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Article

Critical success factors for knowledge repository implementation: Content, technology and promotion

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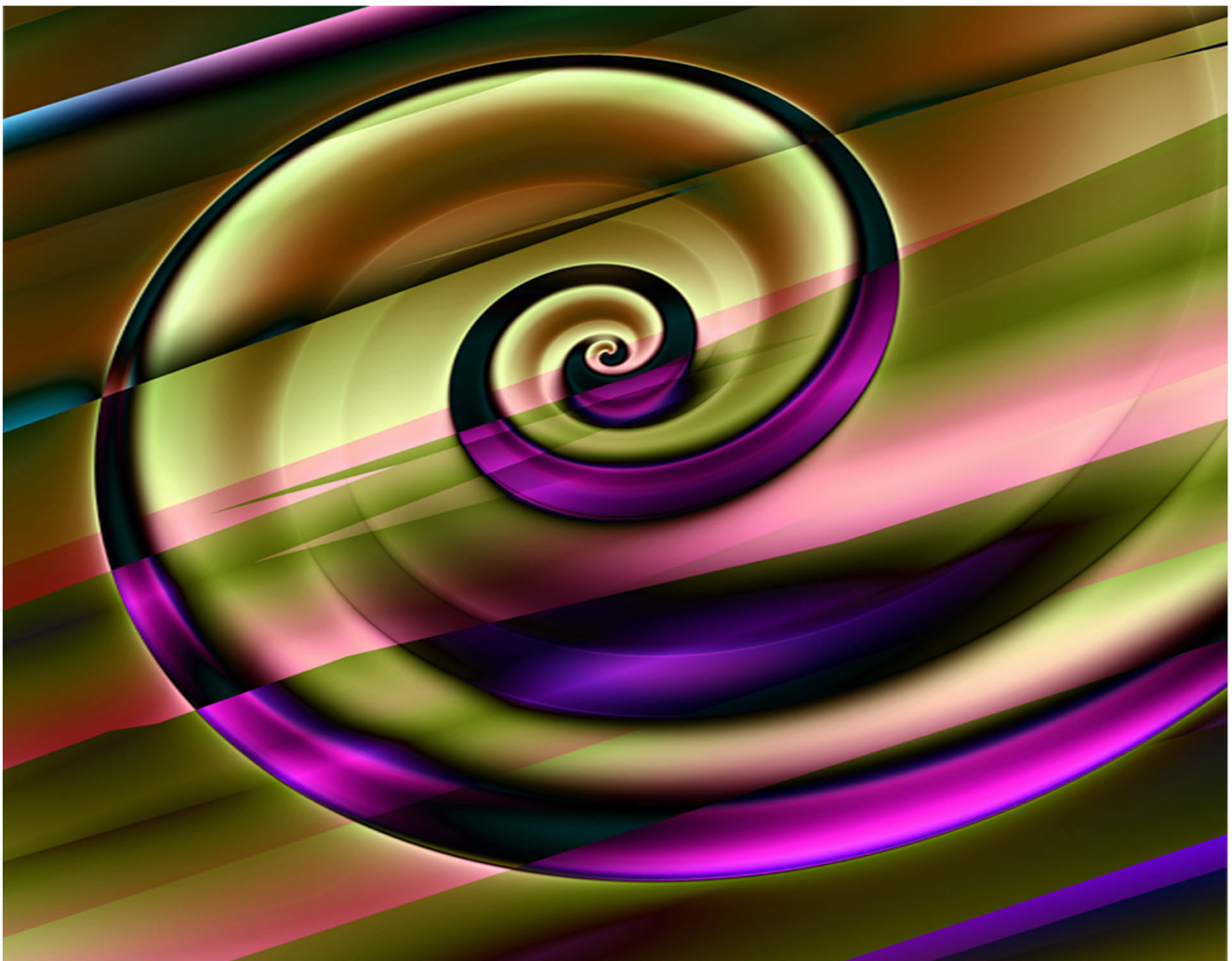
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Critical Success Factors for Knowledge Repository Implementation: Content, Technology and Promotion

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Abstract

Knowledge repository is a computerized system that maintains various digital resources to be accessed by the users electronically. Critical success factor on the other hand is defined as the crucial elements that contribute to the success of an event or organization. This paper reviews the literatures on the contributing factors of knowledge repository implementation among the users which specifically focus on the content coverage, technological function and promotion of knowledge repository besides discussing on the proposed models on the critical success factors of knowledge repository. This paper aims to study the factors that are critical or contribute to the success of knowledge repository implementation. This study is significant to the top management and employees of an organization for improving the knowledge repository service in the organization which may act as an effective tool towards the enhancement of the organization performance.

Keywords: Content coverage, Critical success factors, Knowledge repository, Promotion, Technological function

1. Introduction

Due to the rapid advancement of sophisticated technology in the world nowadays, people tend to maximise or fully make use of the technology as an effective tool in facilitating their tasks efficiently. So do the implementation or utilization of knowledge repository which enables the users to work not only easier but also faster in terms of helping them in retrieving their needed resources systematically. In order to cope with the recent and rapid advancement of technology today so that people will not left behind the others, the implementation or utilization of knowledge repository especially among the academicians and practitioners is actually crucial in assisting their tasks efficiently. This is because the knowledge repository acts as a tool to preserve the organization's academic output for long period of time (Westell, 2006). Knowledge repository is indeed one of many effective knowledge management tools that help a lot in engaging people with valuable resources by easily and promptly exposing and serving them to variety of reliable knowledge through various provision of digital resources which are available for anytime of access. The practices of repositories contribute to the improvement in all aspects of experience-based process (Schneider & Hunnius, 2003). Therefore, what is actually knowledge repository? Knowledge or institutional repository is as a digital scholarly work collection that reflect the institution or university intellectual asset and available to be accessed electronically (Westell, 2006). Due to all of these benefits that the knowledge repository can ever offer, it is important to encourage the utilization of it among the communities in order to facilitate their research or even their daily routine tasks. The rapid advancement of sophisticated technology in the world nowadays, people tend to maximise or fully make use of the technology as an effective tool in facilitating their tasks efficiently. So do the implementation or utilization of knowledge repository which enables the users to work not only easier but also faster in terms of helping them in retrieving their needed information systematically. This is because knowledge

repository acts as a tool to preserve the organization's academic output for long period of time (Westell, 2006). Furthermore, the practices of repositories contribute to the improvement in all aspects of experience-based process (Schneider & Hunnius, 2003).

This is where a vital transformation from a traditional practice of printed or physical materials to the electronic or digital materials becomes such an imperative issue to be really take into a consideration in any organization. In fact, the techniques for information dissemination have also transformed due to the advancement of Internet today (Mondoux & Shiri, 2009). Unfortunately, the shifting of knowledge sharing culture from traditional mean which is through face to face interaction to electronic mean through knowledge repository implementation is definitely not an easy task (Westell, 2006). This is then where the importance of this study takes place in identifying the critical success factors of knowledge repository implementation among the users. In order to cater with the issue as discussed above, this paper is aiming to study the factors that are critical or contribute to the success of knowledge repository implementation among the users that leads to developing a proposed framework of the critical success factors of knowledge repository which specifically focuses on content coverage, technological function and promotion of knowledge repository.

The remainder of this paper is organized as follows. Section 2 discusses literature review on the critical success factors of knowledge repository which consist of content coverage, technological function and promotion. Section 3 discusses on model comparison of the critical success factors of knowledge repository by previous researchers. Section 4 highlights the methodology. Section 5 is findings and results. Section 6 and final section contains some concluding remarks.

2. Literature Review

2.1 Knowledge Repository

Institutional repository is such a crucial mechanism for scholarly communication as it portrays the vital source of knowledge management and institutional visibility (Lagzian, Abrizah & Wee, 2015). Similarly, institutional repository is also a platform that assembles the institution digital contents to facilitate the knowledge retrieval process of its communities as well as facilitates the knowledge sharing in organization as it codified the valuable knowledge into explicit form (Ida, Tjakraatmadja & Firman, 2015). Likewise, institutional repository includes the process of managing, preserving, maintaining and disseminating the institution digital intellectual capital (Ida, Tjakraatmadja & Firman, 2015). Besides that, institutional repository is an effective knowledge management (KM) tool in higher education (HE) (Ida, Tjakraatmadja & Firman, 2015). This is because institutional repository allows for management of various scholarly digital works by the university communities in which facilitate the knowledge sharing process as institutional repository is a single consolidated integrated system that enable easy retrieval (Ida, Tjakraatmadja & Firman, 2015). "Institutional repositories" also being described in Library Journal, ARL and DLib Magazine as a medium that make available institutional research through Internet (Bevan, 2007). At the same time, institutional repository as well being highlighted as a preservation and transmission of digital materials service provided to the university communities (Bevan, 2007). Institutional repository too defined as a scholarly work collection that reflects the university intellectual asset and available to be accessed (Westell, 2006). Similarly, the intellectual asset preserved in the digital archive are being produced by the

faculty, researchers and even the students and it can be retrieved by both within and outside institution communities (Westell, 2006). On the other hand, digital repository also being described as a platform for preserving valuable contents of digital materials that can enhance not only administration process but learning and research as well (Md, 2010).

2.2 Critical Success Factors (CSF)

Critical success factors (CSFs) are being indicated as the “factors” that are “critical” to the “success” of the institution (Lagzian, Abrizah & Wee, 2015). On the other hand, CSF in knowledge management can also however act as a significant barrier for successful knowledge management approach in organization (Cahyaningsih, Sensuse & Sari, 2015). There is also research identifies CSF helps in succeed in knowledge management implementation but can also be the common failed factors of KM that can or should be improved (Altaher, 2010). Apart from that, CSF of knowledge management basically aims to improve the organizational performance (Cahyaningsih, Sensuse & Sari, 2015). Similarly, CSF is usually defined as the set of factors that are considered critical to the success of an organization (Anggia et al., 2013). Likewise, critical success factors (CSF) approach encourages managers to figure out the vital elements that are crucial for the enhancement of organization performance which also act as good indicators of performance in order to ensure the organization to keep surviving and continue to success (Altaher, 2010). In addition, CSFs as well being defined as satisfactory results that act as organization competitive advantages and will lead to the success of organization performance. For decades, western scholars began to pay attention to implement CSFs on knowledge management (Gai & Xu, 2009). Therefore, the organization should come out with a proper knowledge management system integrated with certain technologies tools such as knowledge base, collaboration, content and document, search and e-learning. The system should be simple, convenient and suitable to users’ needs (Gai & Xu, 2009). Basically, critical success factors (CSF) are the crucial elements that contribute to the success of an event or organization. These elements are such a must or mandatory to be considered when conducting an event or else the event may not goes really well. CSF also important in helping the event or organization to improve its performance by playing their role as the connector between the event itself and the communities. CSF is such an enabler for ensuring the success of an event.

2.3 Content Coverage

Content considered as the critical factor that contributes to the utilization of repository (Russell & Day, 2010, cited in Lagzian, Abrizah & Wee, 2015, p. 198). Some academic libraries have even developed Open Access Institutional Repositories (OAIRs) which enable the worldwide users to retrieve the resources in full text format. In order for the institutional repository to be easy access and facilitate the knowledge sharing in organization, the contents should be organized in terms of its structure and arrangement. When the users face a hard time during accessing to the needed resources, the effectiveness of institutional repository will not be achieved (Ida, Tjakraatmadja & Firman, 2015). Furthermore, repository will act as the digital archive that deposits the digital contents into cumulative and perpetual therefore the repository contents should be authentic, reliable and integrated to ensure an effective retrieval whenever it is being needed (Hockx-Yu, 2006, cited in Alayon et al., 2013, p. 386). On the other hand, the users should perceived that the knowledge repository will significantly improve their work

performances in order for them to utilize it. Therefore, the reliable contents are crucial for the repository success (Sharma & Bock, 2005, cited in Aggestam & Persson, 2010, p. 1). However, content policies development, copyright clearance and cultural change that is required to encourage the repository service are among the issues that need to be taken into consideration for a successful utilization of knowledge repository (Greig & Nixon, 2007). Moreover, there are some standards or guidelines that need to be followed in order to ensure that the contents in repository not only can be searched but also can be retrieved by users for multipurpose. The repository may include the following resources which are “preprint or postprint publications, bibliographic references, books and chapters, conference and workshop papers, theses and dissertations, unpublished reports and working papers, datasets, learning objects, multimedia and audio-visual materials, software, patents as well as special items” (Md, 2010).

2.4 Technological Function

Institutional repository is primarily driven by information technology as it is indeed an effective tool to contribute for knowledge sharing in organization. Technology too can facilitate the user queries and encourage them to deposit their works into the system through self-archiving (Ida, Tjakraatmadja & Firman, 2015). It is agreed that this can be done when the repository interface is ease of use and there is usage statistic available in order to motivate the users to participate and contribute their works into the system. In order for the institutional repository to work interoperability with the other systems, it thus needs to be supported by the technology (Foster & Gibbons, 2005; Lam & Chan, 2007, cited in Ida, Tjakraatmadja & Firman, 2015, p. 177). At the same time, the usage of repository either it is being used or not defines the success of an IT-supported Knowledge Repository (Aggestam & Persson, 2010). Similarly, as cited by Lagzian, Abrizah & Wee (2013), the vigorous technological infrastructure (Lee, 2002) is the crucial contributor for a successful knowledge repository utilization besides funding, long-term viability (Westell, 2006), user driven (Gibbons, 2004), self-archiving (Xia & Sun, 2007), ease of use (Zuccala et al., 2008), security (Lampert & Vaughn, 2009) and organizational support (Westell, 2006). This is due to long term preservation of digital and electronic documents can be done through the implementation of Portable Document Format (PDF/A) file format that also enables for easy sharing and promotion of the content in social network (Alayon et al., 2013).

2.5 Promotion

In order for the institutional repository to be success, the usage of valuable information resources should be publicized and promoted to the patrons by the library managers besides ensuring the contents deposited or available in the repositories (Dorner & Revell, 2012). It is vital and crucial for the librarians to tirelessly promote the repository within the faculty eventhough it is quite hard to change the scholarly communication culture. However, this can be done by attracting the early adopters with adequate and efficient infrastructure that will meet their needs (Westell, 2006). The promotion of institutional repository can be effectively done through comprehensive publicity through mandate, organizational website and brochures (Westell, 2006) on the advantages and significances of institutional repository (Lagzian, Abrizah & Wee, 2015) which include the provision of publication on international peer-reviewed journals with higher citations (Alayon et al., 2013). It is also highlighted that the academicians should be convinced to deposit their researches into institutional repository (Lynch, 2003; Mercer et al., 2007; Phillips et

al., 2005, cited in Dorner & Revell, 2012, p. 263). As cited by Dorner & Revell (2012), the authors emphasized on librarians' role in promoting the institutional repository usage and assisting the academicians in depositing their works into the system (Rodwell & Fairbairn, 2008) which are most of them are reluctant to do so because they do not know the advantages of the repositories (Cullen & Chawner, 2008). On top of that, the institutional repository developers who are satisfied with the contents should promote its usage to the users as well (Lynch, 2003, cited in Dorner & Revell, 2012, p. 264). Moreover, although it is quite a challenge to promote the institutional repository advantages among people, but it is vital to do so in ensuring the successful utilization of institutional repository (Jain, 2011). After all, the real challenge is indeed the change in culture of information management of the people (Chan et al., 2005, cited in Jain, 2011, p. 132).

3. Proposed Framework

Based on the reviewed literature as well the discussed model comparison by previous researchers, a framework on the critical success factors has been proposed and constructed. Basically, the first independent variable (IV1) which is coverage content is being adopted and adapted by past theories and models by Markey et al. (2009) and Thibodeau (2007). Meanwhile, for the second independent variable (IV2), technological function, it is being adopted and adapted based on past theories and models by Markey et al. (2009), Thibodeau (2007) and Westell (2006). The third independent variable (IV3), promotion on the other hand is being adopted and adapted based on past theories and models from Markey et al. (2009) and Westell (2006). The dependent variable (DV) thus will be the critical success factors of knowledge repository.

3.1 Model on Institutional Repository Success Factors (Markey et al., 2009)

Markey et al. (2009) proposes a framework to evaluate the success of institutional repositories that includes these four factors which are content, services, staff and community (Yakel et al., n.d.). According to Markey et al. (2009), content and services are considered as the key success factors of institutional repository. This is because content is the core of institutional repository while services as the enabler or technology facility that generate the end user activity such as preservation and retrieval. In terms of staff and community, Markey et al. (2009) have highlighted that it is the role of institutional repository staffs to educate and promote the repository usage among the community or users. It is vital for them to inculcate or change the perception and especially the culture of the users from using traditional method of accessing information into easier and faster digital mean (Yakel et al., n.d.). In accordance with this study, almost every success factors of institutional repository as proposed by Markey et al. (2009) can be relates to this study such as the content factor, the services factor that utilized the technological function as well as the role of the institutional repository staffs in promoting the usage of the institutional repository among the users. Indirectly, this model on institutional repository success factors as proposed by Markey et al. (2009) is relevant to this study.

3.2 Model on Digital Repositories Success Factors (Thibodeau, 2007)

Thibodeau (2007) proposes a framework to measure the success of digital repositories that includes these five dimensions which are service functionalities, orientation, content coverage, collaboration and state of development (Thibodeau, 2007). Service functionalities means to what extent the system can serve the users, orientation refers to the relationship between preservation and retrieval and how those two elements affected each other, content coverage includes the authenticity and reliability of the resources itself, collaboration emphasizes on the capability of the system either able to operate in silos or need for an association with other functions and lastly state of development concerns on the maturity of repository development (Thibodeau, 2007). Likewise to this study, almost every dimension from Thibodeau's framework suit with the elements being investigated which are content coverage and technological function of knowledge repository. Content coverage is also one of the other vital dimensions been proposed by Thibodeau in evaluating the knowledge repository. Meanwhile, the other dimensions as proposed by Thibodeau like service functionalities, orientation, collaboration as well as state of development concern on the technological function of knowledge repository. Therefore, this model on digital repositories success factors as proposed by Thibodeau (2007) is relevant to this study.

3.3 Model on Institutional Repositories Indicators of Success (Westell, 2006)

Westell (2006) proposes a framework to evaluate the success of institutional repositories that includes eight indicators which are mandate, integration with planning, funding model, relationship with digitization centres, interoperability, measurement, promotion as well as preservation strategy (Westell, 2006). Mandate is considered as the key to repository success as it concerns on presenting the repository to the users in an appropriate context by clearly defining its vision and nature. Integration with planning concerns on the structure of repository that suit with the needs of the users. Meanwhile, funding model definitely focuses on the grant developing repository which includes the cost of staffing, technology, content and ongoing archiving. The cost usually been charged annually depending on the collection size and the amount of storage used. Relationship with digitization centres on the other hand concerns on the scanning and publishing of the contents by the expertise. Interoperability includes how each element affect each other in the development of repository. Measurement concerns in measuring the content usage of repository and how far it reflects the visibility of the institution. Promotion emphasizes on the role of librarians in changing the culture of the users in accessing information. Lastly, preservation strategy focuses on the strategy for long term maintenance of repository (Westell, 2006). Like other models, Westell's model on institutional repositories indicators of success also presents almost every indicator that can relates to this study. They include relationship with digitization centres, interoperability and preservation strategy that utilize technological function as well as promotion. Therefore, this model as proposed by Westell (2006) is relevant to this study. Based on the reviewed literature as well the discussed model comparison by previous researchers, a framework on the critical success factors has been proposed and constructed. Basically, the first independent variable (IV1) which is coverage content is being adopted and adapted by past theories and models by Markey et al. (2009) and Thibodeau (2007). Meanwhile, for the second independent variable (IV2), technological function, it is being adopted and adapted based on past theories and models by Markey et al. (2009), Thibodeau (2007) and Westell (2006). The third independent variable (IV3), promotion on the other hand is being adopted and adapted based on past theories and models from Markey

et al. (2009) and Westell (2006). The dependent variable (DV) thus will be the critical success factors of knowledge repository.

The significance of proposing content coverage, technological function and promotion as the independent variables (IV) apart from the other variables from past theories and models is because these three variables can be considered as the backbone of the knowledge repository system. If there is no useful content coverage provided in the repository, the system will be useless as there will be no knowledge sharing and exchange occurred as contents are the product or output of the repository. In addition, technology plays a vital role in ensuring the useful content not only can be provided in the system systematically but also allows for effective retrieval of the contents by the users. At the same time, if there is no promotion been conducted to publicize the benefits of knowledge repository implementation, people will not aware of the valuable resources available and provided by the repository and tend to not utilize it.

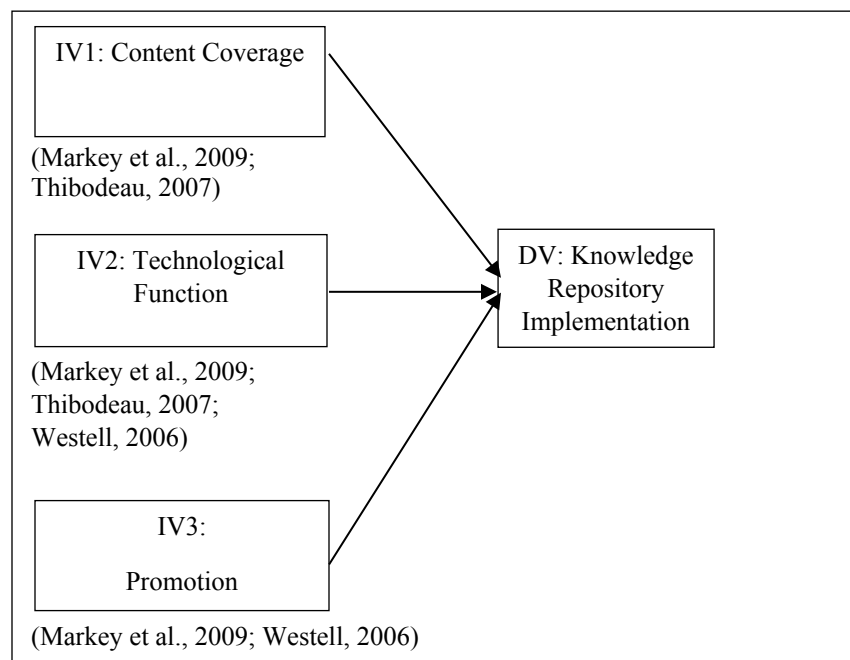


Fig. 1. Proposed Framework on the Critical Success Factors of Knowledge Repository Implementation

4. Methodology

This research is being conducted by using case study approach or strategy. It is because case study involves an empirical investigation of a particular contemporary phenomenon within its real life context using multiple sources of evidence and various data collection methods such as questionnaire and thus the result or the finding will be reliable. The population of this research is the Information Management Postgraduate students of Universiti Teknologi MARA Malaysia (UiTM Puncak Perdana) that specifically focus only on full time Master students by coursework. The significance of choosing this population is because firstly, they are all in the faculty of Information Management that they are familiar enough with the knowledge management terms such as knowledge repository. In addition, they are all the postgraduate students that enable them

to get better and clearer perspective on the research scope and thus lead to low margin of error (MOE) during answering the questionnaire and may contribute to precise result or finding. Moreover, the population are being limited only within the full time Master students by coursework of UiTM Puncak Perdana in order to ensure easier interaction, low cost and save time.

The data of this research are being collected by using questionnaire. The questionnaire is being constructed into several parts which include the demographic information of the respondent, the evaluation on the dependent variable which is knowledge repository implementation as well as the evaluation on the three independent variables as well in which the critical success factors of knowledge repository which are content coverage, technological function and promotion. The questionnaire is being constructed based on various literature reviews and developed models by previous researchers as the guidelines and are being distributed in printed form to 127 respondents manually through face to face interaction or by in person in order to not only save time and cost but also to facilitate and enhance the meeting or contact with the respondents.

5. Findings and Results

5.1. Frequency analysis

Frequency table is a tool for measuring non-numerical data meanwhile frequency itself on the other hand is the regularity of a data that appeared in the data analysis. Table 1 below shows the statistics on each variable of the respondents' demographic profiles and it has stated that all of the respondents have successfully answered and returned the questionnaires.

Table 1. Statistics on Answered and Returned Questionnaires by Respondents

	Gender	Age	Course	Semester	Frequency
N	Valid	127	127	127	127
	Missing	0	0	0	0

Table 2 shows the frequency of the respondents answering the questionnaires in terms of their gender. It has stated that there are 32 male respondents have answered the questionnaires with 25.2% while the majority or the rest 95 respondents are female with 74.8%.

Table 2. Statistics on Frequency of Knowledge Repository Usage by Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Once	6	4.7	4.7
	Rarely	37	29.1	33.9
	Always	84	66.1	100.0
	Total	127	100.0	

The frequency analysis below states the statistics on the frequency and percentage of the respondents' agreements with each question in each independent variable studied which include content coverage, technological function and promotion. Table 3 shows the statistics on the respondents' agreements on content coverage of the following statement. There are 80 respondents with 63% agreed that they use knowledge repository because it provides current

resources. Meanwhile, there are 25 respondents with 19.7% are strongly agreed with the statement while 21 respondents with 16.5% are being neutral and only one respondent with 0.8% disagreed.

Table 3. Statistics on Respondents' Agreements of Content1 (C1): *I use knowledge repository because it provides current resources.*

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Disagree	1	.8	.8	.8
Neutral	21	16.5	16.5	17.3
Agree	80	63.0	63.0	80.3
Strongly Agree	25	19.7	19.7	100.0
Total	127	100.0	100.0	

Table 4 shows the statistics on the respondents' agreements on content coverage of the following statement. There are 94 respondents with 74% agreed that they use knowledge repository because it provides accurate or reliable resources. Meanwhile, there are 21 respondents with 16.5% are strongly agreed with the statement while only 12 respondents with 9.4% being neutral.

Table 4. Statistics on Respondents' Agreements of Content2 (C2): *I use knowledge repository because it provides accurate / reliable resources.*

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Neutral	12	9.4	9.4	9.4
Agree	94	74.0	74.0	83.5
Strongly Agree	21	16.5	16.5	100.0
Total	127	100.0	100.0	

Table 5 shows the statistics on the respondents' agreements on content coverage of the following statement. There are 88 respondents with 69.3% agreed that they use knowledge repository because it provides various useful resources sharing. Meanwhile, there are 31 respondents with 24.4% are strongly agreed with the statement while only eight respondents with 6.3% being neutral.

Table 5. Statistics on Respondents' Agreements of Content3 (C3): *I use knowledge repository because it provides various useful resources sharing.*

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Neutral	8	6.3	6.3	6.3
Agree	88	69.3	69.3	75.6
Strongly Agree	31	24.4	24.4	100.0
Total	127	100.0	100.0	

Table 6 shows the statistics on the respondents' agreements on content coverage of the following statement. There are 88 respondents with 69.3% agreed that they use knowledge

repository because it offers resources that supports students’ learning. Meanwhile, there are 30 respondents with 23.6% are strongly agreed with the statement while eight respondents with 6.3% being neutral and only one respondent with 0.8% disagreed.

Table 6. Statistics on Respondents’ Agreements of Content4 (C4): *I use knowledge repository because it offers resources that supports students’ learning.*

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Disagree	1	.8	.8	.8
Neutral	8	6.3	6.3	7.1
Agree	88	69.3	69.3	76.4
Strongly Agree	30	23.6	23.6	100.0
Total	127	100.0	100.0	

Table 7 shows the statistics on the respondents’ agreements on content coverage of the following statement. There are 88 respondents with 69.3% agreed that they use knowledge repository because it provides quality-centered resources. Meanwhile, there are 23 respondents with 18.1% are strongly agreed with the statement while 15 respondents with 11.8% being neutral and only one respondent with 0.8% disagreed.

Table 7. Statistics on Respondents’ Agreements of Content5 (C5): *I use knowledge repository because it provides quality-centered resources.*

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Disagree	1	.8	.8	.8
Neutral	15	11.8	11.8	12.6
Agree	88	69.3	69.3	81.9
Strongly Agree	23	18.1	18.1	100.0
Total	127	100.0	100.0	

Table 8 shows the statistics on the respondents’ agreements on content coverage of the following statement. There are 81 respondents with 63.8% agreed that they use knowledge repository because it provides resources that meet their needs. Meanwhile, there are 24 respondents with 18.9% are strongly agreed with the statement while 21 respondents with 16.5% being neutral and only one respondent with 0.8% disagreed.

Table 8. Statistics on Respondents’ Agreements of Content6 (C6): *I use knowledge repository because it provides resources that meet the users’ needs.*

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Disagree	1	.8	.8	.8
Neutral	21	16.5	16.5	17.3
Agree	81	63.8	63.8	81.1
Strongly Agree	24	18.9	18.9	100.0
Total	127	100.0	100.0	

Table 9 shows the statistics on the respondents’ agreements on content coverage of the following statement. There are 76 respondents with 59.8% agreed that they use knowledge

repository because it enables them to do self-archiving of useful contents. Meanwhile, there are 25 respondents with 19.7% are strongly agreed and being neutral with the statement respectively while only one respondent with 0.8% disagreed.

Table 9. Statistics on Respondents' Agreements of Content7 (C7): *I use knowledge repository because it enables the users to do self-archiving of useful contents.*

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Disagree	1	.8	.8	.8
Neutral	25	19.7	19.7	20.5
Agree	76	59.8	59.8	80.3
Strongly Agree	25	19.7	19.7	100.0
Total	127	100.0	100.0	

Table 10 shows the statistics on the respondents' agreements on content coverage of the following statement. There are 98 respondents with 77.2% agreed that they use knowledge repository because they are satisfied with the resources available in knowledge repository. Meanwhile, there are 22 respondents with 17.3% are strongly agreed with the statement while only 7 respondents with 5.5% being neutral.

Table 10. Statistics on Respondents' Agreements of Content8 (C8): *I use knowledge repository because I am satisfied with the resources available in knowledge repository.*

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Neutral	7	5.5	5.5	5.5
Agree	98	77.2	77.2	82.7
Strongly Agree	22	17.3	17.3	100.0
Total	127	100.0	100.0	

Table 11 shows the statistics on the respondents' agreements on technological function of the following statement. There are 86 respondents with 67.7% agreed that they use knowledge repository because it can be easily navigated even with less training. Meanwhile, there are 27 respondents with 21.3% are strongly agreed with the statement while only 14 respondents with 11% being neutral.

Table 11. Statistics on Respondents' Agreements of Technology1 (T1): *I use knowledge repository because it can be easily navigated even with less training.*

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Neutral	14	11.0	11.0	11.0
Agree	86	67.7	67.7	78.7
Strongly Agree	27	21.3	21.3	100.0
Total	127	100.0	100.0	

Table 12 below shows the statistics on the respondents' agreements on technological function of the following statement. There are 92 respondents with 72.4% agreed that they use knowledge repository because it can be used anytime they want. Meanwhile, there are 34

respondents with 26.8% are strongly agreed with the statement while only one respondent with 0.8% being neutral.

Table 12. Statistics on Respondents' Agreements of Technology2 (T2): *I use knowledge repository because it can be used anytime I want.*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	1	.8	.8	.8
	Agree	92	72.4	72.4	73.2
	Strongly Agree	34	26.8	26.8	100.0
	Total	127	100.0	100.0	

Table 13 shows the statistics on the respondents' agreements on technological function of the following statement. There are 83 respondents with 65.4% agreed that they use knowledge repository because it can be accessed remotely. Meanwhile, there are 40 respondents with 31.5% are strongly agreed with the statement while only four respondents with 3.1% being neutral.

Table 13. Statistics on Respondents' Agreements of Technology3 (T3): *I use knowledge repository because it can be accessed remotely.*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	4	3.1	3.1	3.1
	Agree	83	65.4	65.4	68.5
	Strongly Agree	40	31.5	31.5	100.0
	Total	127	100.0	100.0	

Table 14 the statistics on the respondents' agreements on technological function of the following statement. There are 73 respondents with 57.5% agreed that they use knowledge repository because it has interactive and user friendly interface. Meanwhile, there are 29 respondents with 22.8% being neutral with the statement while 25 respondents with 19.7% are strongly agreed.

Table 14. Statistics on Respondents' Agreements of Technology4 (T4): *I use knowledge repository because it has interactive and user friendly interface.*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	29	22.8	22.8	22.8
	Agree	73	57.5	57.5	80.3
	Strongly Agree	25	19.7	19.7	100.0
	Total	127	100.0	100.0	

Table 15 shows the statistics on the respondents' agreements on technological function of the following statement. There are 82 respondents with 64.6% agreed that they use knowledge repository because its response time is prompt. Meanwhile, there are 22 respondents with 17.3% strongly agreed and being neutral with the statement respectively while only one respondent with 0.8% are disagreed.

Table 15. Statistics on Respondents' Agreements of Technology5 (T5): *I use knowledge repository because its response time is prompt.*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	.8	.8	.8
	Neutral	22	17.3	17.3	18.1
	Agree	82	64.6	64.6	82.7
	Strongly Agree	22	17.3	17.3	100.0
	Total	127	100.0	100.0	

Table 16 shows the statistics on the respondents' agreements on technological function of the following statement. There are 74 respondents with 58.3% agreed that they use knowledge repository because it is a single consolidated system that integrates all the important elements together. Meanwhile, there are 32 respondents with 25.2% being neutral with the statement while 21 respondents with 16.5% are strongly agreed.

Table 16. Statistics on Respondents' Agreements of Technology6 (T6): *I use knowledge repository because it is a single consolidated system that integrates all the important elements together.*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	32	25.2	25.2	25.2
	Agree	74	58.3	58.3	83.5
	Strongly Agree	21	16.5	16.5	100.0
	Total	127	100.0	100.0	

Table 17 shows the statistics on the respondents' agreements on technological function of the following statement. There are 67 respondents with 52.8% agreed that they use knowledge repository because the system used is an updated version. Meanwhile, there are 38 respondents with 29.9% being neutral with the statement while 21 respondents with 16.5% are strongly agreed and only one respondent with 0.8% are disagreed.

Table 17. Statistics on Respondents' Agreements of Technology7 (T7): *I use knowledge repository because the system used is an updated version.*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	.8	.8	.8

Neutral	38	29.9	29.9	30.7
Agree	67	52.8	52.8	83.5
Strongly Agree	21	16.5	16.5	100.0
Total	127	100.0	100.0	

Table 18 shows the statistics on the respondents' agreements on technological function of the following statement. There are 94 respondents with 74% agreed that they use knowledge repository because they are satisfied with the knowledge repository system or technology. Meanwhile, there are 24 respondents with 18.9% are strongly agreed with the statement while only nine respondents with 7.1% being neutral.

Table 18. Statistics on Respondents' Agreements of Technology8 (T8): *I use knowledge repository because I am satisfied with the knowledge repository system / technology.*

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Neutral	9	7.1	7.1	7.1
Agree	94	74.0	74.0	81.1
Strongly Agree	24	18.9	18.9	100.0
Total	127	100.0	100.0	

Table 19 shows the statistics on the respondents' agreements on promotion of the following statement. There are 97 respondents with 76.4% agreed that they use knowledge repository because they are aware of the existence of it and its offered facilities. Meanwhile, there are 25 respondents with 19.7% are strongly agreed with the statement while only five respondents with 3.9% being neutral.

Table 19. Statistics on Respondents' Agreements of Promotion1 (P1): *I use knowledge repository because I am aware of the existence of it and its offered facilities.*

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Neutral	5	3.9	3.9	3.9
Agree	97	76.4	76.4	80.3
Strongly Agree	25	19.7	19.7	100.0
Total	127	100.0	100.0	

Table 20 shows the statistics on the respondents' agreements on promotion of the following statement. There are 74 respondents with 58.3% agreed that they use knowledge repository because the lecturers and librarians often encourage them to use it. Meanwhile, there are 31 respondents with 24.4% are strongly agreed with the statement while only 19 respondents with 15% being neutral and only three respondents with 2.4% disagreed.

Table 20. Statistics on Respondents' Agreements of Promotion2 (P2): *I use knowledge repository because the lecturers and librarians often encourage students to use it.*

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Disagree	3	2.4	2.4	2.4
Neutral	19	15.0	15.0	17.3

Agree	74	58.3	58.3	75.6
Strongly Agree	31	24.4	24.4	100.0
Total	127	100.0	100.0	

Table 21 shows the statistics on the respondents' agreements on promotion of the following statement. There are 75 respondents with 59.1% agreed that they use knowledge repository because being convinced by the system experts on various benefits it offers. Meanwhile, there are 28 respondents with 22% are being neutral with the statement while 21 respondents with 16.5% are strongly agreed and only three respondents with 2.4% disagreed.

Table 21. Statistics on Respondents' Agreements of Promotion3 (P3): *I use knowledge repository because being convinced by the system experts on various benefits it offers.*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	3	2.4	2.4	2.4
	Neutral	28	22.0	22.0	24.4
	Agree	75	59.1	59.1	83.5
	Strongly Agree	21	16.5	16.5	100.0
	Total	127	100.0	100.0	

Table 22 the statistics on the respondents' agreements on promotion of the following statement. There are 54 respondents with 42.5% agreed that they use knowledge repository because there are often advertisements conducted on it to promote its usage. Meanwhile, there are 44 respondents with 34.6% are being neutral with the statement while 21 respondents with 16.5% are strongly agreed and only eight respondents with 6.3% disagreed.

Table 22. Statistics on Respondents' Agreements of Promotion4 (P4): *I use knowledge repository because there are often advertisements conducted on it to promote its usage.*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	8	6.3	6.3	6.3
	Neutral	44	34.6	34.6	40.9
	Agree	54	42.5	42.5	83.5
	Strongly Agree	21	16.5	16.5	100.0
	Total	127	100.0	100.0	

Table 23 shows the statistics on the respondents' agreements on promotion of the following statement. There are 99 respondents with 78% agreed that they use knowledge repository because they are aware of the importance and benefits it offers. Meanwhile, there are 25 respondents with 19.7% are strongly agreed with the statement while only three respondents with 2.4% being neutral.

Table 23. Statistics on Respondents' Agreements of Promotion5 (P5): *I use knowledge repository because I am aware of the importance and benefits it offers.*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	3	2.4	2.4	2.4
	Agree	99	78.0	78.0	80.3
	Strongly Agree	25	19.7	19.7	100.0
	Total	127	100.0	100.0	

Table 24 shows the statistics on the respondents' agreements on promotion of the following statement. There are 80 respondents with 63% agreed that they always feel motivated to use knowledge repository due to good publicity. Meanwhile, there are 24 respondents with 18.9% being neutral with the statement while 23 respondents with 18.1% are strongly agreed.

Table 24. Statistics on Respondents' Agreements of Promotion6 (P6): *I always feel motivated to use knowledge repository due to good publicity.*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	24	18.9	18.9	18.9
	Agree	80	63.0	63.0	81.9
	Strongly Agree	23	18.1	18.1	100.0
	Total	127	100.0	100.0	

Table 25 shows the statistics on the respondents' agreements on promotion of the following statement. There are 80 respondents with 63% agreed that they use knowledge repository because the publicity on knowledge repository usage is widely been conducted. Meanwhile, there are 30 respondents with 23.6% are strongly agreed with the statement while 17 respondents with 13.4% being neutral.

Table 25. Statistics on Respondents' Agreements of Promotion7 (P7): *I use knowledge repository because the publicity on knowledge repository usage is widely been conducted.*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	17	13.4	13.4	13.4
	Agree	80	63.0	63.0	76.4
	Strongly Agree	30	23.6	23.6	100.0
	Total	127	100.0	100.0	

5.2 Descriptive Analysis

Descriptive analysis summarizes bulky data by measuring and presenting the average values and dispersion of the variables. Descriptive analysis describes and interprets the answer patterns of the respondents towards this study. Table 26 below shows the descriptive statistics of the dependent variable which is knowledge repository. The N value stated is 127 which means all the respondents have successfully answered the questionnaires. There are seven questions under knowledge repository variable and the mean values stated for all of them are ranged from

the lowest is 4.00 until the highest is 4.26 which means the average answers given by the respondents lie at Likert Scale 4 which is Agree. This has indicates that the respondents are agreed and familiar with the knowledge repository implementation. Meanwhile, the standard deviation values for all the elements are less than 1 which means the respondents' answers are consistent.

Table 26. Descriptive Statistics of Knowledge Repository

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic
KRepository1	127	2	3	5	4.26	.046	.523	.273
KRepository2	127	2	3	5	4.18	.053	.597	.356
KRepository3	127	2	3	5	4.18	.048	.541	.292
KRepository4	127	2	3	5	4.00	.057	.642	.413
KRepository5	127	2	3	5	4.13	.049	.554	.307
KRepository6	127	2	3	5	4.12	.055	.625	.391
KRepository7	127	2	3	5	4.06	.054	.614	.377
Valid N (listwise)	127							

Table 27 shows the descriptive statistics of the first independent variable which is content coverage. The N value stated is 127 which means all the respondents have successfully answered the questionnaires. There are eight questions under content coverage variable and the mean values stated for all of them are ranged from the lowest is 3.89 until the highest is 4.18 which means the average answers given by the respondents lie at Likert Scale 4 which is Agree. This has indicates that the respondents are agreed that content coverage does affect the knowledge repository implementation. Meanwhile, the standard deviation values for all the elements are less than 1 which means the respondents' answers are consistent.

Table 27. Descriptive Statistics of Content Coverage

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic
Content1	127	3	2	5	4.02	.056	.630	.397
Content2	127	2	3	5	4.07	.045	.507	.257
Content3	127	2	3	5	4.18	.047	.526	.276
Content4	127	3	2	5	4.16	.049	.555	.308
Content5	127	3	2	5	4.05	.051	.575	.331
Content6	127	3	2	5	4.01	.055	.624	.389
Content7	127	3	2	5	3.98	.058	.654	.428
Content8	127	2	3	5	4.12	.041	.465	.216
Valid N (listwise)	127							

Table 28 shows the descriptive statistics of the second independent variable which is technological function. The N value stated is 127 which means all the respondents have

successfully answered the questionnaires. There are eight questions under technological function variable and the mean values stated for all of them are ranged from the lowest is 3.85 until the highest is 4.28 which means the average answers given by the respondents lie at Likert Scale 3 and Likert Scale 4 which are Neutral and Agree respectively. This has indicates that the respondents are agreed that technological function does affect the knowledge repository implementation. Meanwhile, the standard deviation values for all the elements are less than 1 which means the respondents' answers are consistent.

Table 28. Descriptive Statistics of Technological Function

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic
Technology1	127	2	3	5	4.10	.050	.561	.315
Technology2	127	2	3	5	4.26	.041	.458	.210
Technology3	127	2	3	5	4.28	.046	.518	.268
Technology4	127	2	3	5	3.97	.058	.654	.428
Technology5	127	3	2	5	3.98	.055	.617	.381
Technology6	127	2	3	5	3.91	.057	.643	.413
Technology7	127	3	2	5	3.85	.061	.691	.477
Technology8	127	2	3	5	4.12	.044	.498	.248
Valid N (listwise)	127							

Table 29 shows the descriptive statistics of the third independent variable which is promotion. The N value stated is 127 which means all the respondents have successfully answered the questionnaires. There are seven questions under promotion variable and the mean values stated for all of them are ranged from the lowest is 3.69 until the highest is 4.17 which means the average answers given by the respondents lie at Likert Scale 3 and Likert Scale 4 which are Neutral and Agree respectively. This has indicates that the respondents are agreed that promotion does affect the knowledge repository implementation. Meanwhile, the standard deviation values for all the elements are less than 1 which means the respondents' answers are consistent.

Table 29. Descriptive Statistics of Promotion

Descriptive Statistics								
	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic
Promotion1	127	2	3	5	4.16	.041	.462	.213
Promotion2	127	3	2	5	4.05	.062	.700	.490
Promotion3	127	3	2	5	3.90	.061	.688	.474
Promotion4	127	3	2	5	3.69	.073	.821	.675
Promotion5	127	2	3	5	4.17	.039	.438	.192
Promotion6	127	2	3	5	3.99	.054	.611	.373
Promotion7	127	2	3	5	4.10	.053	.602	.362
Valid N (listwise)	127							

The findings have emphasized that promotion is the critical success factor of knowledge repository implementation among the users. Therefore, it is vital to make sure that the usage of knowledge repository is widely being promoted or publicized. The system experts or the lecturers and even the librarians should educate the students regarding various benefits that

knowledge repository may offer if they utilize it besides demonstrate and portray to the students that even themselves are using the knowledge repository as well. In this way, it may convince the students that instead of the other information searching tool, knowledge repository is also another effective tool or medium in retrieving quality and reliable information and knowledge. Apart from the findings and discussion above, there are also numerous researches by various authors have found that content coverage, technological function and promotion do contribute towards knowledge repository implementation among the users as stated earlier in the literature review. This study is significant for the top management and employees of an organization, specifically Universiti Teknologi MARA (UiTM) in order to have better understanding and improve the knowledge repository service or facility in UiTM so that it may facilitate the retrieval and reference processes of the users. As we know, we are now living in the 21st century where knowledge becomes an asset and may act as the competitive advantage of an organization to keep surviving and competing with the other organizations of similar industry. Knowledge repository is indeed an effective tool to practice various knowledge sharing and exchange processes as it is a computerized system that maintains various digital resources to be accessed by the users electronically. Therefore, it is vital for an organization or UiTM to efficiently maintain and promote the knowledge repository service or facility among the users so that UiTM can produce many knowledgeable and holistic staffs or students. In order for the top management to achieve this, they need to know or investigate on the critical success factors that will contribute or attract the users to utilize the knowledge repository and here it comes the importance of conducting this study or research.

7. Conclusion

Living in the 21st century today, people really have to cope with the rapid advancement of sophisticated technology nowadays so that they will not left behind the others. It is very vital for them to quickly adapt with the recent invention in order to not only improve themselves but also to enhance the organization performance where they work. In fact, the techniques for information dissemination have also transformed due to the advancement of Internet today (Mondoux & Shiri, 2009). Knowledge repository is indeed one of many effective knowledge management tools that helps a lot in engaging people with valuable resources by easily and promptly exposing and serving them to variety of reliable knowledge through various provision of digital resources which are available for anytime of access. This is because knowledge repository acts as a tool to preserve the organization's academic output for long period of time (Westell, 2006). Furthermore, the practices of repositories contribute to the improvement in all aspects of experience-based process (Schneider & Hunnius, 2003). This is where the importance of determining the factors that are critically contribute to the success of knowledge repository implementation take place.

Unfortunately, there is still lack of promotion on knowledge repository usage among the students been conducted by the top management, lecturers, system experts and librarians. So do the technological function of knowledge repository which still has some lacks in terms of attractive interface, recent development and easy navigation. Therefore, it is the roles of everyone in the organization including or especially the top management, the staffs as well as the system experts in catering this issues effectively so that the users can efficiently and frequently utilize the knowledge repository and thus gained various advantages it offers. It is vital to encourage the active usage of knowledge repository among the users or students as knowledge

repository is indeed a powerful tool in communicating useful knowledge in a faster and easier way and in fact holistic and knowledgeable generation can be produced through knowledge sharing and exchange processes throughout knowledge repository usage.

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