Journal of Information and Knowledge Management (JIKM) Volume 11 Number 2 (2021)

Measuring Users' Satisfaction Towards Student-Based Information Systems In A Selected Institute Of Higher Learning

Sarina Ahmat[1], *Saidatul Akmar Ismail[2], Nur Adlina Zulkifli[3]

[1]Management Information System Division, University of Malaya, Kuala Lumpur
[2, 3]Faculty of Information Management, Universiti Teknologi MARA, Selangor Branch, Puncak Perdana Campus

*Email: saidatulakmar@uitm.edu.my

Received Date: 13 August 2021
Accepted Date: 21 August 2021
Published Date: 1 October 2021

Abstract. Information Systems become one of the most vital applications to reduce human-errors in any organization. The usage of information system sped up as human knowledge expanded. Thus, the management of human knowledge is much easier now through the systems application. Various applications of invention help employees and network users to work effectively and save cost and time efficiently. This study was an attempt to determine users' satisfaction towards student-based information system. The positivism method and deductive approach were chosen for as the research paradigm. Data gathered from the selected respondents through the survey using the questionnaire as a research instrument. The study took place at the Grand Premier Institute of Higher Learning among the undergraduate students and administrative staff at faculties. In this research, the sample size was 262 out of 8300 population size, using simple random sampling as a sampling technique. Finally, an analysis of data conducted using the Statistical Package for the Social Science (SPSS) function of descriptive statistics, reliability analysis, and parametric test as the data analysis approach.
Keywords: Information Systems; Service Quality; Information Quality; User Satisfactions; Students' Information Management; Institute of Higher Learning.

1 Introduction

During the 1990s, Information Systems became significant applications to general society and private establishment to process understudy information. In many organizations such as colleges and universities, the student records, which kept physically, gradually migrated to the application considering the intranet. Around them, the systems only meant for the authoritative staff and administrative personnel

simply because the frameworks used were not ready for general use. The frameworks worked just for putting away also, getting to the understudy record. Beginning the year of 2000, requesting understudy information by the college top administration became routine to the regulatory staff that was in charge of the understudy information at the staff level. The prerequisite of information must be quick and precise because of the accommodation to the Ministry of Higher Education to help them settle on the choice, particularly on the consumption at the up-and-coming year. The information was insufficient and the absence of necessities to supply information by the authoritative staff to the college top administration. Plausibility the student information is inadequate and turned out badly because of the human mistake while entering understudy information from document wellspring of the student's profile.

Subsequently, to overcome this issue, data systems upgraded in terms of usefulness and foundation, for example, from the intranet to web and web-based. The Systems created which were then increasingly proficient and interesting because the information was entering from the understudy themselves through the systems and the probability to glitch was low in contrast to previous experience beforehand. As needs increased, the data systems have become the fundamental resource for the college and an extraordinary cost distributed consistently to guarantee the support and improvement of data systems, and thus, created the dissemination premise to the current innovation.

Students Information Systems (SIS) is a fundamental framework that has been using by the students, instructors, and administrative staffs at the Grand Premier Institute of Higher Learning (GPIHL). The system developed in 1996 and turned out to be increasingly steady in 2001. The soundness of systems centred on systems' usefulness and students' data execution. This is an actual existence cycle system, which has four main significant sub-systems, whereby it starts with succession procedures, for example, affirmation, enrolment, assessment, and conference. This system developed around 20 years and well used by the students, speakers and authoritative staffs to encourage their day-by-day task and to guaranteeing the understudies' information, which then assisted the college's dynamic. Now, the Grand, Premier Institute of Higher Learning has 12 resources, 2 institutes, and 3 centres, which comprise 8300 undergraduate understudies and 9280 postgraduate understudies. GPIHL also encompasses 2,613 scholastic staff, and 590 regulatory staff that regularly use the SIS.

Based on the literature explanations and examples, the problem was, we did not know whether the SIS satisfied the students or administrative staffs or not. Almost 20 years the users return to the SIS and use the functions and processes of the systems. Are the systems still valid with the user requirement or not? The researcher also finds it difficult to define factors in order to determining user satisfaction towards SIS's functions, interface, menus, procedures, and timeliness of information. Hence, this research was an attempt to uncover the perspectives of SIS's users towards it application.

2 Literature Review

Ajoye and Nwagwu (2014) in their investigation had estimated the client fulfilment of Information of the Postgraduate School Portal, the University of Ibadan, Nigeria using the variables, such as, frameworks quality, data quality, administration quality, mechanical and infrastructural issues, and users' IT self-viability. The investigation adjusted from Delone and McLean (2003) using a calculated model. The discovering shows that the quality of the system was the most critical factor toward client fulfilment, however innovative also, infrastructural issues were a minimal factor in the impression of postgraduate students. In addition, the components, for example, frameworks quality, data quality, and administration quality were the solid variables to look at the connection between them and user fulfilment.

While there was an unimportant connection among innovative and infrastructural issues and user fulfilment and the outcome was the equivalent with the connection between data frameworks measures and client's IT self-adequacy. In Ajoye and Nwagwu's beliefs, the factor, for example, mechanical and infrastructural and computer user self-adequacy were wrongly to look at in the Nigerian nation because of the helpless system thought about with the excellent nation. Nwone (2014) additionally learned about client fulfilment at the same spot and the same frameworks, which are the University of Ibadan Post Graduate School Web Entry. They adopted the components from the DeLone and McLean IS Success Model (1992), in expansion, one factor, for example, innovative and infrastructural issues. The outcome is the same as Ajoye and Nwagwu (2014) discovering. A framework quality had the most elevated effect, while the mechanical and infrastructural issues have a minimal effect on client fulfilment. We could see that Nwone (2014) had done the exploration first, at that point, followed by Ajoye and Nwagwu (2014) because they concentrated nearly the equivalent aside from Ajoye and Nwagwu. They added one more factor to inspect the impact on client fulfilment.

As shown by Seok and Kim (2010), between data fulfilment and frameworks fulfilment both influenced user fulfilment. However, data fulfilment influenced the most. Under data fulfilment, they analysed the elements, for example, setting, exactness, configuration, and idealness. While frameworks fulfilment, they analysed factors, such as, convenience and UI. That implies the understudies of colleges in Seoul as respondents in this examination were happy with the specific situation, exactness, organization, and practicality of the Web-based Information Systems. The scientists had proposed another reasonable structure, which is relating the elements of data and frameworks fulfilment (DeLone and McLean, 1992; Seddon and Kiew, 1994) with the five measurements proposed by Doll and Torkzadeh (1988, quoted in Seok and Kim, 2010). They analysed the investigation on two autonomy factors and as we would see it. It was not exactly showing that the Web-based Data Systems in Korea colleges was a viable application to the understudies, and the scientists referenced that the sample size was small.

Thanh (2014) had contemplated the variables that influenced client fulfilment towards EDUSOFT information systems in overseeing understudy information. Considering the DeLone and McLean Information System Achievement Model (The D&M IS Success Model, 1992), he expanded the client fulfilment factors into four

factors in terms of administration quality, data quality, frameworks quality, and nature of LAN structure. The outcome had showed that the variables have a noteworthy relationship with client fulfilment. The data framework, that is EDUSOFT, has been ready to help the understudies and staff dealing with the understudy information at Dalat University rapidly, successful, and proficient. Nordaliela, Suriani, and Nathaniel (2013) spread the elements that caused ease of use on understudy data frameworks in a state-funded college. They led the investigation through the study and meeting. In the second piece of polls, there were open-ended inquiries to urge the respondents to address the inquiries dependent on their feeling and experience about information systems. Ease of use of an information system was a significant factor to recognize whether the user can use the application. The clients would not decide to use the systems if it was not handy to them, and they liked to do their assignment physically.

Overall, the users needed to use the data frameworks that had effectively created in the colleges or government e-administrations application, even though the data framework was not down to earth and setting aside the effort to use it. Considering their finding through the past investigation, they had expressed four factors, for example, helpful data, convenient access, interface structure, and blunder recuperation in their investigation. The outcome exhibited that component, for example, they met a value in term of the significance of data convenience in term of usability of usefulness in these information systems. They influenced the components the user fulfilment.

The researchers have proposed the following hypotheses.

H1: There is a significant relationship between usefulness and user satisfaction in Student Information Systems.
H2: There is a significant relationship between ease of use and user satisfaction in Student Information Systems.
H3: There is a significant relationship between accessibility and user satisfaction in Student Information Systems.
H4: There is a significant relationship between integration and user satisfaction in Student Information Systems.
H5: There is a significant relationship between privacy and user satisfaction in Student Information Systems.

3 Materials and Methods

We chose a quantitative examination in this investigation since it was dependable with the exploration zone. The outcome depended on the reality and we could examine measurably the wonder of the perceptions of the respondents. The investigation was about the connection between autonomous and subordinate factors that required a theory. We have held the review at the Grand Premier Institute of Higher Learning among the college understudies and regulatory staffs at resources. The testing method used in this examination was irregular, which arbitrarily picked the sample from the populace.

The populace size of college understudies was 8300 and 590 managerial staff. Because of the populace size has given, the sample size ought to be led in this investigation as around 262 respondents dependent on the sample size has given by Raosoft programming. Raosoft programming, which is an online device for test size count that can access through the connection http, delivered the sample size://www.raosoft.com/samplesize.html. The sample size was determined at half-reaction dispersion and 90% certainty level (t esteem equivalent to 1.65) with a 5% margin error. Notwithstanding, the researchers circulated the surveys to 290 respondents of undergraduate and postgraduate students, 424 respondents of managerial staffs at the Grand Premier Institute of Higher Learning. Researchers circulated more than the suggested test size by Raosoft programming because of the likelihood that not all the respondents would restore the survey.

4 Results

Google Forms analysed automatic research data of administrative staff. The questionnaires distributed through the email and the Google Forms auto-generated the responses from them. The Google Forms presented the results in pie chart format. As a result, there were 284 respondents involved in the questionnaire survey. 179 female respondents contribute towards this survey, which comprised 63.0% of the total respondents. While male respondents contributed 37.0% of total respondents, there are 105 of them. We divided the groups of age into 5 categories. In this study, they were (a) between 20 and 24 years old; (b) between 25 and 29 years old; (c) between 30 and 34 years old; (d) between 35 and 39 years old; and (e) 40 years old and above. However, the respondents who have answered to the questions only in categories age between 20 and 24 years old, 25 and 29 years old, and 40 years old and above. The first categories who dominated the survey were the group age between 20 and 24 years old. This age group contributed 97.2% of the total respondents (276 respondents). The age group of 25 and 29 years old contributed 2.1% from the 284 respondents (6 respondents). There were only 0.7% of the respondents comprised the age group of 40 years old and above (two respondents). The group of age between 20 and 24 years old dominated the survey because of the sample target in this study as undergraduate students and their age were between those groups.

In this study, the following variables i.e. usefulness, ease of use, accessibility, integration, privacy, user satisfaction and functionality of the system highlighted. We reported the findings accordingly, as below:

Usefulness

Using the systems in my study or job would enable me to accomplish tasks more quickly

The results of the statement “Using the systems in my study/job would enable me to accomplish tasks more quickly”. 28% (7 respondents) of the respondents strongly agreed with this statement. 40% (10 respondents) of the respondents answered they

agreed with this statement. While the other 32% (8 respondents) of the respondents were neutral, whether they agree, disagree, sure about the statement.

Using the systems would improve my task performance

The results of the statement "Using the systems would improve my task performance". 20% (5 respondents) of the respondents strongly agreed with this statement. 56% (14 respondents) of the respondents answer they agree with this statement. 20% (5 respondents) of the respondents were neutral with their answer, whether they agree; disagree, sure about the statement. Only one (4%) respondent disagreed with this statement.

Using the systems in my task would increase my productivity.

The results of the statement "Using the systems in my task would increase my productivity". 12% (3 respondents) of the respondents strongly agreed with this statement. 56% (14 respondents) of the respondents answered they agree with this statement. 28% (7 respondents) of the respondents are neutral with their answer, whether they agree; disagree, sure about the statement. Only one (4%) respondent disagreed with this statement.

Using the systems would enhance my effectiveness on the task.

The results of the statement "Using the systems would enhance my effectiveness on the task". 16% (4 respondents) of the respondents strongly agreed with this statement. 56% (14 respondents) of the respondents answer they agree with this statement. 16% (4 respondents) of the respondents were neutral with their answer, whether they agree; disagree, sure about the statement. While the others 12% (3 respondents) of the respondents disagreed with the statement.

Ease of Use

Learning to operate the systems would be easy for me.

The results of the statement "I would find the systems useful in my task". 20% (5 respondents) of the respondents strongly agreed with this statement. 60% (15 respondents) of the respondents answer they agreed with this statement. While the others 20% (5 respondents) of the respondents were neutral with their answer, whether they agree, disagree, sure about the statement.

I would find it easy to get the systems to do what I want it to do.

The results of the statement "I would find it easy to get the systems to do what I want it to do". 12% (3 respondents) of the respondents strongly agreed with this statement. 48% (12 respondents) of the respondents answered they agree with this

statement. 24% (6 respondents) of the respondents were neutral with their answer, whether they agree; disagree, sure about the statement. While the others 16% (4 respondents) of the respondents disagreed with the statement.

Accessibility

I can access the information.

The results of the statement "I can access the information". 8% (2 respondents) of the respondents strongly agreed with this statement. 40% (10 respondents) of the respondents answered they agree with this statement. 24% (6 respondents) of the respondents were neutral with their answer, whether they agree; disagree, sure about the statement. While the others 28% (7 respondents) of the respondents disagreed with the statement.

I can access the information from anywhere.

The results of the statement "I can access the information from anywhere". 32% (8 respondents) of the respondents agreed with this statement. 28% (7 respondents) of the respondents was neutral with their statements. 28% (7 respondents) of the respondents disagreed with their answers. While the others 12% (3 respondents) of the respondents strongly disagreed with the statement.

Integration

Data is integrated effectively from different parts of the systems.

The results of the statement "Data is integrated effectively from different parts of the systems". Most of the respondents answered with neutral, which is 60% (15 respondents), followed by agreeing which is 32% (8 respondents). While the others 8% (two respondents) answered, disagree.

Data is integrated effectively from another system.

The results of the statement "Data is integrated effectively from another system". Most of the respondents answered with neutral which is 56% (14 respondents), followed by agreeing which is 28% (7 respondents). While the others 16% (four respondents) answered, disagree.

Privacy

I trust the systems to keep my personal information safe.
The results of the statement "I trust the systems to keep my personal information safe". Most of the respondents agreed with this statement, which is 60% (15 respondents), followed by 28% (7 respondents) who was neutral. Meanwhile, 8% (two respondents) chose strongly agree. Other than that, 4% (1 respondent) disagreed.

When I see my personal information on the systems, I trust only I can see my personal information.

The results of the statement "When I see my personal information on the systems, I trust only I can see my personal information". 48% (12 respondents) of the respondents agreed with this statement, followed by 28% (7 respondents) who was neutral. Meanwhile, 16% (4 respondents) chose strongly agree. Other than that, 4% (one respondent) disagreed, while the other 4% (one respondent) of the respondents chose strongly disagree.

User Satisfaction

My experience in using the systems is very satisfying
The results of the statement "My experience in using the systems is very satisfying". 48% (12 respondents) of the respondents agreed with this statement, followed by 40% (10 respondents) was neutral. Other than that, 12% (3 respondents) disagreed to the statement.

The functionality of the systems is very satisfying.

The results of the statement "The functionality of the systems is very satisfying". 48% (12 respondents) of the respondents agreed with this statement, followed by 32% (8 respondents) was neutral. Other than that, 20% (5 respondents) of the respondents disagreed with the statement.

5 Discussion

The systems helped the administration in dealing with the issues of GPIHL understudies. The aftereffect of this investigation will give some commitment to the SIS. This exploration study looks at the fulfilment of clients, which comprises college understudies, and authoritative staffs mostly at the resources have in the Grand Premier Institute of Higher Learning. The past examinations have distinguished that frameworks quality, administration quality, data quality are the components that affected client fulfilment toward the effectiveness of the data frameworks. Hence, this investigation has concentrated on certain variables, which are convenience, usability, availability, coordination, and protection to distinguish the relationship with client fulfilment by having an overview among the clients. Considering the surveys that circulated to the 290 college understudies and 424 authoritative staffs in Grand, Premier Institute of Higher Learning, this investigation has gotten such a significant number of contributions from the respondents. Those information sources were useful as a direction to improve the frameworks and upheld by the contributions from the open-ended inquiries. Before this, the clients can use no stage to communicate their issues experienced or thoughts for the development of the frameworks. The following

is a portion of the criticisms received from the open-ended inquiry, which has joined with the closed-ended inquiries in the polls:

"Need to change the subject and it will look enjoys extremely amazing and when staff/ understudies get to glad to use it."
"Expectation can improve in terms of interface format and agreeable client besides intelligent also, quick handling application to get data."
"Happy with the frameworks. Ideally could come out with an increasingly intelligent surface."
"An SIS framework is extremely helpful to get data and easy to use."
"There is still an opportunity to get better."
"The electronic ISIS is constantly hindered because of the system flimsiness in addition to
We cannot redo reports accessible, as per the Faculty needs."
"There is consistently issue with the java. The systems continue hanging, and sometimes IT requires some investment stacking data. Here and there I have to open up other segments to allude."

Considering the criticisms, the systems researcher and group of the SIS need to look at, break down the issues or issue, and afterward come out with the thoughts for the improvement and this will guarantee that the SIS could proceed as a pertinence framework used by the users.

6 Conclusion

Information systems have evolved into one of the most important applications for reducing human errors, ease and quick use of information in any organisation. More and more applications innovated and invented to cope with ever changing and fast moving world of information, communication technologies. Through this study, we were able to determine user satisfaction with a student-based information system. In a closed-ended inquiry, majority of the respondents seemed to have good experiences with SIS. On the other hand, we received better constructive comments in open-ended inquiry section. Hence, SIS developer, designer and management team should consider the users' comments and fulfil the users' needs and requirement as found in this study. We recommended more follow-ups study on user requirement from time to time. There is no one perfect man made system in the application world.

References

Abugabah, A., Sanzogni, L., & Poropat, A. E. (2009, December). The impact of information systems on user performance: A critical review and theoretical model. In International Conference on information systems (ICIS).

Ajoye, M. B. O., & Nwagwu, W. E. (2014). Information Systems User Satisfaction: a Survey of the Postgraduate School Portal, University of Ibadan, Nigeria.

Bergersen, B. M. (2004). User satisfaction and influencing issues. Network and Systems Administration Research Surveys, 1, 5-26.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS quarterly, 319-340.

DeLone, W. H., & Mclean, E. R. (2003). The DeLone and McLean Model of Information Systems Success: A Ten-Year Update. Journal of Management Information Systems / Spring, 19(4), 9–30. http://doi.org/10.1073/pnas.0914199107

Goforth, C. (2015). University of Virginia Library Sites. Retrieved January 03, 2017, from http://data.library.virginia.edu/using-and-interpreting-cronbachs-alpha/

Kim, Y., & Lee, H. S. (2014). Quality, perceived usefulness, user satisfaction, and intention to use: An empirical study of ubiquitous personal robot service. Asian Social Science, 10(11), 1.

Li, Y., Liu, W., & Jin, F. (2014). Research of the Relationship between Privacy Concern and Continuous Use Behaviour in Online Personalized System. In PACIS (p. 252).

Lyytinen, K. (1989). New challenges of systems development: a vision of the 90's. ACM SIGMIS Database, 20(3), 1-12.

Mohamad Noorman Masrek. (2016). Quantitative Data Analysis Using SPSS [PowerPoint Slides].

Nordaliela, M. R., Suriani, H., & Nathaniel, E. L. (2013). Usability Analysis of Students Information Systems in a Public University 4(6), 806–810.

Nwone, S. A. (2014). Exploratory Study of Information Systems User Satisfaction: A Study of University of Ibadan Post Graduate School Web Portal. International Journal of Computer and Information Technology, 03(06), 1372–1381.

Park, I. (2009). The Study on the Relationship between Privacy Concerns and Information Systems Effectiveness. ICIS 2009 Proceedings, 153.

Sekaran, U. (2003). Research methods for business- A skill building approach (4th ed.). United States of America: John Wiley & Sons, Inc

Sekaran, U., & Bougie, R. (2010). Research methods for business: A skill buildings approach (5th ed.). Chichester, West Sussex: John Wiley & Sons, Inc.

Seok, H., Corresponding, L., & Kim, J. W. (2010). Student User Satisfaction with Web-based Information Systems in Korean Universities. International Journal of Business and Management, 5(1), 62–68.

Statistics support for students. (n.d.). Pearson's correlation. Retrieved January 13, 2017, from http://www.statstutor.ac.uk/resources/uploaded/pearsons.pdf

Thanh, P. (2014). Evaluating the User's Satisfaction of Applying Information Systems Based on EDUSOFT in Managing Students' Data at Đ à L ạ t University, 30(2), 36–43.

Wixom, B. H., & Todd, P. A. (2005). A theoretical integration of user satisfaction and technology acceptance. Information Systems Research, 16(1), 85–102. http://doi.org/10.1287/isre.1050.0042

Xiao, L., & Dasgupta, S. (2002). Measurement of user satisfaction with web-based Information systems: An empirical study. Proceedings of the Eighth Americas Conference on Information Systems: Human-Computer Interaction Studies in MIS, 1149–1155. http://doi.org/10.1287/isre.3.1.60

Yusri, A., Azrin, M., & Afiqah, S. N. (2015). The Influence of Information Systems Success Factors towards User Satisfaction in Universiti Teknikal Malaysia Melaka, 10(23), 18155–18164.