Measuring the Success of the Management Information System at the National Emergency Management Organization

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Abstract
There has been a significant amount of research that has been conducted on information systems success models, but there has been little to no research done on Office Information System and its success within an organization. Whether or not modern Information system success models can be extended to assessing office information system success it is rarely talked about and explored. This study provides the first empirical test of an adaptation of DeLone and McLean's Information System success model in the context of Office Information System. The model contains six different dimensions which all contribute to the success of information systems they include: information quality, system quality, service quality, use, user satisfaction, and perceived net benefit. Structural equation modelling techniques are applied to data collected by questionnaire from 30 N.E.M.O employees from the organization and governmental ministry. The hypothesized relationships between the six success variables are expressively supported by the data. The findings provide several important implications for Office Information System Success research and practice. This paper concludes by discussing the limitations of the study, which should be addressed in future research.

Keywords: Office Information System; information systems success model; perceived net benefit.

Introduction

The office is that part of a business that handles information dealing with operation, accounting, payroll, billing, etc. Particularly, office work consists of activities such as document preparation, filing, performing simple computation, checking information and communicating internally and externally. Such processing within the office is usually done by the arrival of a request for service such as an order, a bill, a complaint, a message or any other form of document sent to or by the company. Hence, the office can be viewed as a

mechanism that maintains the state of the business, by means of a series of activities that cause change in state (Ellis & Nutt, 2000). The computer has been used in the office environment for many years with applications mainly limited to highly structured and repetitive tasks in a non-interactive mode (Barber, 1980). Nevertheless, for the past several years, different kinds of information systems are being developed for different purposes, depending on the need of the business. Therefore, organizations are spending sums of money in information and communication technology (ICT) for the support and the value it brings into the company. The automated office is quickly emerging and replacing the manual information processing that usually takes place in an office, as it is seen as both a motivation for achieving a new understanding of office work and as a medium within which to integrate new tools and knowledge into a coherent system.

The Office Information System (OIS) is an advanced word processing system of the hardware, software and processes that provides the technical support and services for the timely retrieval of accurate information by computerized systems to enable effective planning, operation and monitoring of services (Office Information System (OIS), 2015). In other terms, Ellis & Nutt (2000) defines OIS as a system that attempts to perform the function of the ordinary office by means of a computer system. The days of manual typewriters, adding machines, hand sorting, copying and mailing are being replaced by integrated electronic office systems containing a mixed media of document editors, electronic mail systems, electronic files and numerous personal electronic aids such as electronic spreadsheets and files. Computerization in the office mainly helps the office worker in document preparation, information management and decision making. Such systems may be as ordinary as a group of independent word processors, or as complex as a distributed set of large communicating computers. Within this, there is a central computer with several interactive terminals, or a set of small interconnected computers. In either system, the office worker would use a workstation to perform his work, and that work station would be capable to electronically communicate with other workstations in the organization.

The need for these systems is obvious. The increasing administrative overhead and costs, also, the increasing need for information and information processing, are causing many organizations to search for methods to increase efficiency and effectiveness. Organizations are finding that careful design and implementation of office information systems, taking into account important human factors of organizational design and office sociology, meets these needs, and can make some aspect of office work more pleasant and convenient (Ellis, Office Information Systems Overview , 1985). Although the OIS are considered to be a valuable tool for the organizations, research must be done to demonstrate the relationship between these information systems investments and the organization's performance. Therefore, this research paper will be using the traditional information systems success models done by DeLone and McLean (2003) to investigate the Office Information System at a governmental institute in Belize. This paper is structured into five different chapters starting with a review of what Information Systems is, followed by a literature review of Office information systems. Furthermore, the methods, measures and results of the study will be presented and lastly, suggestions and directions for future research will be presented.

Literature Review

Theoretical foundation: information systems success

Office Information system is a distinct type of information system which uses a software, hardware, and networks to improve work flow and help communications among employees. Today, it is widely accepted that managing the information resource is very often equally important to the organization or to information Technology department. Information and communication technology has invaded people's daily lives. All these new technologies has provided new perspectives, enhancing the view of some people on certain topics, and here, in this section we establish the theoretical foundation and conceptualization of an Office Information Success at N.E.M.O success based on previous research done on information system success.

In the 1980's, Peter Keen mentioned that due to the lack of a scientific source on Management Information System research and raised the question of what the dependent variable in Management Information System research should be. Motivated by this request for clarification of the dependent variable, many

researchers have tried to identify the factors contributing to Information System success. Surrogate variables like user satisfaction or hours of usage would continue to mislead researchers and evade the information theory issue (Keen, 1980). Largely, however, different researchers addressed different aspects of IS success, making comparisons difficult. In order to organize the large body of existing literature of that time, also to integrate the different concepts and findings, thus presenting a comprehensive taxonomy, DeLone and McLean introduced their very first Information System success model.

The Delone and McLean Information System success model is most commonly cited and has been a respected contribution to our understanding of Information Success. They classified existing measures of success into six constructs System-Quality, Information Quality, Organizational-Impact, Individual Impact, Satisfaction and Use (Delone and McLean ,1992). They stated that in order to develop an inclusive measurement model and instrument for a particular context, the constructs and measures should be thoroughly selected considering contextual possibilities, being organization size or structure, or the technology and the individual characteristics of the system. Regardless, few studies elaborate the rationale for their choice of success constructs and measures employed. a two-step approach for selecting measures for a study was introduced in 2006 (Burton-Jones and Straub,2006) . The importance of considering structure and 'function' of measures was stressed , where structure is considered the selection of elements that are most relevant for the research model and context and function refers to the selection of measures for the chosen elements that tie the constructs into a nomological network.

In their attempt to structure the numerous variables associated with the diversity of Information success, Delone and Mclean analyze and tested more than 100 empirical papers containing Information success measures between the years of 1981 and 1988(Delone and Mclean ,1992). Delone and Mclean argued that there was minor relevance in calculating input variables like user participation or information technology investment with respect to Information System, if the dependent or output variable, IS success or Information System effectiveness, could not be evaluated with similar accuracy. They argued that there were six major factors in IS success, namely: the quality characteristics of the IS itself (system quality), the quality of the output of the Information Systems (information quality), consumption of the output of the Information System use. The Information System user's response to the Information System user satisfaction, the effect of the Information System on the behavior of the user individual impact and the effect of the Information System on organizational performance.

Delone and Mclean developed their model by considering information to be the output of an IS or the message in a communication system (Delone and Mclean ,1992). They point out the serial nature of information that can be said to flow through the organization. Drawing on work by Shannon and Weaver in 1949 and Mason in 1978, they noted that the effect of information on its recipient can be measured at a technical level, a semantic level, or an effectiveness level. The technical level relates to how well a system transmits the symbols of communication, the semantic level concerns the explanation and interpretation of meaning by the receiver relative to the intended meaning of the sender, and the effectiveness level concerns how well the meaning delivered to the receiver affects his/her actual behavior.

Mason extended the Shannon and Weaver's model by labelling effectiveness as an influence, and represented the levels as a series of events that take place at the receiving end of an information system. According to Mason (1978), there are five stages to the process of communication: the production of information, the product itself, the recipient of information, the influence it has on the recipient, and the influence of information has on the performance of the system. Mason explains that the effectiveness level includes the influence of the message on the recipient's behavior. Thus, evaluation and application of information may affect a change in the user's behavior (Rai et al, 2002).

In terms of Delone and Mclean's model, system quality related to the technical level, information quality related to the semantic level, and is use, user satisfaction, and individual impact related to the effectiveness-influence level. Delone and Mclean's model takes Shannon and Weaver's hierarchy of levels as the foundation for modelling system quality and information quality as drivers of is use and user satisfaction. Then Delone and Mclean applied Mason's arguments to model use and user satisfaction response to use of its output as antecedents of individual impact effect of information on behavior and organizational impact. A core characteristic of the Delone and Mclean model is that user satisfaction is considered as an Information System success variable. In 1997 Seddon criticized the D&M Information System success

model and reported that Information system use is not a success measure and directions from individual and organizational benefits should be opposite to satisfaction. Seddon also stated that perceived worth by removing Information system use in the D&M Information success model (Seddon, 1997). Moreover, it was observed that the various common Information System effectiveness measures are particularly focused on the products provided instead of the services generated (Pitt et al,1995).

In previous research done they used the Delone and McLean model to help explain an Information System failure post-hoc, but also cannot resist the temptation to use a case study to justify the model. The original title "the search for the dependent variable" does invite the model to be the focus of research, rather than using a proven model to explain or even predict the success or failure of a particular Information system (Bonner 1995) . Again, this use begs the question of what measure is used to judge a system success if the model itself is under test. Though accepting that model validation is an iterative process, it is suggested that the current stage of this process needs to be clarified, communicated and understood. It was stated that there was a confusion between the use of the model for prediction and that for evaluation (Seddon 1995).

It was seen that these systems can produce benefits only as a potential outcome, transforming these in concrete advantages strictly requires adequate and coherent organizational decisions (Beretta and Polo, 2002). This consideration is consistently underestimated by small and medium-sized enterprises that often decide to invest in complex projects centered around integrated information systems expecting to force this way people and structures towards more cooperative and integration oriented behaviors, without putting in place a proper and explicit organizational change program, or even simply to adhere to the organizational mainstream (Van Everdingen, Van Hillegersberg, Waarts, 2000; Burgess, 2002). Recent Research papers began to analyze the issues connected to ERP and other information and communication technologies introduction projects and pointed out frequent failure causes as organizational diseases (Earl, 1996; Ravagnani, 2000). Studies on the process of information technology acquisition (Davis et al, 1994) clearly show that these applications go through several evolutionary stages. During this evolution the priority in order to succeed doesn't seem to be tied only to the acquisition process choosing the right kind of technology, deciding the investment size, information technology suppliers management, but mainly to the paths of learning and organizational change. Experience suggests that these paths should be designed and carefully managed in order to allow the acquisition and effective use of I.T. applications by the users and the whole enterprise. Other studies focus their attention on information systems considered as tools to gather, classify, and distribute information crucial for the smooth working of the enterprise and for proper decision making. They also identify causes for success, or failure, of new communication technologies in the capability, or lack of, to effectively use information inside the organization, suggest a model to measure this capability and give prescriptions to management on possible strategies to follow in developing these abilities. Work starts from considering the Information System as a toolset to manage information (Marchand et al, 2000; Marchand et al, 2001)

Methodology of the Study

This research paper will be using the traditional information systems success models done by DeLone and McLean (2003) to investigate the Office Information System at NEMO. The Delone and McLean IS success model is an information systems (IS) theory which seeks to provide a comprehensive understanding of IS success by identifying, describing, and explaining the relationships among six of the most critical dimensions of success along which information systems are commonly evaluated. The model has 6 constructs that will be used which includes: Information Quality, System Quality, Service Quality, User Satisfaction, Use, and Perceived Net Benefits.

Information Quality refers to the quality of the information that the system is able to store, deliver, or produce. Information quality impacts both a user's satisfaction with the system and the user's intentions to use the system, which in turn impact the extent to which the system is able to yield benefits for the user and organization. System Quality indirectly impacts the extent to which the system is able to deliver benefits by means of mediational relationships through the usage intentions and user satisfaction constructs. Information systems are also commonly evaluated according to the quality of service that they are able to deliver. Service Quality directly impacts usage intentions and user satisfaction with the system, which in turn impact the net benefits produced by the system. Next, User Satisfaction directly influences the net

benefits provided by an information system. In the Information System success model system use and usage intentions are influenced by information, system, and service quality. System use is posited to influence a user's satisfaction with the information system, which in turn is posited to influence usage intentions. In conjunction with user satisfaction, system use directly affects the net benefits that the system is able to provide. Lastly, the Net Benefit that an information system is able to deliver is an important facet of the overall value of the system to its users or to the organization. Additionally two more constructs of Computer Self-Efficiency and Complementary Technology Quality were implemented.

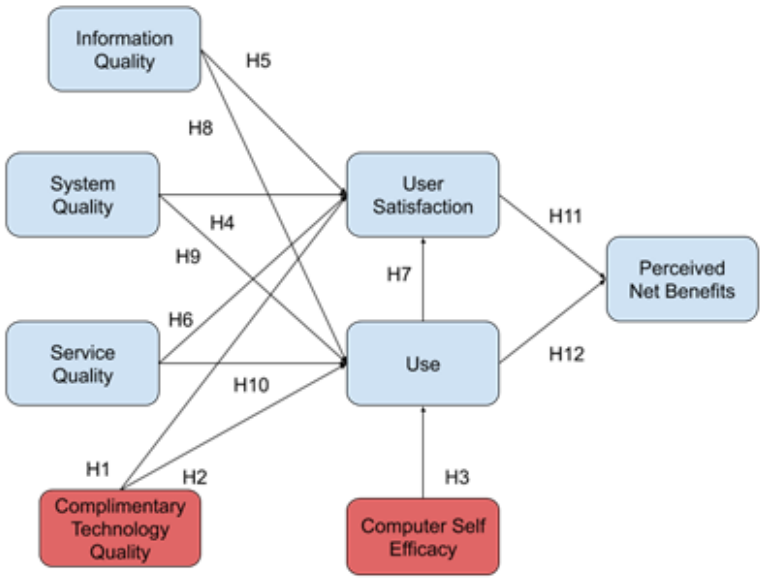


Figure 1: Illustrate the modified Delone and McLean model

Hypothesis

The figure above demonstrates the hypothesized relationship between NEMO and its OIS success using the 8 dimensions of the theoretical work reported by DeLone and McLean (2003). The following 12 hypothesis were established

H1: Complimentary Technology Quality will positively affect User Satisfaction
H2: Complimentary Technology Quality will positively affect Use
H3: Computer Self Efficacy will positively affect Use
H4: System Quality will positively affect User Satisfaction
H5: Information Quality will positively affect User Satisfaction
H6: Service Quality will positively affect User Satisfaction
H7: Use will positively affect User Satisfaction
H8: Information Quality will positively affect Use
H9: System Quality will positively affect Use
H10: Service Quality will positively affect Use
H11: User Satisfaction will positively affect Perceived Net Benefits
H12: Use will positively affect Perceived Net Benefits

Questionnaires were utilized to retrieve the required information to study the eight dimension that is focused on the Delone and Mclean (2003) updated IS model. From the content of previous verified instruments measurement scales, the collection of quantitative data was produced to ensure the scales were valid. The first construct, namely information quality was measured by a five-item scale from Bailey and Pearson (1983). The modification was focus on the context on the Office Information System. The most common instrument by Bailey and Pearson is proven to be reliable and valid. For the reason that is has become a standard instrument in the field of information system.

Additionally, the modification of the four-item scale by Ashibly (2011) was used to measure the system quality construct. When it comes to the complementary technology construct it was measure by the four-item scale. The computer self-efficacy measure construct of a ten-item scale. The service quality construct was evaluated using a modified four–item scale by Chang et al (2009) instruments. In the research, the user satisfaction was executed through the use of judgment towards the Office Information System. It was measured with a four-item scale from Seddon and Yip (1992). Then, the use was measured through eight-item scale from studies done in the past (Balaban et al., 2013; Rai et al., 2002). Lastly, the perceived benefits were the achievement of the business goals and users' objectives. These elements were assessed using a six-item scale adopted from (Alshibly, 2011; Tansley et al, 2007). Each segment was computed using a 5- point Likert Scale.

Following the measurement of developed variables, a test was use to validate the variables. The Office Information System professor looked over the variable used for measurement, followed by necessary feedback about the research conducted. Upon the approval of the questionnaires prepared, the distribution of thirty questionnaires were given to the organization. The full total of the questionnaires given was retrieved back from the respondents. The table below demonstrates the constructs used and related items used for the questionnaire measurement for the Office Information System.

Table 1. Measurement Items for the Questionnaire

Construct	Survey Questions	Source
Information Quality	IQ1: The OIS provides information that is exactly what you need. IQ2: The system provides information you need at the right time IQ3: The OIS system provides information that is relevant to your job. IQ4: The OIS system provides sufficient information. IQ5: The OIS system provides information that is easy to understand. IQ6: The OIS system provides up-to-date Information. IQ7: The OIS system provides sufficient information.	Bailey and Person (1983)
System Quality	SQ1: The OIS system is easy to use. SQ2: The OIS system is user-friendly. SQ3: The OIS system provides high-speed information access. SQ4: The OIS system provides interactive features between users and system.	Alshibly (2011)

Complementary Technology Quality	CTQ1: The software on the device (desktop computer, laptop, mobile device) used to access the OIS is adequate? CTQ2: The device hardware (desktop computer, laptop, mobile device) used to access the OIS is adequate? CTQ3: The speed of the Internet connection used to access the OIS is adequate? CTQ4: The reliability of the Internet connection used to access the OIS is adequate?	
Computer Self-Efficacy Measure	I could complete the job using the Quality Management System: CSE1: if there was no one around to tell me what to do as I go. CSE2: If I had never used an information system like it before. CSE3: If I had only the information system manuals for reference. CSE4: If I had seen someone else using the information system before trying it myself. CSE5: If I could call someone for help if I got stuck. CSE6: If someone else had helped me get started. CSE7: If l had a lot of time to complete the job for which the information system was provided. CSE8: If I had just the built-in help facility for assistance. CSE9: If someone showed me how to do it first. CSE10: If I had used similar information systems before this one to do the same job.	
Service Quality	SV1: The support staff keep the OIS up to date? SV2: The OIS support staff show a sincere interest in solving problems. SV3: The OIS support staff respond promptly when users have a problem. SV4: The OIS support staff tell users exactly when services will be performed	Chang et al., (2009)
User Satisfaction	US1: Most of the users bring a positive attitude or evaluation towards the OIS. US2: You think that the perceived utility about the OIS high. US3: The OIS has met your expectations. US4: You are satisfied with the OIS.	Seddon and Yip (1992)
Usage	U1: You frequently use the OIS. U2: You depend on the OIS to do your job.	Balaban et al., (2013) Rai et al., (2002)

	U3: The OIS is accurately preparing reports. U4: You have the necessary knowledge to use the OIS. U5: The OIS helps you prepare timely reports. U6: The users of the reports satisfied with results of the OIS. U7: You are able to complete a task using the OIS even if there was no one around to tell you what to do as you go forward?	
Perceived Net Benefits	NB1: The OIS help you improve your job performance. NB2: The OIS helps your organization achieve its goal. NB3: Using the OIS improve the assessment and training. NB4: Using the OIS increases your productivity. NB5: Overall, using the OIS enhances recruitment and performance management. NB6: The OIS help the organization on costs.	Alshibly (2011); Tansley et al., (2001)

Sampling and data collection

The data for this study was collected from a sample of employees at NEMO, a governmental institute. The method of the research sampling is "purposive sampling" which allows the researchers to use their own judgment to select appropriate people for the sample.
All 31 of the questionnaires distributed to NEMO employees were returned, resulting in a response rate of 100%, which is exceedingly acceptable.
The respondents' characteristics are presented in the table below. Male participants represented a lower percentage of the complete sample (approximately 48%) compared to the female participants (approximately 51%). 38.7% of the participants were aged 25-45 years. The complete sample was comprised of well-educated individuals, the highest percentage being coordinators. Other participants were technicians, Logistics officer, and Warehouse Manager. Approximately 48% of participants had 2-4 years working in the organization.

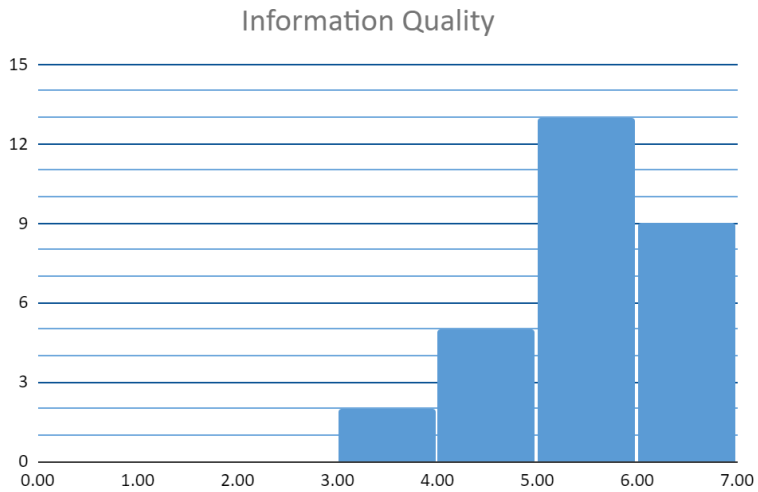
Characteristics of Respondents

Characteristics	**Number**	**Percentage**
Gender		
Male	15	48.4
Female	16	51.6
Age		
Less than 25	6	19.4
From 25 to 35	12	38.7
Over 35 to 45	8	25.8
Over 45 to 55	5	16.1
Older than 55	0	0

Job Position		
Logistics Officer	2	6.5
Humanitarian Officer	1	3.2
Mitigation Officer	1	3.2
Security Guard	4	12.9
CEO	1	3.2
Coordinator	6	19.4
Secretary	2	6.5
Computer Technician	1	3.2
Warehouse Assistant	1	3.2
Warehouse Manager	2	6.5
Training Officer	4	12.9
Deputy National Emergency	1	3.2
Internet Technician	2	6.5
Administrative Assistant	1	3.2
Communication Officer	1	3.2
Assistant Training Officer	1	3.2
Work Experience		
More than a year	4	12.9
2 to 4 years	15	48.4
5-8 years	9	29.0
More than 8 years	3	9.7

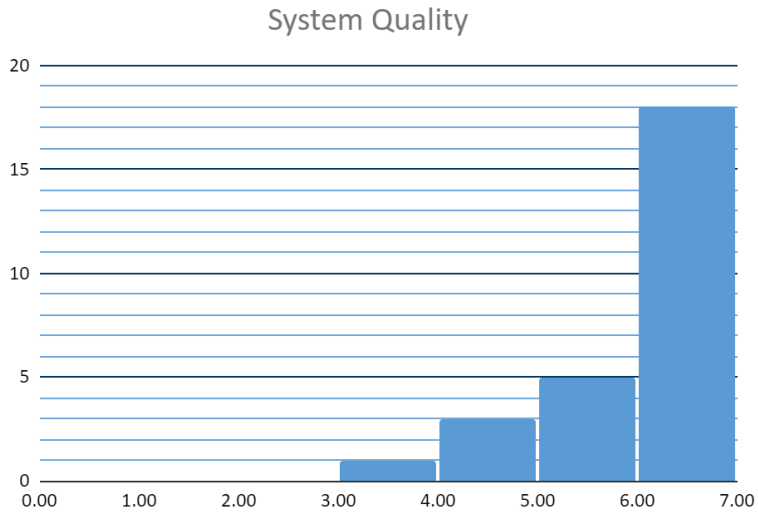
Data Analysis and Results

This research was done to test the satisfaction levels and effectiveness of The National Emergency Management Organization's information system. Results were obtained from a sample survey of 30 participants and the data was inputted into Google sheets and analyzed through the use of histograms and bar charts. Histograms would use averages of the participants for each construct, while the bar chart used summarized the averages for the entirety of the construct. The DeLeon & Mclean model with the 6 constructs was used, the constructs being: Information Quality, System Quality, Service Quality, User Satisfaction, Use, and Perceived Net Benefits.



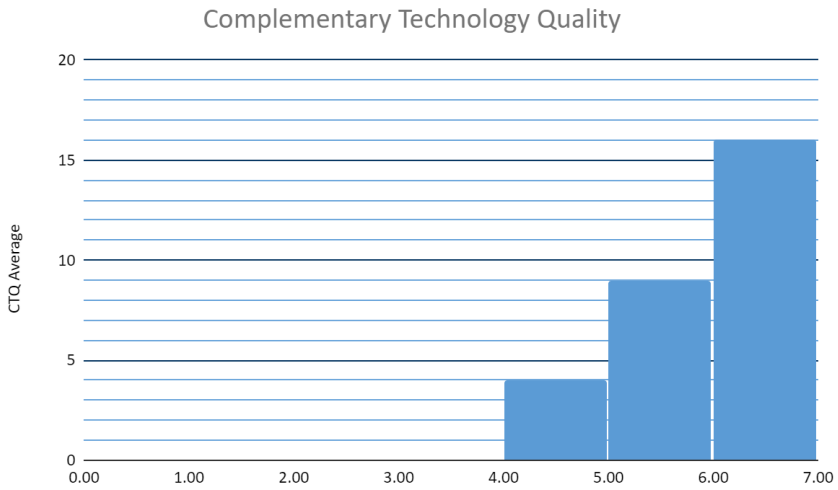
HISTOGRAM 1: INFORMATION QUALITY

Histogram 1 shows the results of the 30 participants when it comes to the averages of the Information Quality construct. It shows that approximately 7 employees rated below a 5, which is to indicate dissatisfaction, while the rest of the organization was satisfied with scores 5 and above.



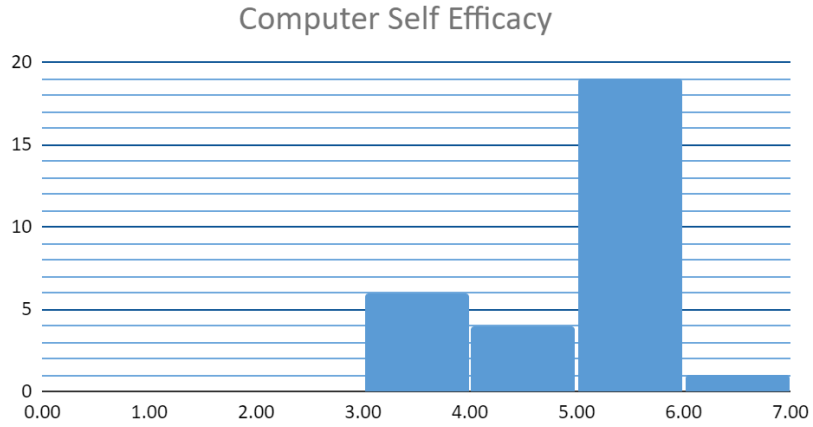
HISTOGRAM 2: SYSTEM QUALITY

Histogram 2 shows that only a range of 4 employees were slightly dissatisfied with the system, with the majority of 18 employees feeling very satisfied.



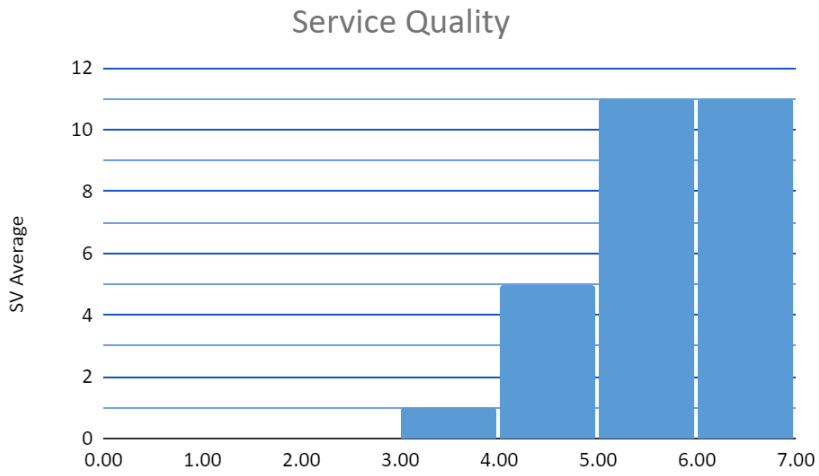
HISTOGRAM 3: CONTEMPORARY TECHNOLOGY QUALITY

Histogram 3 shows that no employees were particularly dissatisfied with the effectiveness of the construct, instead all participants gave an average or above score



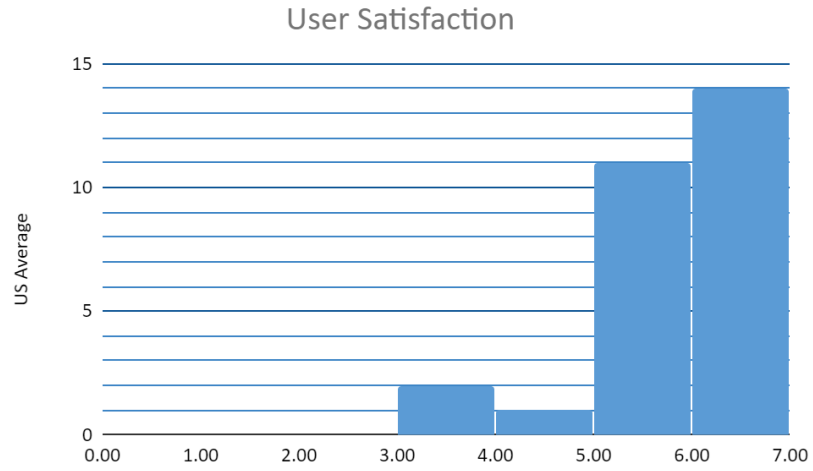
HISTOGRAM 4: COMPUTER SELF EFFICACY

Histogram 4 shows that 20 employees voiced satisfaction levels above 5, while the remainder scored neutral or below. 6 employees in particular averaged scores of 3-4, showing dissatisfaction with the information systems ability to produce its intended results.



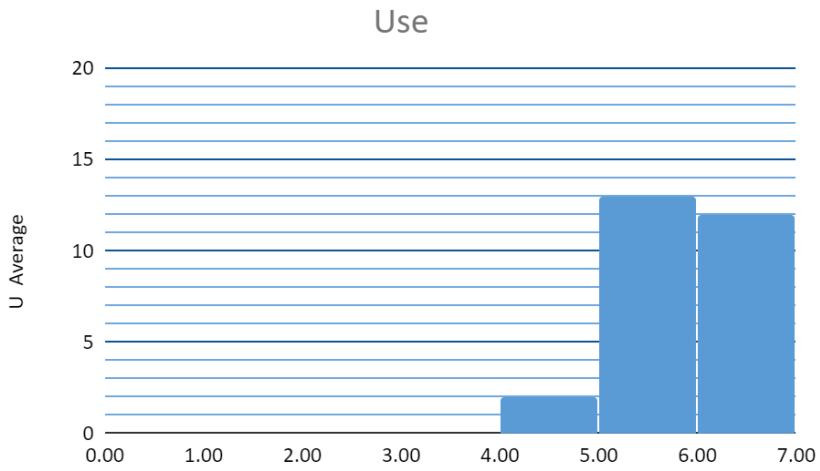
HISTOGRAM 5: SERVICE QUALITY

Histogram 5 shows that 22 employees rated the service quality of the system highly, while only 2 employees rated the system as a 3(slightly below average).



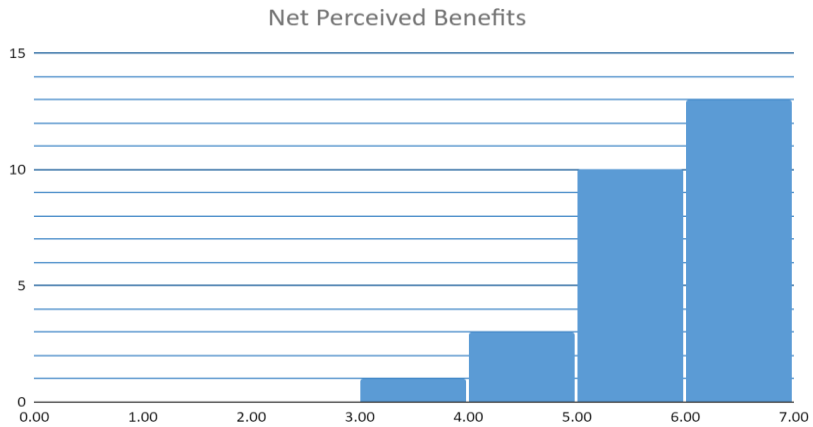
HISTOGRAM 6: USER SATISFACTION

Histogram 6 shows that that majority of users had satisfying experiences with the information system. Only 2 users showed a slight level of dissatisfaction, while 25 users scored satisfaction with a 5 or above.



HISTOGRAM 7: USE

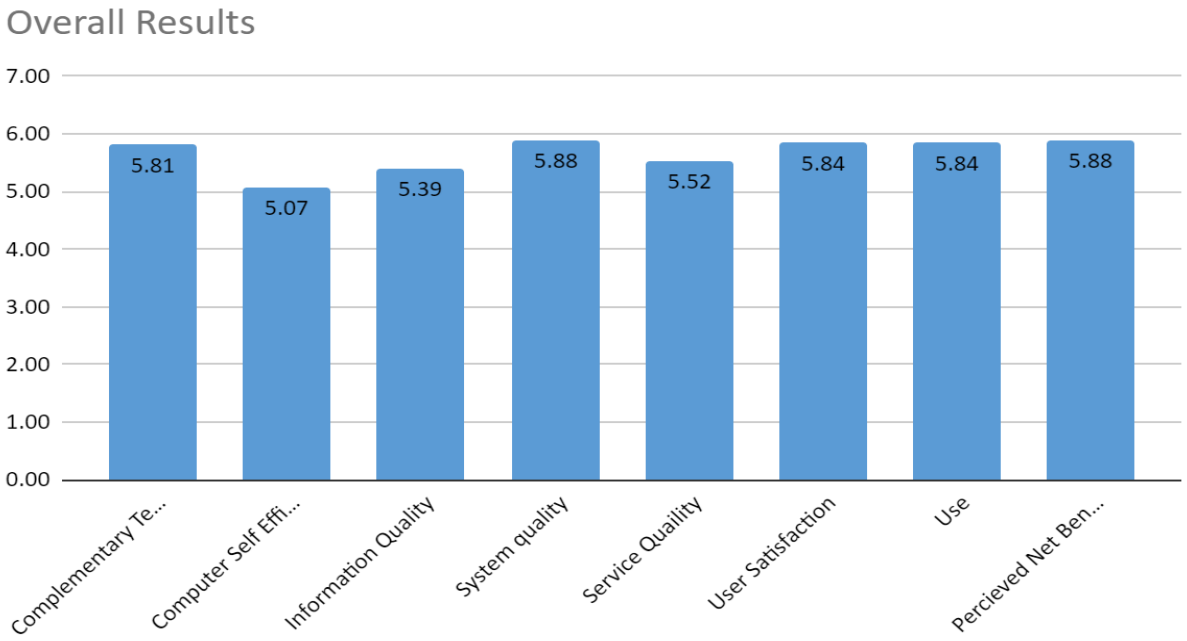
Histogram 7 illustrates that no one was dissatisfied with the usage of the information system. 24 employees responded with a 5 or above in satisfaction, while only 2 employees gave neutral averaged response of 4.



HISTOGRAM 8: PERCEIVED NET BENEFIT

Histogram 8 shows that only 1 employee disagrees with the information system having net benefits, while 23 employees agreed with the system being beneficial to the organization.

Discussion



Bar chart of Overall Averages

The bar chart above shows the average ratings of all the constructs to give proper comparisons on how the users see the information system perform in each area. Important notes to take would be that all constructs averaged above 5, however none averaged as high as a 6. This indicates that most people are satisfied with the performance of the information system but still feel that it needs improvements so that they may experience maximum comfortability. The highest rated constructs were System Quality and Perceived Net Benefits with an average score of 5.88, with User Satisfaction and Use averaging second with a score of 5.84. For third highest construct, complementary technology quality placed with an average of 5.81, which is to say that user's feel sufficiently satisfied with the lowest construct would be Computer Self Efficacy with an average score of 5.07, showing that employees don't have as high satisfaction with the system on that account compared to other sections. This could be due to the fact that the people who rated low in this category are also those with minimum interaction with the system, i.e. security guards.
Overall, it is clear to see that the information system at NEMO is adequate in its job performance for its users.

Conclusion

With the advent and development of OIS research, measuring multiple OIS success variables continues to be important. This model provides a rich portrayal of the dynamics surrounding quality measures, satisfaction evaluation, usage, and user-perceived net benefits. The results show that NEMO staff perceive the benefit of an OIS system because they have used it and felt satisfied with its information, system quality, and service quality.

This research also confirms that the use, user satisfaction, and perceived net benefits are complementary yet distinct constructs, and that use is partially mediated through user satisfaction in its influence on the perceived net benefit of an OIS system.

From a practical point of view, our model offers a means for organizations to evaluate and predict the success of OIS. OIS success, is multidimensional and interdependent in nature, like the success of any other

IS. Owing to the results of this study, practitioners now know more about the levers that help to improve their OIS and can prioritize their investments accordingly.

This research contribution to the theory is the extension and further empirical testing of the D&M IS Success Model in a different setting and system context than in previous studies as recommended by various authors (e.g., DeLone and McLean, 2003; Iivari, 2005).

Limitations

Our research has a few limitations, this research is limited in that all of NEMO employees could not be surveyed due to their location. A number of employees work out district. Likewise, it is not guaranteed that all the employees who participated in the survey responded honestly.

In brief, this study provided a structure for understanding OIS success, quality, OIS use and perceived net benefit. The detailed framework we built from theory and empirical research provides a foundation for future research.

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Appendix

Purpose

This research is required for the CMPS3012 MIS course at University of Belize University. This questionnaire asks for information about yourself and how often you use the Office Information at N.E.M.O. The data gathered will be analyzed to determine the success of Office Information System at N.E.M.O.

Please answer each question based on your use of Office Information System. Your individual responses to the questionnaire will be strictly confidential and used solely for this research.

Instructions

This is a survey, not a test; there are no right or wrong answers. Please tick the boxes to mark your answers or/and type your answer in the space provided.

1. Background Information	**Answers:**
Please indicate your gender:	Male ☐ Female ☐
Please indicate your age:	<25 ☐ 25-35 ☐ 36-45 ☐ 46-55 ☐ >55 ☐
Please indicate your job position at N.E.M.O.:	_____
Please indicate how long you have been working at N.E.M.O.:	<1years ☐ 2-4years ☐ 5-8 years ☐ >8 years ☐

Indicate your agreement with each statement by rating it from (1) strongly disagree to (7) strongly agree.

2. Information Quality	**Disagree ----------Agree**
IQ1: The Office Information System provides information that is exactly what you need	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
IQ2: The Office Information System provides information you need at the right time	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
IQ3: The Office Information System provides information that is relevant to what you need to get the job done	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
IQ4: The Office Information System provides sufficient information	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
IQ5: The Office Information System provides information that is easy to understand	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
IQ6: The Office Information System provides up-to-date information	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
3. System Quality	**Disagree ----------Agree**
SQ1: The Office Information System is easy to use	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
SQ2: The Office Information System is user-friendly	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
SQ3: The Office Information System provides high-speed information	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐

SQ4: The Office Information System provides interactive features between users and the system	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
4. Complementary Technology Quality	**Disagree ----------Agree**
CTQ1: The computer (desktop, laptop, mobile device) you normally use to access the Office Information System is adequate	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
CTQ2: The computer (desktop, laptop, mobile device) you normally use to access the Office Information System has a fast and reliable internet connection	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
CTQ3: The speed of the Internet connection used to access the Office Information System is adequate.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
CTQ4: The reliability of the Internet connection used to access the Office Information System is adequate.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
5. Computer Self-Efficiency	**Never---------- Often**
CSE-1 .... if there was no one around to tell me what to do as I go.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
CSE-2 .... if I had never used an information system like it before.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
CSE-3 .... if I had only the Office information system manuals for reference.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
CSE-4 .... if I had seen someone else using the Office information system before trying it myself.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
CSE-5 .... if I could call someone for help if I got stuck.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
CSE-6 .... if someone else had helped me get started.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
CSE-7 .... if l had a lot of time to complete the job for which the Office information system was provided.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
CSE-8 .... if I had just the built-in help facility for assistance.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
CSE-9 .... if someone showed me how to do it first.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
CSE-IO.... if I had used similar information systems before this one to do the same job.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
6. Service Quality	**Disagree ----------Agree**

SV1: The provision staff keeps the Office Information system software u to date	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
SV2: When users have a problem Office Information system provision staff show a sincere interest in solving it	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
SV3: The Office Information System support staff respond promptly wh users have a problem	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
SV4: The Office Information System support staff tell users exactly whe services will be performed	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
7. User Satisfaction	**Disagree ----------Agree**
US1: Most of the users have a positive attitude of Office Information System the Moodle system function.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
US2: You think that the utility of the Office Information System is high.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
US3: The Office Information system has met your expectations.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
US4: You are satisfied with the Office Information System.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
8. Use	**Never ----------Often**
U1: Your frequency of use of the Office Information System is high	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
U2: You depend upon the Office Information System	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
U3: You were able to complete a task using Office Information System even when there was no one around to tell you what to do	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
U4: You have the knowledge necessary to use the Office Information System	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
9. Perceived Net Benefits	**Never ----------Often**
NB1: The Office Information System helps you improve your job performance	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
NB2: The Office Information System helps the organization save costs	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
NB3: The Office Information System helps you achieve your job goals	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
NB4: Using the Office Information System improves task at work	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
NB5: Using the Office Information System at school increases your job productivity	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
NB6: Overall, using Office Information System enhances job performance	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐

Please return this survey to the person who gave you the form.

Thank you for your participation.