THE EFFECTS OF CHARACTERISTICS OF ELECTRONIC DOCUMENT MANAGEMENT SYSTEMS ON THEIR ACCEPTANCE: AN EMPIRICAL STUDY IN JORDAN

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Abstract

This study developed an EDMS Acceptance Model using the constructs of the Technology Acceptance Model (TAM). The model consists of system characteristics (Information and System quality), Perceived Usefulness, Perceived Ease of Use, and acceptance, that author posits will have an effect on EDMS acceptance in the context of Jordan.

The finding showed that system characteristics are the most significant determinant affecting acceptance of EDMS. Moreover, an empirically test had verified the direct effects of system characteristics to the perceived usefulness and perceived ease of use. These findings partially refine the TAM encompassing the direct effect between external variable and acceptance. The results showed that both Perceived ease of use and perceived usefulness have positive effect on EDMS acceptance, suggesting that the TAM could also extend into the EDMS.

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Keywords: EDMS, TAM, information quality, system quality, ease of use, usefulness, Delone and Mclean success model.

1 Introduction

Many, if not all government agencies worldwide, are now developing and implementing information technology to a) deliver better services to citizens and businesses, and b) to support the modernisation of government (Jones, 2012). Based on the progression of information technology development, Electronic Document Management Systems (EDMS) is emerging for organizations to help create fundamental improvement in the efficiency, convenience and quality of service (Hung et al, 2009).

Documents are the stored memory for the organisation and the way business is done, its groups and its individuals, as well as being the primary mechanism for conducting business and the central to its functioning, EDMS promises to advance the management of information, thereby improving the levels of support and productivity for managers, speeding up communications, increasing the productivity of business processes, and improving the workflow of information, Accordingly, EDMS is an important element in establishing a virtual workplace environment and transforming the capabilities of a modern organisation and its workforce(Jones, 2012).

As the same with any other information systems (IS), the success of EDMS is dependent on the extent to which such a system is used and eventually adapted by potential users, if users are not willing to accept the IS, it will not bring full benefits to the organization (Davis and Venkatesh, 2000). However, there is relatively little research on developing models enables an understanding of factors that have influenced EDMS acceptance. Hence, there is a heightened need in IS research to understand the factors that impact an individual's decision to use such systems. The primary purpose of this research is to analyse and extend knowledge regarding influential factors that affect users to accept EDMS and to develop a model that can be used to analyse user acceptance in the context of developing economy such as Jordan.

In theoretical aspects, the technology acceptance model (TAM) explains and predicts users' acceptance of new technology. However, it can be argued that basic constructs of TAM, perceived usefulness and perceived ease of use, may not fully determine users' acceptance of EDMS, which therefore brings in the need to search for additional factors that may better predict and enhance the user acceptance of EDMS. Moreover; that has not been explored well in TAM research is the role of system characteristics as external variables. To the best of our knowledge, no such empirical study has been conducted on EDMS acceptance. Thus, the current study aims to explore the effects of EDMS characteristics on their acceptance. Furthermore, this research anticipates contributing to the literature on EDMS; a model of factors that influence users' acceptance of EDMS.

2 Electronic Document Management Systems: the concept and the basic components

Document management is the systematic control of document through the entire life cycle(Spargue, 1995, 32),this covers, document producing, storing, organizing, transferring and distribution, searching and finding, updating and deletion for particular organizational purpose (Yläjääski, 2003).

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Traditional document management at an enterprise was based on paper document management. The documents were grouped into groups or ordered name based and stored in binders. The binders were archived to trays orfile cabinets. Documents were copied or borrowed from trays to personal use (Sutton (1996), p.8). Distributions of all kinds of documents were handled in a paper form with help of post services and faxes.these traditional document management practices have been fallen into poor condition and disrepute because of the volume of transactions generated in the course of business, the lack of definitive document-centred process model and difficulty of storing electronic records in a system designed for paper (Sutton 1996, 8). These factors have created needs to develop more efficient document management methods and systems, which can rise to the challenges of these days (Hjelt and Björk, 2007).

Now, instead of manual file cabinets, EDMS promises to advance the management of information, thereby improving the levels of support and productivity for managers. EDMs is the application of technology to save paper, speed up communications, and increase the productivity of business processes(Sprague, 1995) and to manage and improve the workflow of information (Sommervile and Craig, 2006), EDMS enable organizations to manage documents throughout the lifecycle, from creation to destruction (Jones, 2012).

Sutton and Lemay (1999) define an EDMS as an information system of overseeing an enterprise's official business transactions, decision-makingrecords, retrieving either abstracts or entire documents, and transitory documents of importance. The repository for an EDMS containsrepresentations of an object loosely termed a document. The medium of a business transaction (electronic, photographic, audio, or paper) is irrelevant."

Typical EDMS involves not only a software system for managing the documents and a database for managing the metadata of the documents, but also includes other technologies such as document imaging, document retrieval, reporting, character recognition, document management, workflow, form processing, content management, digital signature management, and storing and archiving technologies. Other key EDMS technologies are workflow, business process management and collaboration (Yläjääski, 2003).

Documents used within EDMS are not limited to just alphanumeric items. The documents referred to in EDMS can contain anything classified as information or as data (e.g. audio, video, images/drawings etc) (Hjelt and Björk, 2007) . EDMS allows documents to be modified and to exist in different versions; it may allow documents to be deleted by their owners; may include some retention controls; may include a document storage structure, which may be under control of users. It is intended primarily to support day-today use of documents for ongoing business. It has some key features such as check in/check out and locking, version control; roll back, audit trail, annotation and stamps and summarisation.

Both Adams (2008) and Grange and Scott, (2010) identify four processes that all EDMS have in common: scanning, indexing, storage and access. Some examples of applications of EDMS are electronic scanning and processing of cheques, production of manuals for consumer goods, support for compliance with external regulatory bodies.

Basic EDMS provide a single hierarchical folder structure, where each document is stored under a single distinct folder (much like files and folders in the Windows operating system) (Zantout and Marir, 1999).

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More advanced systems support dynamic, multidimensional hierarchies, where one single document can be found through several different hierarchical paths (Yläjääski, 2003; Hung et al, 2009; Grange and Scott, 2010), additionally, EDM tools usually provide means of handling accesscontrol, making it possible to regulate access to documents or folders on a per-user orper-group basis.Most common the user interface for document management applications is workstations client software. Nowadays also web-browser based user interfaces are becoming more common. Other possible user interfaces are; direct interface to application program and windows explorer based use (Grange and Scott, 2010).

3 The Theoretical Foundations of EDMS acceptance Model

The successful implementation of EDMS is dependent on the extent to which such a system is used and eventually adapted by potential users (Venkatesh and Davis, 2000). IS implementation is not likely to be considered successful if users are unmotivated to use that type of technology (Venkatesh et al, 2003). If users are not willing to accept the IS, it will not bring full benefits to the organization (Venkatesh and Davis, 2000). The more accepting of a new IS the users are, the more willing they are to make changes in their practices and use their time and effort to actually start using the new IS (Venkatesh et al, 2003).

To predict, explain and increase user acceptance, organizations need to better understand why people accept or reject IS (Davis, 1993). In this regard, researchers have developed and used various models to understand acceptance of users of IS. Among the different models proposed the TAM (Davis et al, 1989), adapted from the Theory of Reasoned Action (TRA) (Venkatesh and Davis, 2000), and appears to be the most widely accepted among the IS researchers (Venkatesh et al. 2003; Wixom and Todd, 2005).

The primary goal of TAM is to predict IS acceptance and diagnose design problems before user have experience with the new system. The TAM is based on principles derived from psychology, which attempts to understand and measure the "behaviour-relevant components of attitudes" and makes possible the understanding of how external stimuli can influence the beliefs, attitudes and behaviour of the individual towards such a thing as technology (Davis, (1993), p. 476).

TAM suggests that when user encounter new IS technologies the two main factors influences how and when they will use the system. These two main constructs of TAM are perceived usefulness (PU) and perceived ease of use (PEOU). Perceived usefulness is defined as "the degree to which person believes that using a particular system would enhance his or her job performance" (Davis, (1989), p.330). Perceived ease of use is defined as "the degree to which a person believes that using a particular system would be free from efforts" (Davis, 1989). TAM proposes that two particular constructs, that are of primary significance for IS acceptance, perceived usefulness (PU) and perceived ease of use (PEOU) affect user's' attitude towards using the information system. Attitude directly relates to user's intention, which will in turn determine usage of the system.

TAM has much strength; including its specific focus on IS usage, the validity and reliability of instruments, and its parsimony (Venkatesh et al. 2003), thus, The TAM can provide such important insights into the

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development of decision making with regard to technology acceptance and rejection. It is pertinent therefore to consider how this model can be used for understanding EDMS acceptance.

While basic constructs of TAM, PU and PEOU, have been considered primary determinants of individual's acceptance and use of technology. IS researchers have investigated and replicated these two constructs and agreed that they are valid in predicting user's acceptance of various IS (Venkatesh et al 2003). However, few of TAM studies have investigated the impact of system characteristics as antecedents to ease of use or perceived usefulness (Wixom and Todd, 2005). In their integration of the technology acceptance literature, Venkatesh et al. (2003) stress the need to extend this literature by explicitly considering system and information characteristics and the way in which they might influence the core beliefs in TAM, and might indirectly shape system usage. Recent studies that have used TAM as a theoretical framework have suggested to exclude attitude construct from the TAM model since it does not mediate fully the effect of perceived usefulness and perceived ease of use on behavioral intention as originally anticipated (Venkatesh et al, 2003).

Recently, Wixom and Todd (2005) developed an integrated model based on technology acceptance and user satisfaction literature. The model was tested using a sample of 465 users from seven different organizations regarding their use of data warehousing software. Findings showed that information and system characteristics explained 75% variance for system and information quality. They found that there was significant affect of information and system quality on PU and PEOU. Moreover, they suggested investigating the effects of the IT artifacts itself as an antecedent to ease of use and usefulness, and other related factors.

According to Wixom and Todd (2005), TAM provides limited guidance about how to influence usage through design and implementation. They further elaborated that as PU and PEOU are abstract concepts and provide general information to the designers. Therefore designers are unable to receive actionable feedback about the important aspects of the IS artifacts itself. They identified information and system quality significant constructs which can affect IS usage. Furthermore, Davis (1989) himself noted that future technology acceptance research needs to address how variables affect usefulness, ease of use, and user acceptance.

It can be argued that basic constructs of TAM, perceived usefulness and perceived ease of use, may not fully determine users' acceptance of EDMS, which therefore brings in the need to search for additional factors that may better predict and enhance the user acceptance of EDMS. Moreover; that has not been explored well in TAM research is the role of system characteristics as external variables. Davis et al. (1989) did not include other factors explicitly into the TAM model that are expected to impact intentions and usage through PU and PEOU. These external variables could be system characteristics, organizational structure, training, and the like (Davis et al., 1989). According to Davis (1989), external stimuli influence a person's attitude toward behavior indirectly by influencing his/her salient beliefs about the consequences of performing the behavior. Since system characteristics are external stimuli, they should influence beliefs (PU and PEOU) about using a system.

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However; most of these empirical studies using TAM were conducted in developed countries and in industrialized world. Moreover; the best of our knowledge, very few studies related to EDMS technologies were carried out to test the applicability of the model outside these regions (Hung et al., 2009), and no such empirical study has been conducted on intergovernmental services' EDMS in the context of Jordan.

Hung et al., (2009) conducted an empirical study on investigates the effect of a set of antecedent factors on the intention to accept intergovernmental services' EDMS in the context of e-Government in Taiwan. Young et al. (2011) study the acceptance of an electronic data management system at a tertiary care institution in Canada, Therefore, it would be erroneous to assume that IS acceptance theories and models predict equally well in other cultural settings, especially in developing countries. The robustness of the models may vary across different cultures and thus need to be empirically tested.

4 Research model and hypotheses

The proposed research model is presented in Figure (1). The incorporation of quality into the acceptance model must describe the dependency of user acceptance on system quality and information quality. According to Wixom and Todd (2005), TAM provides limited guidance about how to influence usage through design and implementation. They further elaborated that as PU and PEOU are abstract concepts and provide general information to the designers. Therefore designers are unable to receive actionable feedback about the important aspects of the IS artefacts itself. They identified information and system quality significant constructs, which can affect IS usage.

Based on the literature review a model of factors that influence users' acceptance of EDMS has been proposed. The model consists of system characteristics (Information and System quality), Perceived Usefulness, Perceived Ease of Use, and acceptance, that author posits will have an effect on EDMS acceptance in the context of Jordan.

Perceived System Quality

System quality is a measure of an IS from the technical and design perspectives (DeLone and McLean, 2003). Thus, perceived system quality can be defined as the users' evaluation of an IS from the technical and design perspectives.

The role of perceived system quality in the IS acceptance and success literature has been investigated extensively (DeLone and McLean, 2003). According to the IS success model, system quality is a critical success factor that influences user satisfaction and the intention to use (DeLone and McLean, 2003). Petter and McLean (2009) performed a meta-analysis of studies that have used the IS success model to investigate the strengths of different relationships in the model. They found perceived system quality-intention to use relationships were strong. System quality has also been studied with regard to individuals' IS acceptance research. According to TAM, system quality can be viewed as an external variable that affects behavioral beliefs (Davis, 1989).

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Davis (1989) did not include system characteristics into TAM model, but he suggested including judicious system characteristics. According to DeLone and McLean (1992) technology characteristics singularly or jointly affect subsequent use and user satisfaction. Hence, it is assumed that system quality directly or indirectly through PU and PEOU, positively effects user acceptance of EDMS. Thus, this study postulates the following hypotheses:

H1a. Perceived System quality will have positive effect on perceived ease of use of the EDMS.

H1b. Perceived System quality will have positive effect on perceived usefulness of the EDMS.

H1c. S Perceived ystem quality will have positive effect on user acceptance of the EDMS.

Perceived Information Quality

Information quality refers to the information characteristics of IS, which include accuracy, precision, currency, reliability, completeness, conciseness, relevance, understandability, meaningfulness, timeliness, comparability, and format (DeLone and McLean, 1992). As one of the IS, information quality of EDMS also represents to the contents provided by system. Information quality represents a user's reaction to the characteristics of output information versus the user's information requirements. It is beliefs about the favourable or unfavourable characteristics of the information that the EDMS produces and delivers.

DeLone and McLean (1992) reviewed the IS literature and various empirical studies, and then combine individual measure into IS success categories to create a comprehensive measurement instrument. The information quality, which suggested directly affect the use of IS, is one of the most important factors driving the information systems success.

Previous studies used information quality to measure IS success (Iivari, 2005), measuring e-commerce success (DeLone and McLean, 2004), and e-shopping acceptance (Shih, 2003). Therefore, based on theoretical and empirical support from IS literature, it is assumed that information quality positively affects PU, PEOU, and user acceptance of EDMS, this study leads to the following hypotheses:

H2a. Perceived Information quality will have positive effect on perceived ease of use of the EDMS.

H2b. Perceived Information quality will have positive effect on perceived usefulness of the EDMS.

H2c. Perceived Information quality will have positive effect on user acceptance of the EDMS.

Perceived Usefulness

Perceived usefulness been defined as a person's subjective perception of the effortlessness of a computer system, which affects their perceived usefulness thus having an indirect effect on user's technology

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acceptance. It is defined as 'the degree to which a person believes that using a particular technology will enhance his or her job performance' (Davis, 1989).

People tend to use or not to use a system application to the extent they believe it will help them perform their job better (Davis, et al., 1989). Usefulness can also be defined as the prospective adopter's subjective probability that applying the new technology from foreign sources will be beneficial to his personal and/or the adopting company's well being (Venkatesh et al, 2003). Or that using the technology would improve the way a user could complete a given task.

PU explains the user's perception to the extent that the technology will improve the user's workplace performance Davis, et al., (1989). This means that the user has a perception of how useful the technology is in performing his job tasks. This includes decreasing the time for doing the job, more efficiency and accuracy. Several researchers provide evidence of significant effect of PU on IS acceptance and usage (Davis, 1989; Venkatesh et al, 2003; Wang et al., 2003). Hence, EDMS that users think are useful are more likely to be accepted by the users. Therefore, this study proposes the following hypothesis:

H3. Perceived usefulness will have positive effect on user acceptance of the EDMS.

Perceived Ease of Use

Perceived ease of use (PEOU) is defined as "the degree to which a person believes that using a particular system would be free from physical and mental effort" (Davis, 1991). It has also been defined as a user's subjective perception of the ability of a computer to increase job performance when completing a task. This follows from the definition of the word "ease": "freedom from difficulty or great effort." Effort is a finite resource that a person may allocate to the various activities for which he or she is responsible (Davis, et al., 1989). All else held constant, an application perceived to be easier to use than another is more likely to be more accepted by users. PEOU explains the user's perception of the amount of effort required to utilize the system or extent to which a user believes that using a particular technology will be effortless (Davis, et al., 1989).

PEOU has been established from previous research to be an important factor influencing user acceptance and usage behavior of information technologies. Venkatesh, (2000), reported, PEOU 'describes the individual's perception of how easy the innovation is to learn and to use'. Given that some fraction of a user's total job content is devoted to physically using the system per se, if the user becomes more productive in that fraction of his or her job via greater ease of use, then he or she should become more productive overall. Users believe that a given application may be successful, but they may, at the same time, believe that the technology is too hard to use and that the performance benefits of usage are outweighed by the effort of application (Venkatesh et al, 2003).

PEOU is posited to have a direct impact on perceived usefulness. It is thought that the easier it is to use a technology, the greater the expected benefits from the technology with regard to performance enhancements. While perceived usefulness has emerged as a consistently important attitude formation, studies have found

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out that perceived ease of use has been inconsistent and of less significance. The literature suggests that a plausible explanation could be the continued prolonged users' exposure to technology leading to their familiarity, and hence the ease in using the system. Therefore, users could have interpreted the perceived ease of use as 'insignificant' while determining their intention to use a technology.

According to Davis, there exists a direct effect of PEOU on perceived usefulness. In other words, between two systems offering identical functionality, a user should find the one that is easier to use more useful. Davis, (1993) states that because some of the users' job content includes use of a computer per se, if a user becomes more productive via ease of use enhancements, then he or she should become more productive overall. Perceived usefulness is not hypothesized to have an impact on perceived ease of use. TAM posits that PEOU is important factor that effect IS acceptance, either directly or indirectly through perceived usefulness (Davis et al., 1989). Venkatesh and Davis (2000) found that PEOU have positive direct effect on user acceptance of IS. Thus, if EDMS are easy to use they are more likely to be accepted by the intended users. Thus, this study postulates the following hypotheses:

H4a. Perceived ease of use will have positive effect on perceived usefulness of the EDMS.

H4b. Perceived ease of use will have positive effect on user acceptance of the EDMS.

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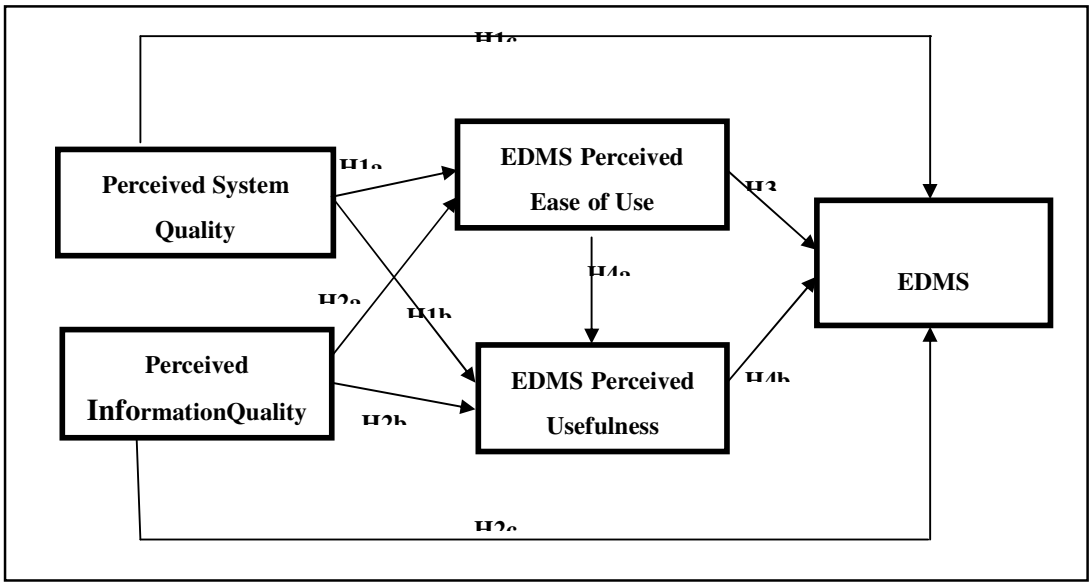
Figure (1): EDMS Acceptance Model



5 **Research Methodology**

5.1 instrument construction

The study used a self-administered questionnaire to measure the study variables. The questionnaires were pre-tested and distributed to members of the postgraduate students and academics who are in the information systems area of specialization. The respondents were asked to critically evaluate the questionnaire with regards to its objective, contents, clarity and ease of completion, and they also assist in translation and validating the Arabic version of the survey which distributed to EDMS users. After the pre-testing stage, a modified questionnaire was developed for the purpose of conducting a pilot study. The questionnaires were also translated to Arabic to cater for EDMS staff.

The final questionnaire was used to obtained data across five dimensions consisting of: 1) Perceived System Quality; 2) Perceived information quality; 3) EDMS Perceived Ease of Use; 4) EDMS Perceived Usefulness; and 5) Acceptance of EDMS. Each dimension was a construct related to the independent and dependent

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variables of the study. The structure of the questionnaire consisted of six sections. The first section obtained demographic information about the respondents.

The second section consisted of 14 questions obtaining data in the dimension of EDMS system and information characteristics, which is a construct involving System Quality and information quality of EDMS.

The 14 questions were adopted fromWixom and Todd (2005) and Rai, et al. (2002) Questions 1, 2, 3, 4, 5, 8, 10, 11, and 14 were slightly modified to meet the investigation goal, while the rest of the questions were left alone.

The third section consisted of 14 questions obtaining data in the dimensions of Perceived Ease of Use; Perceived Usefulness; and Acceptance of EDMS. The 14 questions were adopted from Davis (1989), the questions were slightly modified to meet the investigation goal, the questions were to elicit the perceptions of individuals of the usefulness and the ease of use influencing the adoption of the technology. (Appendix1).

The questionnaire was designed using a 5-point Likert scale. The Likert scale asks respondents to rate their level of agreement with statements ranging from strongly disagree to strongly agree. Through the use of the Likert scale, the respondent is provided with a clear foundation for expressing opinion without the interference or interpretation of the researcher. Moreover; The Likert scale was selected for the survey instrument because it is commonly used in social research, and provides data in a form similar to an interval scale (Punch, 2005).

5.2 Population and sample

The sample for this study consisted of EDMS users in the Amman court of First Instance, Jordan ministry of justice.a sampling frame was created with the assistance of Jordan ministry of justice. The ministry deploys Electronic Document Archiving as a standard technology and business component of the Jordanian Court System. The system is a custom Arabic-language case management system named as MIZAN and automated all 74 courts throughout Jordan, representing 100% of the national case load, including 44 conciliation courts, 19 first instance courts, 5 appeals courts, 3 special high courts in Amman, and 3 juvenile courts. The system was first implemented at the Amman court of First Instance. To ensure that the beliefs measured were based on direct EDMS behavior experiences, only responses from those who had previously used EDMS were included. The total number of participants was 200.

The questionnaires were distributed to the 200 EDMS users. A covering letter explaining the purpose of this study was attached together, assuring them of the confidentiality of their responses and instructing them to complete the questions, seal and return the completed questionnaires using the attached envelope. Out of the 200 questionnaires distributed, 150 usable questionnaires were returned, yielding a response rate of 75 percent, which is considered acceptable. There were 78 male and 72 female respondents. The age range of the sample was from ages 25 to 45 yearswith a mean of age 33 years.

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The completed sample was composed of well-educated individuals, Out of 150 respondents, 144 (over 96 percent) had achieved at least a high school qualification. The majority of respondents hold community college degree with percentage 52.8% out of total respondents, and 34% out of total respondents hold bachelor degree.The respondents were mostly experienced information systems users, Approximately 90% of the participants had more than 5 years' experience in using computers, and 40% of respondents spend approximately more than 80% up to 100% of their daily work using EDMS.

6 Results and discussion

6.1 Instrument Reliability

The reliability for the instrument was established using Cronbach's alpha, which is a measure of the internal consistency of the instrument. Cronbach's alpha estimates the true score variance captured by the items in the scale by comparing the sum of the item variance with the variance of the sum of the scale (Hair et al., 2006).). A Cronbach's alpha result of 0.70 or higher is generally considered to show adequate reliability for instruments used to gather psychometric data (Punch, 2005). The analysis of the data with Cronbach's alpha indicated that the instrument was reliable for each of the five scales EDMSSystem Quality, EDMS information quality, perceived ease of use, perceived HRIS usefulness, and Prediction of Acceptance. Table 1 shows Cronbach's alpha for the instrument scales.

The reliability coefficient (alpha) of the independent variables was as follows: perceived system quality (80 percent); perceived information quality (70 percent); ease of use (72 percent), usefulness (83 percent), and EDMS Acceptance (74 percent). The reliability coefficients of all the five variables were above 0.70, which concurs with the suggestion made by Hair et al., (2006).

As for reliability and internal consistency of measurement scales, Cronbach's Alpha (α) measure was used. The Cronbach's Alpha of all scales included in this study ranged between 0.83 and 0.92; which indicate good reliabilities of the scales (Hair et al., 2006). Hence, both content validity and reliability are satisfactorily met.

6.2 instrument validity

The validity of the scale was assessed using exploratory factor analysis, which is used to verify the number of underlying dimensions in the instrument and the pattern of item-factor relationships (Punch, 2005). The exploratory factor analysis determined whether the questions in the instrument loaded on the same factor in the relevant dimensions, and assessed whether items should be eliminated from the scale because they obtained data or loaded in more than one factor. The exploratory factor analysis was based on the general linear model (GLM) assumptions of linear relationships among interval data, low multicollinearity, and normalcy in the multivariate distribution to support testing of statistical significance. The exploratory factor analysis approach is suitable when the objective is to demonstrate the dimensionality of a measurement scale that responds to clearly separate constructs (Hair et al., 2006).

Table I. Factor analysis and scale reliabilities

ISSN 2076-9202

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Measure	Items	Factor loading	KMO Test	Eigenvalue	Variance explained (%)	Number of Extracted Component	Sig	Reliability
Perceived System Quality	6	0.64-0.80	0.708	2.427	70.015	1	.000	0.75
Perceived information quality	7	0.65-0.74	0.579	1.403	46.772	1	.000	0.71
EDMS Perceived ease of use	4	0.54-0.80	0.609	2.337	58.446	1	.000	0.72
EDMS Perceived usefulness	7	0.52-0.78	0.632	1.7121	43.02	1	.000	0.83
EDMS Acceptance	3	0.63-0.77	0.501	1.405	69.39	1	.000	0.79

The Kaiser-Myer-Oklin (KMO) test of sample adequacy was also used, with a threshold for acceptance of the validity of the instrument set at 0.5. The KMO test examines the magnitude of the observed correlation coefficients compared to the partial correlation coefficients to determine whether factor analysis is an adequate test of reliability. Bartlett's test of Sphericity was used to ensure that the factor analysis was statistically significant. Bartlett's test determines the sums of the products and cross-products in the correlation matrix to ensure that the variables do not exhibit multicollinearity. The factor analysis also examined the total amount of variance explained by the individual items in each dimensional scale using eigenvalues, which represent the amount of variance in all items in the scale that can be explained by the principle component of the factor (Hair et al., 2006).

7 Hypotheses Testing

In order to understand what factors will influence users' acceptance of the EDMS; this study use regression analysis to discuss it,in this study 4 regression models were built to form a path analysis:

The first multiple regressions: The independent variables are System quality and information quality. The dependent variable is Ease of Use.

The second multiple regressions: The independent variables are System quality and information quality. The dependent variable is perceived usefulness.

The third multiple regressions: The independent variable is perceived ease of use. The dependent variable is ease of usefulness.

The fourth multiple regression: The independent variables are system quality, information quality, perceived ease of use, and perceived usefulness The dependent variable is Acceptance.

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The multiple regression results for the path associated with the variables were presented in Table 2. For testing H1a and H2a, a regression analysis was conducted to check the effects of System quality and Information quality on perceived Ease of Use. The results presented that perceived System quality and Information quality both were predictor variables ($p < .05$, adjusted R^2=0.650). The standardized Beta values for System quality is 0.420, and for Information quality is 0.443 indicating that Information quality has more impact than System quality.

For examining H1b and H2b, a regression analysis was performed to check the effects of System quality and Information quality on usefulness. The results indicated System quality and Information quality both were predictor variables ($p < .05$, adjusted R^2=0.598).

Table 2: Regression results for predicted path relationships

Hypothesis	Dependent variable	Independent variables	B	Adjusted R^2	P	Result
H1a	EDMS Perceived Ease of Use	Perceived System Quality	**0.420**	**0.650**	**0.000**	**Accept**
H2a		Perceived Information quality	**0.443**		**0.000**	**Accept**
H1b	EDMS Perceived Usefulness	Perceived System Quality	**0.285**	**0.598**	**0.000**	**Accept**
H2b		Perceived Information quality	**0.545**		**0.000**	**Accept**
H4a	EDMS Perceived Usefulness	EDMS Perceived Ease of Use	**0.2 18**	**0.391**	**0.000**	**Accept**
H1c	EDMS Acceptance	Perceived System Quality	**0.317**	**0.638**	**0.000**	**Accept**
H2c		Perceived Information quality	**0.427**		**0.001**	**Accept**
H3		EDMS Perceived Usefulness	**0.330**		**0.002**	**Accept**
H4b		EDMS Perceived Ease of Use	**0.204**		**0.000**	**Accept**

The standardized Beta values for System quality is 0.285, and for Information quality is 0.545 indicating that Information quality has more impact than System quality. For testing H4a, a regression analysis was conducted to check the effects of ease of use on usefulness. The results showed ease of use was predictor variables ($p < .05$, adjusted R^2=0.391).

In order to identify the most important independent variable that explains the acceptance of EDMS variable and to test hypothesis H1c, H2c, H3, and H4b, a multiple regression analysis was carried out.

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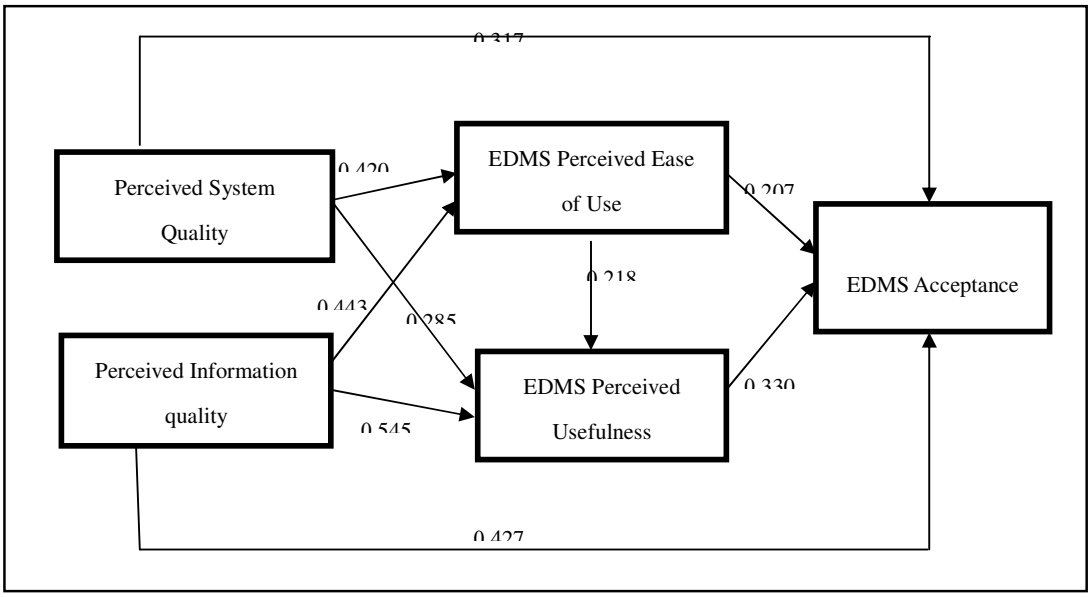
The regression analysis shows that 64 percent of the variance in acceptance of EDMS is explained by the four factors (system quality, information quality, ease of use, and usefulness). The regression model is significant in explaining acceptance ($p < .05$). The standardized Beta values for system quality (0.317), for information quality (0.427), for usefulness (0.330), and for Ease of Use (0.204) also indicate that Information quality has more impact than system quality, perceived usefulness or Ease of Use. Overall the results indicate support for the hypothesis H1c, H2c, H3, and H4b. Thus the findings of the regression models are illustrated in Exhibit 1

Exhibit 1 Empirical research model.



8 Discussions, Conclusion, and Implication for Further Research

This study was designed to break new ground and explore the determinants that influence the user acceptance of EDMS. This research tested the thesis that that EDMS acceptance is a joint function of system and information characteristics, usefulness, and Ease of Use. Earlier studies have not framed the user acceptance determinants based on the four dimensions collectively. Hence, our study has established the significance of examining the user acceptance by framing determinants according to the relevant quality dimensions in a collective manner and thus, ensuring that the user acceptance can be better explained in such context as the EDMS.

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The finding showed that Perceived information quality is the most significant determinant affecting acceptance of EDMS. The result of this study suggests the extent to which an EDMS provide sufficient, comprehensive, clear, accurate, and up-to-date information play an important role in influencing EDMS acceptance. There were no past studies which link information quality with EDMS acceptance. Nevertheless, Delone and Mclean (2003) put forward information quality as a major dimension for evaluating the success of IS. Our research adds to the literatures by identifying that level of EDMS information quality is significantly associated with users' acceptance in the EDMS context. It suggests users may be influenced by the extent to which information quality can be assumed; the extent to which the information is accurate or correct; and the extent to which the information is at the right level to meet user needs. Most importantly, the output of the EDMS should be presented in a useful format.

The finding showed that system quality is significantly related to EDMS acceptance. Researchers in the area of conventional IS are generally regard system quality to be a highly important characteristics of all interactive computer systems (Rai et al, 2002), independent of the specific application the system was designed to support. In turn, the finding of this research suggests that the greater the perceived system quality of an EDMS, the higher is the EDMS acceptance, agreeing with the literature noted above. However, there were no past studies about the impact of system quality of EDMS on user acceptance. Therefore, this research contributes to some extent to the current knowledge about the impact of system quality on user acceptance.

Moreover, an empirically test had verified the direct effects of perceived information and system quality to the perceived usefulness and perceived ease of use. These findings partially refine the TAM encompassing the direct effect between external variable and acceptance. And then, the users' perceptions in the information quality of information systems plays the role as a core driving force and external variable to the acceptance of users while facing to new technologies. Finally, the indirect relations by ways of perceived usefulness and perceived ease of use between the perceived information qualities, which proposed in this study, had partially refined the DeLone and McLean Information Success Model.

The results showed that Perceived ease of use have positive effect on perceived usefulness of the EDMS.This meant that the more users perceive the system to be easy to use, the more they will see it as useful and vice versa.

This finding is consistent with previous scholars like Davis, et al., (1989), who revealed that firms which have strong and favorable perception of the usefulness of the systems, use more of them than those with weak or unfavourable perception of the usefulness systems. Furthermore, technologies perceived to be easy to use all things being equal, are deemed as useful, as suggested by the direct relationship existing between perceived ease of use and perceived usefulness.

TAM treats perceived usefulness and perceived ease of use as two distinct antecedents towards the use of technology due to their positive correlation. However, findings from the first two applications of TAM showed that perceived usefulness was a significantly stronger factor than perceived ease of use .Our results

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suggest that in contexts where effective task execution substantially depends on the system such as the case with EDMS, beliefs about the system usefulness are more dominant in shaping user acceptance than beliefs about Ease of Use.Another interpretation is that difficulty in using systems is becoming less of a concern as they are increasingly user-friendly. In addition, since systems are more common and standardized nowadays, the users have become increasingly competent in using them. Accordingly, in the planning and development of EDMS systems, software developers should pay attention to practical functions and extend key features that are frequently required. As such, perceived usefulness has a significant effect on EDMS acceptance, suggesting that the TAM could also extend into the EDMS.

A competing model that strengthens the theoretical and empirical foundations has been developed. Our study has been carried out in an eastern setting unlike earlier studies and this makes research in the area of technology user acceptance more comprehensive.

Finally, this study suffers from a number of limitations. First, this study merely developed and validated an EDMS acceptance model using user perspective as the level of analysis. Future research may develop EDMS acceptance models using other stakeholders and levels of analysis.

Second, the use of self-report scales to measure study variables suggests the possibility of a common method bias for some of the results. Future research should employ both objective and subjective measures, and examine the correspondence (or lack thereof) between them. Despite these limitations, the present study provides valuable insights into the study of EDMS acceptance.

While the findings reported in this study go some way to resolving the research problem outlined, much remains unresolved. Accordingly, four broad areas are suggested for future research direction. These research directions are (1) expansion of EDMS acceptance model, including new antecedents; (2) further exploration of hypothesised relationships, including new methods of investigation; (3) validating the findings in specific settings. For example, a cross –cultural study could also be conducted to identify differences in EDMS acceptance due to cultural effects; (4) development and application of the instrument as a tool for practitioners.

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Appendix 1: Instruments

Perceived System Quality:
EDMS allows information to be readily accessible to you.
EDMS makes information very accessible.
EDMS is easy to use at the first time I access.
EDMS can flexibly adjust to new work demands.
EDMS returns answers to my requests quickly.
EDMS is versatile in addressing needs as they arise.
Perceived Information Quality:
EDMS provides sufficient information
Information content provided by EDMS meet my needs
EDMS outputs is presented in a useful format
EDMS provides reports that seem to be just about exactly what I need
EDMS produces comprehensive information.
EDMS provides up-to-date information
EDMS information clear
EDMS information accurate
EDMS Perceived Ease of Use:
Learning to operate EDMS is easy for me
I find it easy to get EDMS to do what I want it to do
It is easy for me to become skillful at using EDMS
I find EDMS easy to use
EDMS Perceived Usefulness:
Using EDMS enables me to accomplish job's tasks more quickly
Using EDMS enables to perform work's requirements more quickly
Using EDMS improves my job performance.
Using EDMS in job increases my productivity.
Using EDMS enhances my effectiveness in the job.
Using EDMS makes it easier to do my job.
Using EDMS improves my ability to make good decisions.
EDMS Acceptance:
I like the idea of using EDMS
I have a generally favorable attitude toward using EDMS
I believe it is (would be) a good idea to use EDMS

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