Extent of Implementation and Evaluation of Student Information and Accounting System (SIAS) of a State University in the Philippines

Anna Monica C. Paculaba
Samar State University, Philippines
monica.paculaba@ssu.edu.ph

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Abstract: Student Information System is crucial among HEI's in the Philippines for the management of records and transactions of the students. This study evaluated the extent of implementation, effectiveness and user satisfaction of Student Information and Accounting System (SIAS) of a State University in the Philippines along system quality, information quality, and system usability. Descriptive - correlational research design was used to determine the significant relationship of the effectiveness and user satisfaction between the extent of implementation of SIAS. The participants of the study were 443 faculty, students and staff. Each participant was given a self – structured survey questionnaire in the light of the assessment. The result revealed that the level of acceptability of the information system is relevant to its extent of implementation.

1. Introduction

Information system plays a vital role in evolving organizations in the establishments of reliable databases (Hashim, 2013). It has to be updated, easy to use and must assist the flow and computation of the information to achieve its goals and to improve productivity and effectiveness (Al-Hudhaif, 2010). The implementation of information technology sets an impact on the effectiveness of an information system's operations and efficiency of an organization's performance. Exploring its operational processes is important (Wiechetek, 2012).

Information system's effectiveness is not easy to measure from a single dimension (DeLone & McLean, 2003). However, most of the researchers used the following subcontracts: system quality, information quality, and system usability as a discrete dimension to capture the key informants' perception on IS effectiveness (Gorla, Somers, & Wong, 2010). Researchers have been recognized the significance of information quality, system quality, and system success as critical components in developing a competitive advantage (DeLone & McLean, 2003).

Satisfaction of the user was described as a summary of experiences through their interaction with technology and represent the cognitive assessment of users' overall experience using an information system (Au, Ngai, & Cheng,

2008). Many researchers have identified that end-user satisfaction is a critical factor in the success of an information system (Sharabati, Sulaiman, & Salleh, 2015). Assessing users' satisfaction and its factor is an essential instrument to measure the value and effectiveness of the information system investment and if it is not resolved, it can lead to a problem (Kassim, Jailani, Hairuddin, & Zamzuri 2012). User satisfaction generally recognized as one of the key measure to ensure that an information system is successful (Ajoye & Nwagwu, 2014).

Information quality is defined by Gustavsson & Jonsson (2008) as the 'fitness for use' concept. Petter et al. (2008), explained information quality as the desirable feature of the system outputs. Arazy et al. (2011) and Al-Mamary, Shamsuddin, & Aziati (2014) identified the quality of information criteria through flexibility, reliability, accuracy, clarity, speed, ease of use, adequacy, objectivity, measurability, and confidentiality and integrity of the information concerned. Hence, information systems should display results that are relevant to the purpose.

Usability is one factor in determining the quality of an information system. The level of usability refers to the comfort of use of such software or information system. The higher the usability value, the greater the advantages of the information system for the benefit of users. Poor usability of information systems delays users' adoption and limits possible improvements in the efficiency and security of services (Kom & Kom, 2018). Thus, repeated usability assessments are essential to the system design process (Horsky et al., 2010).

In 2017, Samar State University acquired the Student Information and Accounting System (SIAS). SIAS is a desktop and web-based system produced by Digital Software Consultancy that offers general features for universities, colleges, and private and government schools as an integrated registrar, cashiering, budget and accounting system. As of 2018, there were already 78 universities and colleges in the Philippines which are currently utilizing the said system: 32 in Luzon; 23 in Visayas and; 13 in Mindanao (Digital Software Consultancy, n.d.). SIAS generally supports accounting and enrolment processes in schools, universities and colleges that respond to the clients' needs in providing frontline services.

With the increase of investment and dependence on information technology, companies have come to realize the need for the quality of information, software and systems (Guimaraes, Armstrong, & Jones, 2017). Hence, evaluation of an information system in an organization is highly needed.

In view of these facts, it is important that every organization that has invested such, knows the impact of the things they invested specifically if quality service is at stake. This was the reason that the researcher took an interest to conduct a study that aims to evaluate the extent of implementation as well as the effectiveness and user satisfaction of Student Information and Accounting System (SIAS) of Samar State University and its significant dependency.

2. Objectives

The general intent of the study was to assess the level of effectiveness and user satisfaction of Student Information and Accounting System of Samar State University along system quality, information quality, and system usability.

To attain the general objectives of the study, the researcher was directed with the following specific objectives:

1. Identify the status of implementation of SIAS in terms of:
   1.1. knowledge learned about SIAS feature and;
   1.2. attendance to training.

2. Evaluate the level of effectiveness and user satisfaction of SIAS concerning:
   2.1 system quality;
   2.2 information quality and;
   2.3 system usability.

3. Identify the significant relationship between the status of implementation and the level of effectiveness, and user satisfaction of SIAS.

3. Methodology

Research Design

Descriptive - correlational research design was used in gathering data that concerns the significant dependency between the extent of implementation, effectiveness and user satisfaction of Student Information and Accounting System of Samar State University.

Research Locale and Participants

This study was conducted in Samar State University – Main Campus. There were 443 identified users of SIAS who served as the participants of the study. Out of 443, 73 were faculty excluded those who validated the questionnaire, 332 were first year college students from different colleges and department of the university, and 38 were staff: 16 from different department and colleges, ten (10) from Registrar's Office, five (5) from Cahier's Office, six (6) from Office of the Student Affairs (OSAS) and one (1) from the Assessment Office. In order to yield more reliable result, complete enumeration sampling was used to get the number of respondents for staff, however, purposive sampling was used to get the number of respondents for the faculty and students.

Data-gathering

Survey questionnaire was given to the faculty, staff and students as the identified respondents of the study. Then, the answered questionnaires by the respondents were collected by the researcher for the interpretation of the gathered data.

Instrumentation

Survey questionnaire that was used was based on Ramezan (2009) and Ajoye (2014). The researcher consulted five (5) IT faculty with at least three (3) years in service for the expert validation of the said instrument. Test instrument was assessed to reliability test using the Inter – rater. Inter – rater represents the extent to which different reviewers assign the same score to a particular variable on a rubric (Chong & Romkey, 2016).

4. Results and Discussion

4.1 Status of the Implementation of Student Information and Accounting System along Attendance to Training

As reflected in figure 1, out of 443 faculty, staff, and students, 187 or 42.2% of them perceived that the administration conducted training on how to use the system. As to the attendance to training 339 or 76.5% did not attended the training. The result implied that majority of the participants that were aware of the training on the manipulation of SIAS, did not attend the training conducted.

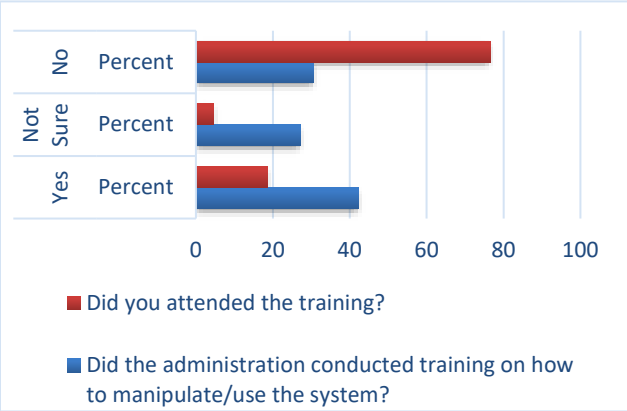

Figure 1: Status of Implementation of SIAS along Attendance to Training

4.2 Status of the Implementation of Student Information and Accounting System along knowledge learned of the participants about SIAS features

Table 1. Status of the Implementation of Student Information and Accounting System along knowledge learned

Respondents	Weighted Mean	Interpretation
Assessment Office Staff	4.9	Excellent
Faculty	3.34	Average
Students	4.02	Good
Office of Student Affairs and Services Staff	3.12	Average
Cashier's Office Staff	4.36	Good
Registrar's Office Staff	3.57	Good
Colleges/Department Staff	3.33	Average

Legend: 1.00-1.5 – Poor/Know nothing
1.51-2.5 – Fair/Know something but no experience
2.51-3.5 – Average/Has some experience but needs supervision
3.51-4.5 – Good /Able to practice independently
4.51-5.0 – Excellent/Able to teach someone else

The result in Table 1 prevails that majority of the participants were able to practice independently with the features of SIAS only that those participants from the faculty of the different colleges and departments, and staff from Office of the Student Affairs and Services perceived that they have some experience on how to operate the features of SIAS, but they still need supervision.

4.3 Effectiveness of SIAS along system quality, information quality, and system usability

The result in Table 2 implied that SIAS is highly effective in presenting integrated reports, limits to unauthorized access, generates result accurately according to the requests, reliable, efficient, easy to use, easy to learn, maintainable and portable. The result agreed to the study of Mifsud (2015), where effectiveness of a system will be measured as to the accuracy, completeness of a product's goal and efficiency refers to the effort required to complete a task for a user.

Table 2. Effectiveness of SIAS along system quality, information quality, and system usability.

Effectiveness	Weighted Mean	Interpretation
System Quality	4.04	Highly Effective
Information Quality	4.11	Highly Effective
System Usability	3.89	Highly Effective

Legend: 1.00-1.5 – Not Effective
1.51-2.5 – Slightly Effective
2.51-3.5 – Moderately Effective
3.51-4.5 – Highly Effective
4.51-5.0 – Extremely Effective

4.4 User Satisfaction of SIAS along system quality, information quality, and system usability

The result in Table 3 revealed that users meet their expectation about the system prior to their use. The result agreed to Sirgy's (1984) Evaluative Congruity Theory which assumes that one or more cognitive congruities can determine the satisfaction of the user: (1) the performance and expectations of the new product prior to its use; (2) performance of the new product after use and performance of the old product before use; (3) expected performance of the product after purchase and performance of the ideal product before purchase and; (4) product expected performance after purchase and product deserved performance after use.

Table 3. User Satisfaction of SIAS along system quality, information quality, and system usability.

User Satisfaction	Weighted Mean	Interpretation
System Quality	3.95	Highly Satisfied
Information Quality	3.96	Highly Satisfied
System Usability	3.94	Highly Satisfied

Legend: 1.00-1.5 – Not Satisfied
1.51-2.5 – Slightly Satisfied
2.51-3.5 – Moderately Satisfied
3.51-4.5 – Highly Satisfied
4.51-5.0 – Extremely Satisfied

4.5 Relationship between the status of implementation along knowledge learned about SIAS features and the level of effectiveness of SIAS

The result in Table 4 revealed that relationship was significant between the level of effectiveness of SIAS along system quality, information quality and system usability, and the knowledge learned of the participants about the said system's features. It implied that users who can practice and use independently the SIAS features evaluated the system quality, information quality and system usability as effective.

Table 4. Relationship between the status of implementation along knowledge learned about SIAS features and the level of effectiveness

Level of Effectiveness Dimension	r-value	p-value
System Quality	0.446**	0.000
Information Quality	0.407**	0.000
System Usability	0.486**	0.000

***Correlation is significant at 0.01 level, two-tailed*

Thus, effectiveness of SIAS depends on the level of knowledge of the user about the said system's features and competence. The result agreed to the study of Karwowski et al. (2003), that user experience, organizational support, and user attitude toward an information system are the areas with the most significant relationship.

4.6 Relationship between the status of implementation along attendance to training and the level of effectiveness of SIAS

Table 5 presents the correlation result between the status of implementation along with attendance to training and the effectiveness of SIAS to the utilizing university. The result implied that effectiveness of the system depends with the attendance to training of the user. Thus, if the user were trained as to the utilization of the system, the users will rate the system effective (Dreheeb et al., 2016).

Table 5. Relationship between the status of implementation along attendance to training and level of effectiveness of SIAS

Indicator	Level of Effectiveness Dimension	p-value	chi - square	Evaluation
Did the administration conducted training on how to manipulate/use the system?	System Quality	0.475	7.582	NS
	Information Quality	0.177	11.462	NS
	System Usability	0.417	8.170	NS
Did you attend the training?	System Quality	0.022	17.86	S
	Information Quality	0.000	27.98	S
	System Usability	0.000	31.230	S

p-value is significant at 0.05 level, two-tailed, S-Significant; NS-Not Significant

4.7 Relationship between the status of implementation along knowledge learned about SIAS features and the level of user satisfaction of SIAS

Table 6. Relationship between the status of implementation along knowledge learned and the level of user satisfaction of SIAS

Level of Satisfaction Dimension	r-value	p-value
System Quality	0.373**	0.000
Information Quality	0.343**	0.000
System Usability	0.391**	0.000

***Correlation is significant at 0.01 level, two-tailed*

The result shown from Table 6 the dependency between the level of user satisfaction concerning system quality, information quality, and user and the knowledge learned of the participants about the said system's features was significant. The result implied that, if the participants did not attend the training, participants will not be satisfied with system's quality, information quality of SIAS because they have low knowledge about the said system's capability. The result agreed to the study of Hsiao-Hui Wang & Chen (2011), that the system's system quality, information quality, and service quality have a substantial impact on consumer satisfaction and utilization.

5. Conclusion and Recommendation

The ability and knowledge of the user to use computers and other related technology is a major factor for the effectiveness of the operation of the system and contributes to the level of satisfaction of the user. Another factor that could affect the system's acceptability is the lack of involvement of the user in the training for the procedure of the system, which resulted to the absence of knowledge of the user on the system's features usage and capability. Hence, technological advancement of the user plays a vital role in delivering an effective and efficient system's transaction in handling and streamlining important administrative procedures, keeping records organized and in order, and increase academic institutions' productivity in giving quality service to its stakeholders.

The university authority may implement an IT policy that will ensure an efficient management and timely maintenance of the system to maximize the effectiveness of the system, and satisfaction of the user. The university on the other hand may also implement a policy to conduct annual training on the operation of the SIAS, specifically that there are newly hired staff and faculty, and newly enrolled students

every school year. Moreover, since the study was conducted one year after the implementation of the Student Information and Accounting System, it is recommended to conduct a comparable study after the full implementation of the said system to attain all – out sustainability.

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