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Factors Influencing Knowledge Management Implementation in Secondary School: A Case Study in Malaysia

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ABSTRACT: In Malaysia, there has been a lack of empirical studies that highlights knowledge management in secondary school context. Hence, the purpose of this research is to examine the factors that is influencing knowledge management implementation in a secondary school context. The researchers are the instruments and have employed a qualitative case study approach to conduct this research in a selected secondary school in Kota Kinabalu, Sabah. The informants consisted of two language teachers, two ICT facilitators and the school principal. Data were collected through semi-structured interviews, participant observations and document analysis for triangulation and to enhance the trustworthiness of the research findings. The data was then coded, categorized and analyzed into themes through an iterative process. The findings showed that most of the knowledge in school was documented using filing system without uploading to a knowledge repository for future knowledge sharing and leveraging. The major factors emerged from the findings showed that teacher's behaviour, the role of leader and ICTs expertise team were the main factors in determining the success of knowledge management implementation in the secondary schools. In this study, the lack of developed knowledge management model in the selected secondary schoolwas one of the main challenges of the research which effects the process of collecting data. Hence, this paper provides an in-depth understanding of the factors influencing the knowledge management implementation in secondary schools which in turn would provide a better guideline in making knowledge management initiative a success in the secondary school context.

Keywords: Knowledge Management, Knowledge Sharing, Knowledge Repository.

I. INTRODUCTION

The importance of knowledge management (KM) in today's learning organizations should be given first priority on the ground that the success of the economies in the future is going to be based on how effective organizations identify, value, create and evolve their knowledge assets [101, 44]. Knowledge is being considered as meaningful intangible resources and become the valuable asset of the new economy as the world moves towards a knowledge-base economy [63, 82]. Thus, to adapt a fast-paced global environment, our society needs to produce human capital who are qualified, creative, self-assured and knowledgeable [48]. Knowledge is truly re-usable and can be integrated in many different ways in order to maximize its value [120, 29]. [111] mentioned that knowledge and management has a significant impact in developing innovation, and it can be adapted in an educational institution to reinforce innovation within the educational institution. After all, researchers and practitioners do agree that every working community has the capability of being proactive, motivated and involved, provided that the working environment must adequately support this[109]. In the light of this matter, the Malaysian government has foreseen the needs and has taken enormous efforts in aiming towards a higher quality education system.

In the recent Malaysian Education Blueprint (MEB) 2013-2025, the Ministry of Education has emphasized the continuous of professional development with compiling a e-Guru video library of exemplary teaching hosted on online portal and the implementation of Frog Asia on 1 Bestari Net. The main aspiration is to create a peer-led culture of professional excellence where teachers mentor and inspire one another and share best practices to increase the teaching profession and school performance as well (MEB, 2013-2025). Many activities and programs were carried out by school leaders and teachers to improve their competencies such as action researches, lesson study and sharing through professional learning communities (PLCs) throughout the years.

To preserve this valuable tacit and explicit knowledge, every school needs to practice knowledge management in order to upgrade the school knowledge as part of their professional development process in enhancing the teachers and the schools performance. After all, knowledge sharing does have a positive impact on task efficiency and productivity [68] in schools. However, knowledge are hardly shared and leveraged by others in school without a well-managed knowledge repository. Hence, it is necessary to clarify the importance of knowledge management practice in the secondary education system to make sure the knowledge is fully shared and utilised to improve each individual and school performance as well [30, 80, 123, 97].

The benefits of knowledge management efforts have been demonstrated in many previous researches in the academic world especially higher learning institution [48, 2, 75, 91] and High Performing School [30, 80, 1, 97]. These data empirically showed many organizations have recognized that creation, sharing and management of knowledge are crucial for their success in the rapid changing environment [6]. On that account,

secondary schools also need a knowledge management system in order to be more competitive and relevant to rapidly changing environment.

Statement of Problems

Human resources are becoming more and more dynamic and experienced teachers leave the schools with their tacit knowledge [31, 65]. Knowledge lost mainly due to improper knowledge transfer and knowledge sharing by teachers in managing their knowledge, the retirement and resignation of experienced teachers [94]. The ineffective knowledge storage causes the inability of knowledge to be shared and retrieved by anyone in school who needs it at anytime and anywhere [46, 99]. In addition, teachers have no spare time to practice knowledge management in schools. A survey carried out by the ministry in year 2011 found that teachers' long working hours has caused the proportion of time spent for sharing knowledge to be relatively low (MEB, 2013-2025).

Therefore, at this moment the challenge is how to make knowledge accessible to which it currently resides within the school teachers and it is particularly important to capture this information before the individual teacher leaves the school or retires [77]. One of the difficulties to implement knowledge management is the process of capturing and transferring knowledge from one individual to another [92, 106]. Eventually, this might lead to knowledge lost without knowing. When new teachers join in the profession, they are unable to know at a glance what are being practiced and what are the relevant knowledge that they should know beforehand in order to work more effectively and efficiently in the new environment. Over and above, knowledge management could be an alternative to avoid work redundancy, prevent repetition of errors from the past, reduce training cost, and indirectly improve the educational decision-making and most importantly, to enhance teaching and learning process. Moreover, [109] also added that a digitally-mediated knowledge management requires less physical space for it to store and share knowledge for the whole working community to use. Hence, this has come to the purpose of this research to explore the knowledge management implementation in secondary schools.

Research Purposes: Previous researches have shown knowledge management researches mainly focus on large organizations and higher learning organizations. There is a lack of empirical research study on knowledge management implementation from a Malaysian perspective especially in secondary school context [80, 1] and the knowledge management adoption is relatively slow in secondary schools [64, 71, 121]. A study has been conducted which explicitly called for researches to focus on knowledge management in a school environment [30]. Therefore, this research attempts to fill the gap by looking into the current knowledge management practices among teachers in secondary schools and develop a better understanding of what are the factors influencing the knowledge management implementation in the secondary schools. Having an understanding of the factors influencing the knowledge management implementation provides a better framework to achieve the success of knowledge management initiatives.

Research Objectives: To seek for the better understanding for the problems stated above, the researcher has underlined the following objectives to further the research.

1. To examine the knowledge management implementation in a secondary schools in Malaysia.
2. To identify the factors influencing knowledge management implementation in a secondary school.

Research Questions: The following research questions have been identified to achieve the research objectives.

1. What are being practised by the secondary school teachers in implementing knowledge management?
2. What are the factors influencing the knowledge management implementation in the secondary school?

II. LITERATURE REVIEW

Knowledge:

[95] as cited by [11] described knowledge in two forms, namely tacit knowledge and explicit knowledge. Tacit knowledge is unstructured knowledge which resided within a knower's mind [40] and is related to individual's habits, skills and beliefs which are hard to measure [44, 25, 85, 105]. Tacit knowledge is the most important asset for both organizations and individuals for it is difficult to be imitated and leads to competitive advantages [18, 85, 44]. Explicit knowledge, on the other hand, is the structured knowledge which can be directly expressed by knowledge representations, usually articulated in the written form and can be easily observed and measured [39, 105]. In schools, knowledge resides in educational systems, educational operations, innovation systems, thus it is dynamic and fluid in organization processes and practices [93] and need to be well managed.

Knowledge management (KM)

Researchers believe that knowledge management (KM) is a formal process that engages an organization's people, processes, and technology in a solution that captures knowledge and delivers it to the right people at the right time [46, 86]. According to [35], the objective of developing a knowledge management model is to create knowledge repository and attempt to improve knowledge access and knowledge culture by identifying and sharing knowledge that the organization holds knowledge management is the practice of harnessing and exploiting intellectual capital in order to gain competitive advantages and customer commitment through efficiency, innovation and effective decision-making [104, 44]. [44] define knowledge management as a systematic process for acquiring, organizing and communicating both tacit and explicit knowledge so that employees may make use of it to be more effective and productive at work. To summarizes, knowledge management refers to a multi-disciplined approach to achieving organizational objectives by making the best use of knowledge through the process of acquisition, transferring, repository, retrieval, sharing and leveraging [35, 47, 48].

One of the more common issue is that knowledge management is often viewed as something that is hard to be distinguished with information management. In order to better understand knowledge management, it is important to understand the difference between knowledge management and information. The differences between knowledge management, information management can be summarized in the following table.

Table 1: Differences between knowledge management, information management.

Information management	Differences	Knowledge management
People-to-information interface.	**Optimization**	People-to-information and people-to-people interfaces.
Explicit knowledge as knowledge objects.	**Management**	Processes involving both explicit and tacit knowledge.
Driven by ICT or information and communication technologies.	**Tools**	Driven by ICT and behavioral technologies.
Actionable and non-actionable information.	**Information focus**	Actionable information.
Speed, categorization, automization.	**Advantages**	Learning, sense making, creating, sharing, thinking together.
Useful but easy to copy and with less substance.	**Disadvantages**	More likely to lead to innovation, computer advancement and more, but hard to copy.

As the difference between information management and knowledge management has been clarified, it can be simplified that knowledge management is process in which organizational knowledge is effectively acquired, shared and utilized [67]. In other words, it can be concluded that knowledge management is a process where social aspects is integrated with information and communication technology.

Knowledge Management in Malaysian Schools and In Other Countries

In Malaysia, most school teachers from all over the country perceive that knowledge should be stored using the conventional method such as hard copy documents and information boards rather than using electronical devices as there is still a shortage of ICT facilities in some the schools that they are teaching [12]. From the same study, it is also found that these schools from where the teachers are teaching, have a perfectly functioning ICT facilities, with databases that stores important documents and records for the schools. The researcher also emphasized that although ICT facilities supports schools in knowledge management, it is the school culture such as leadership commitments, openness of the school community to share knowledge as well as an encouraging learning environment that really helps the generativity of the schools' knowledge management. Meanwhile, a study which took place in a secondary school in Taipei City, Taiwan observes the knowledge management process model and process-based knowledge management system for schools [69]. By the end of the observation it was revealed that the process-based knowledge management system of the school and the application of knowledge communication, sharing and feedback are found to be feasible and efficacious in managing knowledge. Nevertheless, the findings of the study also revealed that the use of their current process-based knowledge management system lacks many aspects such as insufficient knowledge categorization, poor variety of knowledge content, and limited features within the knowledge management system. This leads the researcher to conclude that the school from Taiwan needed their system to be more developed in order for the process of knowledge managememt to be effective.

Despite the growing importance of knowledge and its management in the education sector, there has been a limited amount of research on knowledge management especially in secondary schools, except for studies in countries such as Malaysia, Japan, Iran, India and the United Kingdom [115] which has contributed the most in the literature of knowledge management generally in education. Even so, there is still a noticeable research gap in identifying the contributing factors of knowledge management in secondary schools. Hence, the purpose of this research is to examine the factors that is influencing knowledge management implementation in a secondary school context and at the same time contribute to the limited body of literature in this particular research area.

III. CONCEPTUAL FRAMEWORK

Researches conducted in the past based on a Malaysian context suggest that knowledge management is known as a process involving the collection of information, storage and retrieval, distribution, exchange, and application of knowledge [96]. After a thorough review on the Malaysian education context, it is revealed that there is a parallel to[85] SECI Model. The dimensions of knowledge management are highlighted in Nonaka and Takeuchi's SECI Model. Hence, these dimensions of knowledge management were adopted as the central idea of this study.

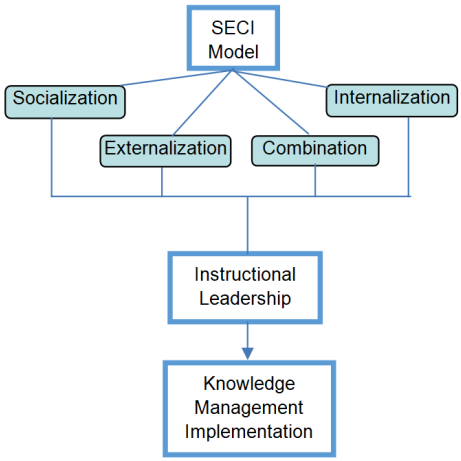

Fig. 1. Conceptual Framework.

In knowledge management implementation, knowledge creation and transfer plays an essential role. [85] proposed four modes for knowledge creation and transfer through SECI model; *Socialization–Externalization–Combination–Internalization*.

Socialization is the process of sharing experiences by individuals and creating tacit knowledge and involves exchange of individual experience and knowledge[85, 14]. *Externalization* refers to the process of articulating and transforming tacit knowledge into the form of explicit concepts which can be understood and becomes a

group's asset [87, 89]. This, according to [84] is 'crystallised' tacit knowledge. *Combination* is the synthesis process of creating explicit knowledge by bringing together explicit knowledge from different sources to generate new explicit knowledge [85, 43] to become a common property in the organization which is a valuable source for decision making and planning[34, 87]. Finally, *Internalization* refers to the process of embodying explicit knowledge into tacit knowledge through learning by doing daily work [85, 43]. In conclusion, knowledge is creative, dynamic, adaptable and transferable and effective knowledge management strategies in schools must emphasize the role of knowledge transfer and knowledge sharing to achieve maximum results for whole organizations performance [63, 98, 13]. Knowledge management in this research is synthesized as a formal process that engages an organization's people, processes, and technology in knowledge acquisition, knowledge transfer, knowledge repository, knowledge retrieval, knowledge sharing, and knowledge leveraging through the SECI Model proposed by [85] to capture knowledge and deliver it to the right people at the right time [44].

Theory of Innovation Diffusion and Theory Rate of Adoption

Theory of Innovation Diffusion best describes the process in which an innovation is communicated through certain channels overtime. The innovative ideas diffuse amongst the population until a saturation point is achieved among members of a social system and the rate at which people embrace new technology seems to be always increasing [100, 83]. Theory Rate of Adoption theorizes that an innovation goes through a period of slow but early adopters, reaches take off as gradual growth before experiencing a period of rapid growth[100, 83]. Individual's subjective perceptions towards the innovation such as ease of use will influence the diffusion [100, 117]. Thus, the Theory of Innovation Diffusion and the Theory Rate of Adoption can help the school principal and teachers to determine the best adoption pace to maximize their return.

Instructional Leadership

The role of a leader has been identified as one of the critical success factor in implementing knowledge management in educational institutions [9, 59, 75, 91, 97]. An effective leadership is a vital mediator in organizing and managing school programs which is aligned with global changes [91, 103] besides developing and enhancing teachers' competency and effectiveness through mentoring and professional development training [42, 73]. Knowledge oriented principal should inspire the teachers to be involved in knowledge creation and transfer [26, 108] besides knowledge sharing among teachers [21, 42, 2, 97].

Instructional leaders has adopted a top-down approach [15, 56] and is involved directly in coordinating, controlling, supervising, and developing curriculum and instruction in the school [51, 52, 79] to improve students' academic outcomes. They are perceived as the culture molders in school [22] and needs to be ensured that school missions and visions are supported by school stakeholders, to involve and engage in the school's instructional development, and to create a conducive climate that supports teaching and learning by continuous improvement [49, 50, 60, 17] described that instructional leadership uses the school goals to benchmark in order to create a successful school. The emphasis of instructional leadership in Malaysian Education Blueprint has shown that school principal has to be well prepared to maximize the decision-making flexibilities on improving curriculum and co-curriculum planning as well as administrative leadership matter (MEB, 2013-2025).

IV. MATERIALS AND METHODS

The research questions were answered by employing a qualitative methodological choice with inductive approach through a case study strategy to identify the common perceptions and a holistic understanding about the factors influencing knowledge management implementation [32, 33, 45, 122]. The researchers as the research instruments [90] have adopted purposive sampling where the informants for interviews consist of two language teachers, two ICTs facilitators and the school's principal. A partially structured interview with open-ended questions was employed to probe for rich and reliable descriptions from the informants. Besides, unstructured interview with two selected teachers through snowballing were carried out during the participation observations on how to create and share knowledge using *FrogAsia*. Key documents such as filing documentation and the *FrogAsia*programme were reviewed to have a better picture on the topic discussed. Data collection and analysis proceed simultaneously through iterative process [122]. The collected data will be analyzed through open, axial and selective coding to illustrate the emerged themes [33]. Member-checking by two colleagues and supervisor were involved in examining the interview protocols and the sub-theme emerged from data analysis. Field notes were added to cross-validate data for triangulation purposes [81].Triangulation through difference of perspectives were carried out to increase the trustworthiness of the research findings[38, 90].

V. RESULTS AND DISCUSSION

Knowledge management Implementation in Secondary School

From the cross-check analysis, the findings showed that knowledge acquisition, transfer and sharing were carried out mostly through meeting and in-house training as scheduled in the school programs. Most of the sharing sessions focus on administration affairs, teaching professionalism development and curriculum pedagogy such as panel meetings, staffs meetings, action researches, lesson study, training on *FrogAsia* programs, professional learning communities (PLCs) and many others. From the key document analysis, most of the reports on the sharing matters were documented in files and was organized by the respective panels and departments before it was sent into the documentation room where most of the files are arranged according to the respective subject panels. The researchers hardly could find the evidence of knowledge sharing materials uploaded in school knowledge repositories such as school, *Facebook* and *Frog Asia* for sharing purposes. For example, the reports on the best practices of lesson study, headcount analysis and base line data, professional learning

communities among schools, executive reports on panel and department activities, post-mortem analysis for students' results throughout the years and many more were only documented in hardcopy. This important tacit and explicit knowledge resides in a filing system that is not easy to access at anytime and anywhere.

Based on all the interviews, research findings showed that there were three common factors that is influencing knowledge management implementation in this secondary school emerged from the cross-check finding. These factors consist of teachers' behaviour, the role of leader and the ICTs support.

Teachers' Behaviour

The cross-check findings showed that teacher's attitude emerged as a dominant factor in influencing knowledge management implementation in this secondary school. All informants commented that teacher's attitude is very important whether they want to perform the task or not. Through observations, sharing documents through repository were done only by a few early adopters who were good in ICTs skills. They explained:

"In my case, whenever I have to do a report, my head of panel will insist me to save in CD and give it to her. She wants things to be stored and kept properly for easy retrieval by others in future." (SMC, Teacher Ben: 166-167)

"…but if they really put effort on it, they can use it. If u really feel that this way actually give you simple and good way to help, if the teacher feel that this thing is good, they can learn no matter how." (SMA, Teacher Pamela: 72-74)

"It depends on own self awareness…Commitment of ourselves..on how to improve our performance. Some of teachers can work on their own. Some like to be pushed." (SMB, Teacher Rina: 176, 264,285)

The ICT facilitators reported that teachers will practice knowledge management if they perceive that the practice would indeed help them to share knowledge faster with easy access through the knowledge repository. The principal also commented that teachers commonly have positive attitudes and are willing to accept change if the change comes with a proper guidelines and is not too drastic. Those teachers with good ICTs skills showed their initiative to guide those who were not with it. Few senior teachers took part as well even though they will be leaving school very soon. The teacher claimed:

"Yes, is me…who started the Facebook for the English Panel." (SMD, Teacher Elton: 67)

"But, for example for me, I love the alternative approach, the modern method, its faster conventional method. Even if you lose your documents, it is still there, in the virtual world…So I try to do for my English Panel, I want to make it more accessible regardless your location. So as long as you are connected to your internet, it will be very convenient to access to the information, but not all teachers actually doing that." (SMD, Teacher Elton: 44-49)

However, a few teachers through the informal interview responded that they were not comfortable with this new managing knowledge method due to time limitation, workload factor, ICTs illiteracy and their preference to the existing filing system in documentation. They put it:

"…because of their attitude. Some of them are easily put off by... factors like not enough time, got classes, impatient, they don't have the tool, for example, laptop, and they are scare to use their own laptop for school purposes due to fear of virus..Those are some of the barriers." (SMC, Teacher Ben: 239-242)

"The senior teachers don't really know about the computers as compared to the beginning teachers. Beginner teachers exposed to the software, to computer specifications, so all this computer and laptop themselves it plays certain effects, so the younger generation…they easily adapt and embrace change…even like you try to teach them (senior teachers), they just say that is too difficult." (SMD, Teacher Elton: 157-160)

"We also lack of cooperation from teachers to use FrogAsia. They still use their old email, not the new one that I invented for the whole school." (SMC, Teacher Betty: 163-164)

The Role of the Leader

Based on the cross-check analysis, all informants agreed that school principal should provide a conducive environment for teachers to share their knowledge. The ICT facilitators mentioned that not much initiatives from school teachers to implement knowledge management at the initial stage.

"If you ask about what should be done then, I think is more on the management side to decide adopt knowledge management…need support from higher authority." (SMA, Teacher Faye: 100, 260).

"If the principal have the strong passion for innovation and push the teacher-in-charge, of course, all teachers will involve... Knowledge management very much depends on principal." (SMB, Teacher Heng: 147-149)

"So far no extra actions have been taken by the principal if the teachers do not upload into the main page of FrogAsia." (SMC, Teacher Siti: 255)

Only when the principal set it as a requirement, then the teachers would start to upload sharing documents to the repository gradually. Otherwise, the heavy workload would not set them up to do so, even though they were able to perceive the usefulness of knowledge management practice. This was triangulated through the principal's comment that the school has no choice but has to push and move the teachers looking forward and adapt to new changes in their practices. The principal also commented that as instructional leaders, certain regulations must be forced to implement for the purpose of improving the education system.

"If the leader says I want this, everyone has to do it. Therewill be no point for me to start this if the leader himself doesn't believe in this tool to help out the teachers." (SMD, Teacher Elton: 109-110)

"The principal should have a grand strategic plan, able to push the teachers…if the leader don't want to do that, then very hard to implement." (SMB, Teacher Heng: 210-212)

The Role of ICT Support Team

The results findings showed that ICTs facilities including hardware and software support were not a main problem in this school, but lack of ICT expert team has emerged as a dominant factor in influencing knowledge management implementation in this school. All informants recognized that the school should have a proper internal network to expose teachers to knowledge management. They stressed the importance of ICT expertise team to promote the knowledge

management practice, guide the teachers on how to store, retrieve, share and leverage the knowledge possessed by the school repository.

"Someone must lead and start to guide teachers to do so. A good system and planning is needed. Upload to where, how to share, for this purpose only… ICTs and expertise team to guide also important." (SMC, Teacher Betty: 202-203)

"If someone explains to them, they will expose to knowledge management and would think it as a positive thing to carry out…because teachers not really exposed to ICTs…everybody can adopt and apply knowledge management but must have somebody to explain to them what it is about." (SMA, Teacher Faye: 128-141)

Observation findings showed some teachers felt discouraged and frustrated in implementing knowledge management because they faced difficulties in handling ICT. The ICT facilitators agreed that teachers can perform better if they were trained properly to perform the task. The principal admitted the school is in a need of an ICT expert team who can really guide the teachers to make this best practice to the fullest.

"ICTs support is not a problem in this school, but the team (expertise team) is very important." (SMA: Principal: 41)

VI. DISCUSSION

The result findings have showed that the school still practising conventional method in managing tacit and explicit knowledge where knowledge is still documented in filing system and most of the documentation are kept in documentation room for future references without uploading to knowledge repository. Even though these schools often organized meetings and in-house training as part of their professional development to encourage knowledge acquisition and knowledge transfer, yet, the knowledge repository and knowledge leveraging in these schools is still considered limited because the school has not applied an appropriate knowledge management approach in managing knowledge yet. School teachers, with different educational background and experiences, hold rich tacit and explicit knowledge with them when they run the school activities besides handling teaching and learning processes. Their valuable knowledge if not shared and leveraged is considered as worthless [24] and eventually becomes obsolete and needs to search for a new one [105, 20] and according to[41], the nature of knowledge is obsolete if unused. Hence, externalization through knowledge management practice makes knowledge accessible for teachers in schools. They could avoid the historical mistakes made by others in the past, take precaution steps in running projects or avoid redundancy work in schools' activities and making academic decisions and problem solving [119]. Hence, knowledge management practice is crucial to support novice teachers [30]. The following section discusses how the findings of this research is aligned with previous studies on the factors of knowledge management implementation.

Teachers' Behaviour

Teachers' behaviour is an influential factor in implementing knowledge management where teachers must voluntarily take initiative to share their tacit and explicit knowledge with others through different channel or method of communications. Even though technology has become a vital part of everyday life, there is still some resistance from the school teacher to embrace it within the realm of education. The findings showed that teachers' heavy workload has caused them to have no spare time to implement knowledge management in school (MEB, 2013-2025). Due to the nature of the teaching profession being different from others professions, hence this factor emerged in research is hardly to compare to other knowledge management research findings. However, this factor has been highlighted by [1] in their knowledge management research in Malaysian High Performing Schools. Besides, teachers who perceive the usefulness and perceived ease of use in practising knowledge management in school environment will adopt knowledge management as part of their task [7, 36, 37]. This is because complexity has been found to be an important factor in the technology adoption decision [37]. Besides, teachers are more likely to be adopted when the teacher perceive that it is compatible to their job requirement and they are able to perceive the observability of the knowledge management potentials where the benefits result of practising knowledge management must be visible by them [100]. Teacher's attitude and perceived behavioural control was recognised as the most important factor directly affecting knowledge sharing intention in implementing knowledge management [8, 93].

Role of Leadership

The role of the principal should be put into place to encourage the practice of knowledge management in their schools. Findings showed that knowledge management in this school requires instructional principal who is committed in leading the school to adapt changes and to instruct new innovations to improve the school instructional programs [57, 58]. The current study correlates to a previous study in which the researcher found that the leadership behaviour of the headmaster has a significant impact on the organizational commitment of the teachers [107]. Instructional principal is needed to influence the attitude and attention of the teachers through coordinating and supervising curriculum instructions [127] to accelerate the willingness of implementing knowledge management. Instructional principal is the pioneer to make changes and are capable to convince the teachers that change is a vital need [48]. Principals should continuously support the professional learning communities (PLC) activities to encourage knowledge creation and knowledge sharing environment that accelerate the knowledge management practice [42, 73]. This is parallel to one of the strategies in the MEB (2013-2025) that instructional leadership was called for producing more effective schools with high performing teachers and students. Hence, the role of school leader has emerged as an important factor in implementing knowledge management.

Role of ICT Expertise Team

The role of ICT support team plays an important part in implementing knowledge management especially in education and this has been found in many previous researches [9, 30, 48, 2, 87]. ICTs facilitates knowledge creation [70], knowledge transfer [39, 121], knowledge repository [54], knowledge dissemination [91] and

knowledge sharing [3, 55] in the knowledge management process. There was no negative comment on the accessibility of internet. It seems that the location of this school in town area has the advantage of the internet coverage. Nevertheless, the lacking of ICT expert team in school emerged as an agenda that need to be taken into consideration. This findings reinforce the previous research findings demonstrated that lack of ICT expertise is the main problem in a Malaysian context [110, 24]. Some previous researches had shown that ICT infrastructure itself is just an enabler to knowledge management but on the other hand, ICT expertise team is the main supporters and needed to deploy, maintain and administrate the knowledge management system [23, 24, 112]. This finding has strengthened the research finding carried out by[2] that showed ICTs plays a significant influence toward knowledge management implementation in formal education.

To summarize, based on the discussion in this study, teachers' behaviour, the role of leader and ICT expertise team has emerged as the main factors that is influencing knowledge management implementation in this selected school. Even though the research design and methodology were different from other researches, however the research findings are parallel to the key dimensions discussed by [128] where knowledge management has three key dimensions which involves people, technology and the processes itself. These three elements work together in knowledge management that captures knowledge, generate knowledge, share the knowledge and delivers it to the right people at the right time [71, 99]. To make knowledge management a success, the technology component is needed to create a knowledge network as an enabler to integrate knowledge from various sources. These three dimensions have been proven as the determinant for knowledge management success as discussed in many previous researches [55]. Future research is encouraged to incorporate additional variables to establish more findings that are conclusive such as reward system and motivation system and may also look into the extent of developing school library into a knowledge centres with proper knowledge repository system.

VII. CONCLUSION

Rapid advances in technology and the growing importance of globalization are major drives to the needs of knowledge management practice. The success of education system needs the dedication and commitment of its teachers and school leaders to nurture and sustain the school excellence. It is important to make teaching a profession that is vibrant, self-sustaining and rewarding, so that it will attract and retain the very best talent that Malaysia has to offer (MEB, 2013-2025). Core activities in secondary schools are associated with knowledge creation and dissemination and the process of learning. Thus, knowledge management enables schools to create a knowledge repository which is able to facilitate knowledge access and enhance a better knowledge sharing environment. To achieve the success of knowledge management in secondary schools, the integration of process, people and technology are required for knowledge management initiative to mitigate knowledge loss and perhaps increase knowledge retention in secondary schools.

This study contributes towards identifying what issues that arises among the school community when knowledge management has been implemented in schools and how it can affect on teacher's attitude, satisfaction and performance. Past studies on knowledge management rarely focuses on how knowledge management can affect the well-being of the school community especially the teachers. Hence, this study has brought an extension to the body of literature regarding the factors surrounding on the implementation of knowledge management in secondary schools. In terms of practical implications, the findings from this paper could act as a guideline for knowledge management practitioners and researchers to study the factors that influences knowledge management implementation not only in schools, but also the in other organizations from different sectors. The teacher's behaviour towards knowledge management is said to play a significant role in sustaining a a proper knowledge management and knowledge repository system.

Therefore, more studies on the factors of teachers' behaviour in knowledge management should be conducted in the near future to give a more in-depth understanding on knowledge management for researchers.

VIII. FUTURE SCOPE

Based on the outcomes of this study, we have the following future scopes and recommendations:

a) The current research would help the schools involved to recognize the important measures to be taken in improving schools' knowledge management.

b) This study is also helpful asguideline in making knowledge management initiative a success in the secondary school context.

c) More research can be conducted through developing a knowledge management model for schools or academic institution and apply this model on a sample of students and academic staffs to measure its effectiveness.

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