the 'wholeness' real world situation under study, the MP theory is adopted to explore and identify the issues of KMS approach in each four cases. The exploration of MP theory is done to identify the potential issues of T perspective, O perspective and O perspective from the real world situation in their KMS approach, as depicted in Table 4.

Table 4
Exploration of MP Theory in Real World Situation of Four Case Studies

Case	Real world situation of KMS	Exploration of MP Theory in KMS issues		
		T	O	P
A	Relatively low KM awareness. The term of KM seems complex and problematic to employ to the institution. ICT project emphasizes on the management of information rather than knowledge which comprises of past and current information. This institution is in the initial planning of developing a knowledge repository to leverage their organizational knowledge.	• Difficult integration of various independent systems. • Limited functionality and capability of legacy systems. • Extensive security threat from hacker and virus. • Difficult in transforming existing of client-based application to advanced web-based application. • Different database platform.	• Lack of human resource to maintain and develop various ICT requirements across organization. • Lack of expertise to invent innovative technology. • Abundance of past and present data to be managed. • Limited budget to cater for up-to-date ICT requirement. • Difficult to get access and collect knowledge from distributed data resources.	• Lack of awareness in KMS concept. • Emphasize on individual performance rather than teamwork.
B	Relatively low KMS awareness. The term of KM	• Limited functionality and capability of legacy	• Lack of human resource to maintain	• Lack of awareness in

	seems complex and problematic to employ to the institution. ICT project emphasizes on the management of information rather than knowledge which comprises of past and current information. This institution is in the planning of developing a single access portal to centralize organization information for the whole campus community.	systems. • Extensive security threat from hacker and virus.. • Difficult in transforming existing of client-based application to advanced web-based application. • Different database platform.	and develop various ICT requirements across organization. • Lack of expertise to invent innovative technology. • Abundance of past and present data to be managed. • Distributed data management system. • Assign IT manager at faculties. • Difficult to get access and collect knowledge from distributed data resources.	KMS concept. • Emphasize on individual performance rather than teamwork.
C	KMS awareness does exist since the beginning of the development of this institution. The KM Centre was developed to monitor the process KM. This institution has newly introduced the KM program to facilitate campus community to share and utilized organizational knowledge using KMS tools such as k-portal, k-bank and file bank.	• Limited functionality and capability of KMS application. • Set up KMS applications.	• Lack of knowledge sharing culture. • Limited of expertise to contribute their knowledge in repository. • Lack of human resource to maintain KMS approach. • KM centre much depend of ICT centre to develop KMS application. • Initiate KMS program.	• Lack of sharing attitude. • Emphasize on individual performance rather than teamwork.
D	Relatively low KMS awareness. The term of KMS seems complex and problematic to employ to the institution. ICT project emphasizes on the management of information rather than knowledge which comprises of past and current information. This institution is in the initial planning of exposing KM awareness among head of departments to strengthen their KM approach.	• Difficult integration of various independent systems. • Difficult in transforming existing of client-based application to advanced web-based application.	• Lack of human resource to maintain and develop various ICT requirements across organization. • Lack of expertise to invent innovative technology. • Limited budget to cater for up-to-date ICT requirement. • Distributed data management system. • No IT representative at faculties and departments.	• Lack of awareness in KMS concept. • Emphasize on individual performance rather than teamwork.

Developing Conceptual Model

The conceptual model is concerned on the human activities with the supporting technology in enhancing KMS implementation. This model will explore a wide range of KMS based on MP theory. The conceptual model is to highlight the gap of the current processes and find improvement to the desired objective.

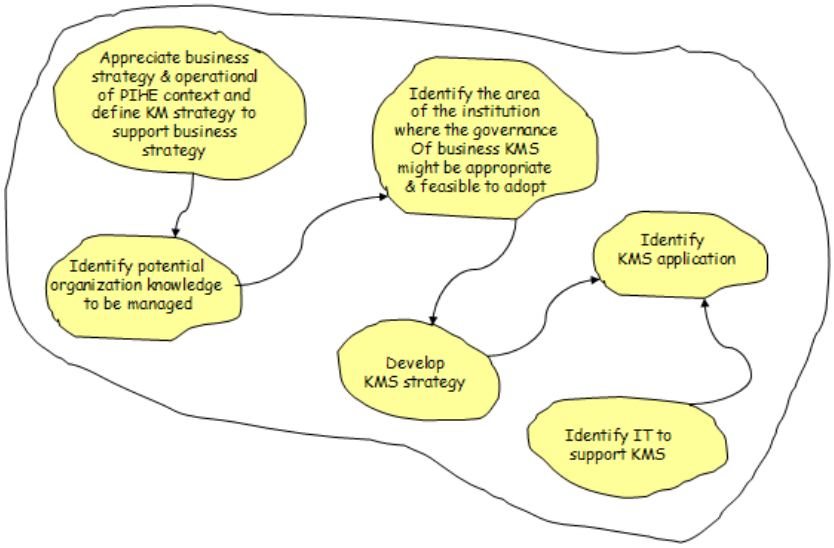

Figure 2
Conceptual Model of KMS strategy

Comparing Conceptual Model and Real world

The investigation from the comparison stage to find how conceptual model compared to real-world situation, allowed the researcher to get a clear picture of the complex situation involving various factors incorporated management and technical issues to be improved. This is where the exploration of MP elements plays a crucial role in deciding on how T, O and P elements will influence the potential solutions to improve the current situation that consider technical issues of KMS technology and non-technical issues of management and human affairs. The exploration of the holistic concept in MP theory was an effective way to identify both the technical and non-technical needs that could be improved to ensure the success of KMS implementation. This exploration process will identify which components within the KMS strategy needed to be supported more in KMS technology, which components might be required to change in organizational culture or business process. The process will also identify which components of personal perspectives that need to be improved in certain ways to ensure each individual within the organization will contribute to the success of KMS implementation. In addition the information from literature in exploring MP of KMS is adopted to identical the potential element of T, O, and P perspectives contribution in KMS strategy also contributed to support the finding of this case study. Table 5 listed the comparison of activities in conceptual model with the real world to achieve the potential situation on KMS strategy by exploring MP theory.

Table 5
Analysing Conceptual Model with Potential of MP Theory in KMS strategy

Conceptual Model	Exploration of MP Theory of Potential KMS strategy		
	T	O	P

Appreciate business strategy & operational of PIHE context And define KM strategy to support business objectives.	• Identify the potential knowledge resource	• Identify KM as one of business strategy components for competitive advantage in global, competitive and dynamic environment.	• Inculcate organizational personal strategy to become competitive by leveraging organizational knowledge.
Identify potential knowledge to be managed.	• Identify potential organizational knowledge such as expertise, experience, lesson learned, best practice, and intellectual asset. • Develop knowledge repository.	• Develop KM governance to identify the mechanism of capture, store, disseminate and utilize knowledge	• Foster KM culture among staff to instil knowledge sharing attitude.
Identify management of KMS.	• Mapping organizational knowledge. • Develop knowledge taxonomy. • Identifying personalization needs. • Identifying security level.	• Develop knowledge centre/unit/ department. • Create KM policy. • Restructure KM Governance (CKO, KM manager, etc) • Provide KM incentive. • Provide KM program: KM awareness • Encourage collaboration work across functional areas. • Foster knowledge sharing culture. • Embedded KM in product, services or processes.	• Develop social network(virtual community: Community of practise.) to encourage attitude of staffs to communicate and share same interest and understanding using the systems
Identify KMS application	• Search engine application. • Document Mgmt application. • Security management application. • Metadata dictionary application. • Knowledge map application. • Key word management application.	• Develop knowledge contribution assessment application. • Create content management application. • Develop knowledge tracking application to identify usage of knowledge. • Develop groupware application (email, e-discussion, e-forum) • Develop messaging application for push knowledge sharing activity.	• Develop user-friendly application to influence user attitude to adopt the systems. • Develop personalize content and identify user needs to make their value of the systems.
Identify IT to support KMS strategy	• Set up advanced and intelligence Internet, Intranet, Network, security control, web-based technology	• Identify diverse IT requirement from various functional areas across organization.	• Supply appropriate IT equipment to all staffs support various job activities to them perceived the benefit of technology.

Changes For Systematically Desirable and Culturally Feasible

The investigation from the comparison stage to find how conceptual model compare to real-world situation, allow researcher to get the clear picture of the complex situation that involving various factors to be improved. The action for the improvement should consider the various subjective points of view among various stakeholders to ensure the KMS strategy formulation fit with the unique business operation and working culture. This will be achieved in this study by getting connection from the previous rich information of cultural stream analysis about organizational context. This organizational context in parallel generate a wealth of information concerning on social relation and political issues that indicate implicit and explicit management issues within the context under study. Table 6 summarized the potential change of the four case studies based on MP formulation of KMS strategy.

Table 6
Potential Changes of MP Formulation of KMS Strategy in Four Case Studies

Conceptual Model	Comparing with Real world Case A, B, C, D	Exploration of MP theory of potential changes KMS strategy		
		T	O	P
Appreciate business strategy & operational of PIHE context and define KM strategy to support business objectives.	**Case A, B, and D :** Not currently done. **Case C:** Employ KM approach to differentiate its strategy from other PIHE.	**Case A, B. C, D** Should do all the changes	**Case A, B. D** Should do all the changes	**Case A, B, C, and D** Should do all the changes
Identify potential knowledge to be managed.	**Case A, B, and D :** Not currently done. **Case C:** Employ E-management enhance business process.. Sharing lesson learn, documents, files	**Case A, B. D** Should do all the changes **Case C:** Should do all and Explore other potential knowledge such intellectual asset, experienced, best practice.	**Case A, B. D** Should do all the changes	**Case A, B, C, and D** Should do all the changes
Identify management of KMS.	**Case A:** Assign CIO **Case B:** KM unit in ICT center. Not currently done. **Case C:** Assigned CKO, KM Manager, Develop KM Center, Introduce KM program, develop knowledge taxonomy **Case D:** Introduce KM awareness	**Case A, B. D** Should do all the changes **Case C** • Mapping organizational knowledge. • Enhance knowledge taxonomy. • Identifying personalization needs.	**Case A, B. D** Should do all the changes **Case C:** • Create KM policy. • Provide KM incentive. • Enhance KM program: KM awareness • Encourage collaboration work across functional areas. • Foster knowledge sharing culture. • Embedded KM in product, services or processes.	**Case A, B. C,D** Should do all the changes
Identify KMS application	**Case A, B, and D :** Not currently done. **Case C:** Develop K-portal, K-bank, K-file,	**Changes for Case A, B. D** Should do all the changes	**Changes for Case A, B. D** Should do all the changes **Changes for Case C:** Should do all the changes and enhance existing application and improve related application	**Changes for Case A, B. C,D** Should do all the changes
Identify IT to support KMS strategy	**Case A, B:** Mixture of legacy and advance technology **C and D :** Current and advanced technology	**Changes for Case A, B. C, D** Should do all the changes and Upgrade IT equipment and improve network infrastructure.	**Changes for Case A, B. C,D** Should do all the changes	**Changes for Case A, B. C,D** Should do all the changes

This process determines the potential elements of KMS strategy culturally desirable and feasible according to the alternative implication with exploration of MP theory that is unique to the context under study.

6.0 Take Action to Formulate KMS Strategy

Having identified a wide range of issues and potential solutions to be improved, the action for the improvement is not a one-size-fit-all solution but it is a flexible process of formulating KMS to fit with the unique business operational and working culture. For any action of formulating KMS strategy the organization should consider the holistic approach to incorporated management aspects, human issues, and technical requirement related to the organizational context.

7.0 Discussion

Initially, the assumption of grouping these four cases into the older PIHE group and the newer PIHE group was designed to generate same concept of formulation KMS strategy according to their groups. However, the real situation demonstrated that three of the case studies basically had the same problems of formulating KMS strategy according to their organizational context and only one case study show the higher level KMS initiative within its organization. Two cases come from older group and one case comes from newer group. The issues of older PIHE groups highlighted more issues on T perspective, O perspective and P perspective of KMS strategy. Considering the age of establishment the old PIHE group is currently has mixed advanced systems application with traditional system applications including legacy database and network infrastructure. These issues require more technical aspect of KMS strategy compared to the other group. Furthermore, the older PIHE group has to concern more on O perspective of KMS strategy to structure the KMS governance and inculcate knowledge sharing culture from their existing established organizational structure and culture. The older PIHE group also needs to emphasize more on P perspective to inculcate KMS awareness on attitude of knowledge sharing culture among staffs from existing nature interaction into social network environment to create community of practice to exchange idea and knowledge in virtual environment.

Conversely, the newest PIHE group provides two different environment and issues of formulating KMS strategy. Case C has extensive of KMS initiative within the organization and Case D is in the initial step of introducing KM awareness to all the senior executives. Thus, case D requires more of T perspective, O perspective and P personal perspective elements of KMS strategy compared to Case C. Since Case C has a foundation of KMS strategy for entire campus community. The T perspective of KMS strategy in Case D is concerned on developing relevant KMS application as well as improving current network infrastructure and IT facilities. For the O perspective in the Case D, organizational context needs to create KMS governance in organizational structure to monitor overall KMS initiative. In addition, the P perspective of KMS strategy is to ensure all level of employees in the organization understands the approach of KMS to ensure their contribution to the success of KMS implementation. On the contrary, the Case C require less of T perspective, O perspective and P personal perspective elements of KMS strategy since this institution has the foundation of T perspective by developing several KMS application such as k-portal, k-bank, and k-file. Therefore, within the T perspective, this institution should identify other relevant systems to enhance and add new KMS application to support more capability of existing KMS application. For the O perspective, Case C also needs to enhance KMS governance structure to control entire KMS implementation and program. The P perspective of KMS strategy in Case C is to create community of practice to communicate and share their ideas via electronic network environment.

Other than the MP elements, there are external factors comes from government policy and global environment demand influenced the process of formulating KMS strategy in Malaysian PIHE context. These factors concerned on the business direction of Malaysian PIHE to become world class university in this global and dynamic world.

8.0 Conclusion

In conclusion, the MP theory has been used to create a foundation for holistic way to formulate KMS strategy by combining both technical and non-technical issue. Knowledge management systems literature from

diverse disciplines has clearly point out the important of each element in theory in influencing KMS strategy. The objective of this paper is to show how SSM could support the analyzing data in multiple case study sides and unique real life problem to formulate KMS strategy that consider the soft and hard elements of the organization. SSM approach is trying to find improvement for a problematic situation rather than finding a solid solution to that problem.

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