PROJECT MANAGEMENT FACTORS THAT DETERMINE DIGITAL RECORDS MANAGEMENT SYSTEM (DRMS) IMPLEMENTATION: A LITERATURE REVIEW

[1]WALEED ALKHOFANI, [2]ZAWIYAH M. YUSOF, [3]HAZURA MOHAMED

Faculty of Information Science and Technology, Universiti Kebangsaan Malaysia
E-mail: [1]alwehede@gmail.com

Abstract - This study explores the project management factors that influence the digital records management system implementation. Using a review of related literature, this study finds that und that top management support, roadmap creation, implementation team, and user involvement are the four major project management factors that drive the implementation of digital records management system implementation. The study proposes the use of theory of planned behaviour to study the relationship between these four project management factors, behaviour intention to use digital records management system, and the behavior control, which is the actual DRMS implementation.

Keywords - Project Management Factors, Digital Records Management System, Literature Review

I. INTRODUCTION

The Digital Records Management System (DRMS) is a computer program or set of programs designed to track and store records. It is a software that can be used to manage the creation and maintenance of records within classification schemes, apply retention and dispose schedules, and control access and use (Chae et al. 2011).According to International Records Management Trust (2009), DRMS is an electronic system or process managed with the aid of computers and software implemented in order to manage different kinds of records in an organization.

The present study adapted the definition of DRMS from (Chae et al. 2011) as computer program or set of programs designed to deal with electronic records of through the life cycle of these records. However, while there have been much studies on digital records management system such as the intention to adopt the system, there has been less examination in the implementation of the DRMS.The implementation of DRMS is the practical use of activities with known dimensions and through the process of implementation, independent observers are enabled to identify the prevalence and strength of certain activities relevant to it (Nilsen 2015). Based on the gap in literature, this paper takes a cursor look that the drives, especially project management factors that may influence the implementation of digital records management system. This paper is organized as follows: Section two presents an extensive review of literature on DRMS implementation. Section three presents the methodology and section

II. LITERATURE REVIEW

2.1 Why Digital Records Management System?

Several studies have revealed that DRM systems provide several advantages to organizations, particularly to the part of information delivery process (LHCQFL 2008), in light of their quality and efficiency (LHCQFL 2008). For example, they provide information accessibility in a timely way, enhanced flexibility and reliability of workflow, and optimum productivity (Reidpath 2009). It implies that DRM systems guarantee the confidentiality and security of the information, accessible only through those individuals who hold the authority. Also, a systematic approach to management records is crucial for organizations and society to safeguard and store records as transactions evidence (ISO15489-1 2001). The World Bank (2013) states that digital records management is invaluable for public accountability, rule of law, creation of institutions and society, resource management and the facilitation of improved and stable global economy. As such, various organizations harbor various reasons for DRMS implementation, as cited by authors along with the advantages that it offers after system implementation. To begin with, Johnston and Bowen (2005) summarized the advantages of DRMS as follows; 1) for individuals – to improve efficiency and effectiveness and for proof of work; 2) for organizations – to improve business, adhere to laws and compliance, and 3) for society – to promote anti-fraud, access accurate information and for better welfare. According to the authors, the fundamental advantage is focused on the way the process can be run with ease, in a timely manner, with high quality and the way documents can be accessed. On the above basis, it can be concluded that the benefits cited by Johnston and Bowen (2005) are generally expatiated, tracking the life history of documents/records, beginning from draft to generation of records, and lastly, benefitting the society. Following the DRMS definitions and benefits in the preceding sections, the next sections provide a review of past studies on DRMS implementation.

2.2 Review of Past Literatures on DRMS Implementation Framework

Past studies call for a new system DRMS

implementation framework (Roper et al. 2011) as using a framework assists in a more organized implementation, which increases the potential for successful policy or initiative Simon et al. 2013).
According to Carnall (2007), implementation refers to the processes required in designing and organizing of the effective change process. Added to this, an implementation framework is considered as a management tool demonstrating the steps and processes of new project initiative (Roper et al. 2011). Such a framework is often utilized as a guide and estimator of time span and it is known to help in the identification of challenges and facilitators in the early implementation phases (Roper et al. 2011).Prior authors have contended that the use of an implementation framework is crucial as a guide to the process of implementation (e.g., Roper et al. 2011; Simon et al. 2013). It also ensures that a streamlined method isadopted for the new project implementation (Roper et al. 2011).

DRM implementation have been mentioned in literature dedicated to developed countries (such as Al-Aswad et al., 2013). Other studies dedicated to the developing nations noted additional difficulties (e.g., Fraser et al. 2005; Sultan et al. 2014). In developing countries, lack of financial and human resources, and technology infrastructure have been cited as the top hindrances of DRM implementation (Chen &Akay 2011; WHO 2006). For this reason, DRMS inevitably call for expensive investments and an effective roadmap, along with qualified staff and IT skilled experts that are familiar with information technologies use (Omaryet al. 2010).

The WHO manual primarily aimed to assist organizations by providing an overview and understanding of critical issues to be considered in the DRMS implementation framework creation. The document acknowledges the expense of the system and clarifies the developing countries' need to maximize investments. Regardless of the usefulness of such manual, it may not be enough or even suitable for all settings and contexts (Fraser et al. 2005; Keshavjee et al. 2006). According to Fraser et al. (2005), it is therefore not feasible to recommend a single DRMS architecture and implementation that will suffice all environments needs. This highlights the requirement of developing specific frameworks to address country-specific and organization-specific objectives.Along the same line of study, Fraser et al. (2005) listed guidelines for developing countries to develop DRMS implementation framework, including the current knowledge base, and public organizations' specific needs.

In relation to developed countries, Keshavjee et al. (2006) conducted a systematic review of DRMS implementations in several settings spanning from 1985 to 2006, involving 50 studies, the authors provided deeper insight into such implementations and attempted to combine conceptual frameworks to create an encompassing and pragmatic framework that sheds light on the drivers of successful DRM implementation. The findings showed that although there have been 30 years of DRM implementation experience, the system penetration still records less than 20% in the U.S. and Canada. More specifically, around 50% of the implementations still fail, with significant losses borne, and lost opportunities for improvement reported, which in turn, lead to the implementers and senior management's continuous concern. The review found that the interactive DRM implementation approach is successful (1-3 approaches) in explaining the process but practical findings have yet to be examined.

In literature, many researchers have examined the drivers of DRMSimplementation success, but majority of the frameworks examined fail to cover all such factors and this brings the need for developing an integrated framework. The drives of DRMS implementation may be identified by considering several organizational aspects including management, effective teamwork, guidelines availability and effective planning, as well as IT infrastructure. These factors have been provided in the studies by Carnall (2007), Creswell, Worth and Sheikh (2012), and Davies (2006). Based on literature, several organizations all around the globe have focused on these factors along with others and they have discussed them in terms of implementation frameworks development (e.g., Creswell et al. 2013;Turan&Palvia 2014). It is therefore helpful to investigate the experiences contained within the studies and the approaches utilized for frameworks development.

To begin with, Davies (2006) study examined the effective EMR framework of an organization in Queens, New York. The author found that the top issues of QHN were communication between stakeholder sand the implementation team, where the latter considered the feedback of potential users in the implementation and development of implementation framework. Consequently, a bottom-approach was incorporated which considered views, opinions, needs and preferences of potential end-users and their perspectives (Davies 2006).Another good example came from Tierney et al. (2010) study of Mbarara experience in Uganda of DRMS implementation. The authors focused on three East African countries, and found the implementation of health information systems at Mbrara to be successful owing to different reasons; first, it is based on prior experience of small and fundamental IS implementation and second, communication was promoted with its partner, the University of California, San Francisco (UCSF). The University helped in using data and research findings prior to IS implementation (Tierney et al.

2010).Another example of effective ERMs framework implementation came from Mukred and Zawiyah (2016) in the context of Yemen, where the authors focused on the factors for successful implementation. Similarly, in Jordan, Alshibly et al. (2016) and in Iraq, Abdulkadhim et al. (2016) revealed the lack of DRMS frameworks and that not all the mentioned factors were taken into consideration in organizations as a result of which the DRMS performance in the organization was ignored. One major limitation of these studies is the project management drives of DRMS implementation. Carnall (2007) stated that most of the disadvantages of DRMS implementation are related to project management and human resources issues.

III. METHODOLOGY

This study adopted a literature review approach to achieve the objective of the paper. The researchers begin by downloading articles related to digital records management system using five keywords: "digital records", "DRMS", "drives of digital records", "theories used in DRMS" and "DRMS implementation". The articles are then sorted for use and classified based on factors and implementation.

IV. RESULTS OF THE LITERATURE REVIEW

Based on the review of literature, the project management factors that drives DRMS implementation are presented in this section.

Project Management Factors

Project management is crucial for successful DRMS implementation. Majority of DRMS projects end up in failure in terms of time delivery, budget or business requirements missed requirements. Hence, effective project management is crucial to steering clear of failure. A formal project management approach should be adopted to structure the governance framework, management of budget and decisions on time schedules (Ellis 2005; Safdari, Ghazisaeidi&Jebraeily, 2015). The dimensions of this factor include:

1. Top Management Support

Top management support (TMS) is crucial in ensuring project DRMS implementation success (Ellis 2005). Senior management involvement guarantees that project funding is available and that employees are aware of the DRMS significance (Nguyen &Swatman 2009). Additionally, top management support in introducing DRMS and in providing a key model to follow in its use and instruction of others will ensure successful implementation and use (Gunnlaugsdottir 2008).Similarly, in Ngoepe's (2008) study of records management trends in South African public institutions, top management support was indicated to be one of the key critical success factors in the implementation of the system. Without such support, efforts towards this end are expected to fail.

Also, Nguyen et al. (2009) revealed that e-document and records management systems (EDRMS) implementation in the public sector of Australia requires elements to be considered for success. In their Web-based survey findings, they uncovered that attitudes towards digital record keeping initiatives and insight into EDRMS projects play a role, but the top position was occupied by top management support – this ensures that EDRMS implementation project is successful. In major organizations, effective change management strategy was specifically crucial as staff adoption of the system is a big hindrance – this is supported by the findings reported by Brogan et al.'s (2009) survey.

Kwatsha (2010) examined the factors affecting the effective implementation of DRMS in South Africa. The author found that the factors responsible for such failure are lack of strategic, social and technical supports. Additionally, top management support was mentioned to be the top reasons of failure, where top management does not view EDRMS project as top priority. Based on his study's interviewees, top management lacks commitment to the project, and since user involvement is affected by top management support, such support is invaluable. Alshibly et al. (2016) indicated the essentiality of top management support in successful EDMS – in that if top management support is lacking towards a system/project, the rest of the employees will not find it significant, with others resisting the project. According to Avison and Fitzgerald (2006), top management support in the form of leadership, encouragement and commitment are relevant in successful IS or IS development project. This finding is supported by Boytonet al. (2015) who examined the success and failure of business intelligence systems. It can thus be stated that when managers invest considerable resources in support of IS implementation, this would lead to greater IS use. The study indicates that top management support is a crucial factor for implementing IS in general, and EDMS. Therefore, in the present study, top management support is focused on as a project management factor that drives DRMS implementation.

2. Roadmap Creation

The roadmap provides an optimum plan for project implementation. Roadmap approval is the initial key decision point in DRMS implementation. The roadmap creation helps to initiate DRMS implementation (Dixon 2007). The role of a strategic roadmap is to allow stakeholders (policy makers and decision makers) to obtain an overall vision of the project with planning data to picture various outcomes of alternative planning situations – transforming strategy into action. This allows

organizations to connect daily planning and projects into business priorities – linking decision processes, various business functions and goal outcomes (Whalen 2007). The development of a roadmap in DRMS implementation is a multi-year project, with the roadmap used to provide an optimum plan. The road map must be approved, and its expected result is the proceedings towards business case, with the objective of developing awareness and understanding of DRMS within the entity it is to be implemented. Moreover, roadmap bridges the gap between planning and execution, boosts clarification on strategy development and provides the platform for implementation in that it establishes roles and responsibilities, assigns accountability, appropriates resources, sets priorities, assesses risks, monitors development and measures performance (Forrest & Jones 2011). UNEP (2011) stated that it furnishes a robust platform for the successful implementation of digital records management. Furthermore, Ajami et al. (2011) explained that DRM implementation readiness is assessed via roadmap, where it illustrates the stages of digital record management implementation, keeps track of each phase, pinpoints the issues and their resolution. This makes it crucial for DRMS implementation.Lastly, successful DRMS implementation requires centralized project management and human resource (Safdari et al. 2015). This is realized through the development of a roadmap, detailing every stage of the process and guiding the period of implementation. Overall, prior literature supports the significance of the roadmap development and its use for successful DRMS implementations.

3. Implementation Team

Experienced and skilled project team is another success factor for DRMS implementation (Bhatti 2005). Lam (2005) explained that the lack of technically skilled team to for such initiatives is the biggest challenge to the implementation of DRMS.

In the study conducted by Abdulkadhim et al. (2016), optimal implementation team that comprises of records management, IT people, and records creators, is needed. User requirement of the system, which refers to the expectation of the user when using the system is also a success factor and therefore, the lack of IT expertise is one of the top hindrances in EDMS implementation. In sum, team members that are qualified to develop the e-services and IT qualified staff are required during the implementation of the system in the ability stage. Lack of such workforce is an issue for every organization. Regarding this, 14 factors set were proposed by Abdulkadhimet al. (2016) as required for EDMS implementation, one of them being team members. Such members are responsible to establish/develop the e-service, making them a critical success factor. The team is responsible for implementing and developing e-service and are thus the top important construct in the DRMS initiative implementation.Shatat (2015) identified about 20 factors identified for DRMS implementation. The factors include top management support, user involvement, strategic IT planning (roadmap), user training, and teamwork. IT team members and is thus invaluable to the achievement of technology system implementation and this study considers it as crucial to DRMS implementation.

4. User Involvement

User involvement is a significant factor in the successful implementation of DRMS. User involvement increases the level of user satisfaction, and user acceptance. Thereby, reducing the cost of research and development work (Pankowska 2012). Moreover, user involvement at the early stages of the implementation and development process were critical to ensure system usage. However, According to AIIM, user involvement should be visible throughout the implementation lifecycle; at the outset and selection of DRM, during analysis and development, during pilot, during implementation and roll-out and during steady-state and maintenance (Kwatsha 2010).

V. CONCLUSION

The objective of this paper is to determine the project management factors that influence DRMS implementation.The findings explain the identification of factors that influence DRM implementation. The factors that had the potential to influence DRM implementation were extracted from the literature review, and related theories.Future studies can extend the study findings by investigating the relationships that may exist between project management determinants of DRMS implementation, behaviour intention, and actual DRMS implementation using the theory of planned behaviour as shown in Figure 1 below. This is against previous studies that focused on behavioural intention of DRMS using the theory of reasoned action only.

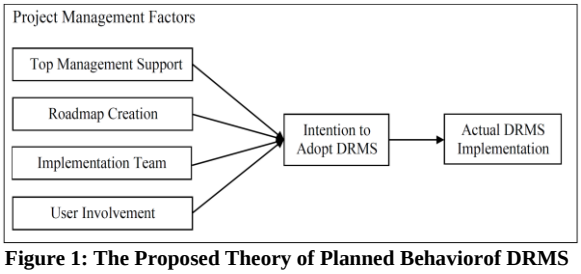


Figure 1: The Proposed Theory of Planned Behaviorof DRMS Implementation

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