AN EVALUATION OF THE EFFECTIVENESS OF STUDENT MANAGEMENT SYSTEM (SMS) AT BOITEKANELO COLLEGE, DEPARTMENT OF HEALTH CARE SERVICE MANAGEMENT, BOTSWANA

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Abstract
This paper discusses the findings of the study conducted in 2016 which wanted to evaluate the effectiveness of Student Management System (SMS) at Boitekanelo College, Department of Health Care Service Management. The objectives of the study amongst others were, to measure the level of usage and user's satisfaction of the information system and its impact on individual and organization. The study employed the use of questionnaire whereby set of questions where administered to system users (department of health care service management lecturers) to gather information on whether the SMS meet users expectation. The study established that there is limited usage of SMS within the department. The study further revealed that most of the SMS users are not satisfied with regard to the design and implementation of SMS at Boitekanelo College as the overall satisfaction with regard to the SMS was very low. This study proposes that the use of SMS at Boitekanelo College should have piloted with the whole departments within the college.
Key words: *Effectiveness of student management system, Evaluation, Information and Communication Technologies*

Introduction
The revolution of Information and Communication Technologies (ICTs) has place too much pressure on institutions of higher learning to procure and implement information systems for managing student's records. Student management system (SMS) is one of the systems that play an important role in managing students' academic records. SMS can be defined as an information system that is used for maintaining data related to attendance, marks and certification. Barrett (1999) defined SMS as "an integrated software package used to maintain, support, and provide inquiry, analysis, and communication tools that organize student's

accountability data into information to support educational process". According to Xiaoming & Fengjiao (2012), SMS is an information system that can do numerous types of data collections, storage, processing, transformation and transmission. These systems are also used for managing procedures such as registration and tracking student's records. The purpose of this paper is to discuss the findings of the research which intended to evaluate the effectiveness of SMS at Boitekanelo College with regard to the management of students' academic records. The broad aim of this study is to evaluate the effectiveness of student's management system at Boitekanelo College. Student management systems plays a significant role within institutions of higher learning. Platisa & Balaban (2009) stated that user's satisfaction with information system is one of the evaluation criteria of information systems functionality performance. Student management systems provide a simple interface for maintenance of student's records within educational institutions or colleges (Bharamagoudar, Geeta & Totad, 2013). An Efficient SMS play a vital role in improving the quality of higher education (Xiaoming & Fengjiao, 2012). Many Universities and institution of higher learning are using SMS as a platform for managing records of their students. Despite the role played by SMS in managing students records, there is no study that have been conducted at Boitekanelo College to evaluate the effectiveness of SMS, therefore this study seeks to evaluate the effectiveness of SMS at Boitekanelo College, Department of Health Care Service Management in terms of usage of the system, user satisfaction with the system and the impact of SMS on individual. One of the most limitation of the study is that the SMS at Boitekanelo College was still on piloting stage and the college only allow the researchers to assess only three dimensions; Usage of the SMS, User Satisfaction of SMS and Impact of SMS on individual (system users). In addition, the system was piloted with only one (1) department. This study largely adopted a quantitative approach where survey census was used. Data were collected through questionnaire whereby set of questions were formulated and administered to system users at Boitekanelo College, Department of Health Care Service Management to gather information on the effectives of the SMS at Boitekanelo College. The target population of the study consist of 13 respondents comprising health care service management lecturers at Boitekanelo College. The researchers have selected these respondents as they are the end users of the systems. However, out of 13 questionnaire that were administered to system users, 10 (76.9) questionnaires were returned.

Procurement and Implementation of Information Systems
The procurement and implementation of information systems in organizations underscored the need to evaluate those information systems. SMS is one of the information systems that have been procured and implemented by institution of higher learning such as Boitekanelo College to serve as a platform for managing student records. According to Bidyarthy & Kumar (2012), the main objective of SMS is to track all details of students from the day students enrol in their courses until they finish their course, this information can be used for all reporting purposes, tracking of attendance, progress in the course, completed semester years, exam details, assignment detail and final exam results.

Evaluation can be defined as measuring performance of the designed information systems. Hirsschheim & Smithson (1999) accentuated that evaluation is carry out as a matter of course in the effort to measure how well something meets a particular expectation. According to Sambasivam & Assefa (2013), the goals of evaluation are to learn from experience, to provide objectives for measuring the results of the work done, and to provide accountability and achieving its purposes; based on this statement it can be deduced that the main goal for evaluating the SMS at Boitekanelo college is to provide aims for assessing the results of the designed SMS at Boitekanelo College. Huber (1990) indicated that effective systems should provide information that speed decision making process.

Romney et al (1997) defined information systems as set of formal procedure through which data are collected and processed into information and disseminated to users. According to DeLone and McLean (2003), the evaluation or measurement of information system is an important tool in understanding the value and efficacy of management actions and IS investment. Evaluation of information systems is an important tool in predicting and assessing potential cost, benefits, and risk associated with development, implementation and use of IS as well as assigning decision makers to take proper decisions to alleviate the identified risk (Lycett and Giaglis, 2000). Lasley (2009) underscored that the use of SMS is to systematically track students' performance, informing their decisions about their classes and individual students. Datmow & Park (2009) asserted that, those who design and implement information systems in education system should consider the needs of the users. Inadequate training can also act as a bottleneck towards the use of SMS (Datnow and Park, 2009). In the context of Botswana, while few studies has been conducted in information systems in general, they seems to be no studies that have been conducted to evaluate the effectiveness of SMS in private tertiary institutions; therefore this call for a study that can shed light on the SMS in institutions of higher learnings especially private institutions. The model adopted for the study is the DeLone and McLean Model of IS Success developed in 1992 for evaluating or measuring the effectiveness of SMS at Boitekanelo College, Department of Health Care Service Management. In this case, the researcher measure the effectives of SMS at Boitekanelo College in terms of user satisfaction and impact of SMS on individual. This model served as a guideline or roadmap towards evaluating the effective of SMS at Boitekanelo College. This model enabled the researcher to measure SMS at Boitekanelo College with regard to system usage, user's satisfaction and the impact of SMS on individuals. This model is briefly discussed below; The DeLone and McLean model of IS success has been proposed in 1992 which underscores some of the elements to be considered when evaluating the effectiveness of any information systems. DeLone and Mclean (1992) stated that the identified variables or dimensions are not independent success measure but rather interdependent variables.
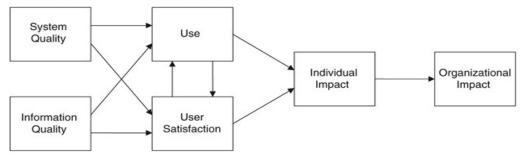
Figure 1: DeLone and McLean original Model of IS success

In this model, it can be deduced that systems quality mainly focus on performance of the system, in our case SMS at Boitekanelo College, Information quality underscore quality of information within the designed and implemented system, Use implies the intention of users to practise or use the designed and implemented information systems, user satisfaction underscore the satisfaction of users with regard to the designed and implemented information systems and individual impact highlight the impact of IS on individual that results in organizational impact.

- **System quality**: This dimension focuses on performance characteristics of the system under study. Many researchers consider the following elements when measuring systems quality; reliability, response time, aggregation of details, human factors, and systems trust and accuracy.
- **Information quality**: This dimension focuses on elements such as completeness, understanding, security, availability and accuracy of the system.
- **Use:** This dimension or element underscore that system use and usage intentions and users intensions are influenced by information quality, systems quality as well as service quality.
- **User's satisfaction**: This dimension measure user's satisfaction with the information system and focuses on elements such as; self-efficacy, repeat visits, personalization etc.
- **Net benefits:** According to DeLone and McLean (2003), the net system benefits are affected by system use and by user satisfaction with the systems. In nutshell, sytem benefits are posited to influence both user satisfaction and a user's intention to use the designed and implemented information system.

Usage of Student Management System

Table 1 below represents the responses by SMS users at Boitekanelo College, Department of Health Care Service Management. As indicated by the table below, most of respondents underscored that they do not use the SMS frequently, 50% of the respondents disagreed that they use SMS systems frequently whereas 40% of systems users strongly disagree that they frequently use SMS at Boitekanelo College. In addition, the majority of SMS users at Boitekanelo stated that they strongly disagree that they use SMS functions per day (70%) and 30% disagree that they use SMS function per day whereas only 10% stated that they use SMS function per day. However, most of SMS systems underscored that they use SMS to support customer services. Based on assumptions, it can be deduced from the findings that most SMS users at Boitekanelo

College don't recognise SMS within the institution as an important tool as the level of usage is very slow.

Table 1:Responses by SMS users at Boitekanelo College

		Count	Column Valid N %	Column N %
I use SMS frequently	Strongly Agree	0	0.0%	0.0%
	Agree	1	10.0%	10.0%
	Disagree	5	50.0%	50.0%
	Strongly Disagree	4	40.0%	40.0%
I use most of SMS per day	Strongly Agree	0	0.0%	0.0%
	Agree	1	10.0%	10.0%
	Disagree	2	20.0%	20.0%
	Strongly Disagree	7	70.0%	70.0%
I use SMS to support Customer service	Strongly Agree	1	10.0%	10.0%
	Agree	7	70.0%	70.0%
	Disagree	1	10.0%	10.0%
	Strongly Disagree	1	10.0%	10.0%

Source: Field data (2016)

User Satisfaction of SMS

Another objective of the study was to measure the level of user satisfaction with regard to SMS. The findings of the study underscored that most SMS users at Boitekanelo College are not satisfied with the designed and implemented SMS within the college. As shown in the table below, 50% of the respondent stated that they strongly disagree that the level of SMS is better than expected whereas 30% of the respondents stated that they disagrees that the overall level with regards to SMS is better than expected.

In addition only 10% of the respondents strongly agreed and agree that the overall satisfaction level with regards to SMS is better than expected. In addition, majority of SMS at Boitekanelo College indicated that they don't depend on SMS system with the institution. However, most system users (70%) underscored that the SMS is extremely useful. From the findings below, it can be deduced that most system users at Boitekanelo College are not satisfied with the designed and implemented SMS even if they found SMS useful in performing their work of information capture, information processing and production of reports.

		Count	Column N %	Column Valid N %
The overall satisfaction level with regards to the SMS is better than expected	Strongly Agree	1	10.0%	10.0%
	Agree	1	10.0%	10.0%
	Disagree	3	30.0%	30.0%
	Strongly Disagree	5	50.0%	50.0%
I become dependent on SMS	Strongly Agree	0	0.0%	0.0%
	Agree	3	30.0%	30.0%
	Disagree	2	20.0%	20.0%
	Strongly Disagree	5	50.0%	50.0%
As a results of SMS, I am seen as more valuable to the college	Strongly Agree	1	10.0%	10.0%
	Agree	6	60.0%	60.0%
	Disagree	2	20.0%	20.0%
	Strongly Disagree	1	10.0%	10.0%
I personally benefited from the existence of SMS in this institution	Strongly Agree	1	10.0%	10.0%
	Agree	4	40.0%	40.0%
	Disagree	2	20.0%	20.0%
	Strongly Disagree	3	30.0%	30.0%
SMS is extremely useful	Strongly Agree	2	20.0%	20.0%
	Agree	6	70.0%	70.0%
	Disagree	1	10.0%	10.0%
	Strongly Disagree	0	0.0%	0.0%

Source: Field data (2016)

Impact of SMS on Individual

Another objective of the study was to measure the impact of SMS on individual. DeLone and McLean (1992) stated that the impact of IS on individual will normally had impact on the organization, therefore it was necessary for the researcher to measure the impact of SMS on individual (system users) as this will results in organizational impact. As indicated by the table below, most of the system users (70%) agreed that the designed and implemented SMS at Boitekanelo College is useful in their job. Based on assumption it can be deduced that SMS at Boitekane College speed work within the institution. Additionally, the majority (80%) of SMS users at Boitekanelo College indicated that the designed and implemented SMS within the institution improve their work and enhances effectiveness within their job. Based on the findings below, it can also deduced that the procured and implemented SMS at Boitekanelo College positively impacted on individuals or systems users. This means that SMS at Boitekanelo College acts a roadmap towards accomplishing a given task.

		Count	Column N %	Column Valid N %
I found the SMS useful in my job	Strongly Agree	2	20.0%	20.0%
	Agree	7	70.0%	70.0%
	Disagree	1	10.0%	10.0%
	Strongly Disagree	0	0.0%	0.0%
Using SMS makes it easier to do the job	Strongly Agree	2	20.0%	20.0%
	Agree	6	70.0%	70.0%
	Disagree	1	10.0%	10.0%
	Strongly Disagree	0	0.0%	0.0%
Using SMS improves my job performance	Strongly Agree	1	10.0%	10.0%
	Agree	8	80.0%	80.0%
	Disagree	1	10.0%	10.0%
	Strongly Disagree	0	0.0%	0.0%
Using SMS enhances my effectiveness in my job	Strongly Agree	1	10.0%	10.0%
	Agree	8	80.0%	80.0%
	Disagree	1	10.0	10.0%
	Strongly Disagree	0	0.0%	0.0%

Source: Field data (2016)

Conclusion

In conclusion, student management system (SMS) plays a critical role within institutions of higher learning across the globe. SMS serves as a spine in institutions of higher learnings as they provide platforms for maintenance of student's records within educational institutions or colleges. The findings of the study indicated that there is limited usage of SMS at Boitekanelo College. Furthermore the findings revealed low level of satisfaction with regard to the procured and implemented SMS at Boitekanelo College. In addition, it can arguably be stated that the readiness of systems in using the procured and implemented systems was at a low level; therefore this study propose that the use of SMS at Boitekanelo College should be made compulsory for all departments within the institution. There is also need for the institution to ensure the integration of SMS within their daily activities of capturing student's records in the form of assignments, tests, presentation and final exams is made compulsory.

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