

## **Studies on the Application of Information System Online University Based on Civitas Academic Satisfaction Level (Case Study in Indonesia University of Education)**

Aim Abdulkarim and Wawan Setiawan  
Indonesia University of Education, Bandung, West Java, Indonesia

---

**Abstract:** Universities generally have developed applications online information systems in managing academic activities, ranging from student selection, contract courses, management courses, management of student grades, research management, management literature, faculty performance, profile lecturers, expertise faculty, finances, facility assets, management test session, until the management graduation. User information system includes university academic units consisting of leaders and lecturers, supporting units consists of the leadership and staff and students. The success of the implementation of an online information system one of which can be seen from the level of satisfaction of the users. This research is a case study at Indonesia University of Education. The study was conducted through survey method using a questionnaire and interviews were developed from the conceptual model of information system and involving 1183 respondents. The instrument consisted of questionnaires and interviews on 4 categories: very satisfied, satisfied no satisfied and did not know. The results showed the level of user satisfaction on the online information system of Indonesia University of Education fair valued at an average (three) of the maximum (four). Students showed the highest level of satisfaction followed by academic units and the lowest satisfaction level shown by the supporting units. Student responses showed the most consistent level of satisfaction or stable among all respondents in all aspects of the system. The response no satisfied and do not know most shown by supporting units. Quality processes and collaboration is a component system that shows the lowest level of satisfaction by academic and supporting units. To support the follow-up development and management of online information systems, need to be prepared holistically. Online information system needs arrangements which refers to the university business processes. The development of online information systems need to be more mature planning equipped with regulations, business processes and standard operating procedures as well as a comprehensive understanding of the parties of developers and users. Operasioal management system online information need to be equipped with adequate resources manager of both number and competence. The unis leadership of the university needs to regularly monitor and evaluate the operation of online information management system and compliance with business processes. The implementation of online information needs to be disseminated continuously by developers to users.

**Key words:** Information systems, level of satisfaction, academic business processes, manager, business

---

### **INTRODUCTION**

Education has a strategic values for human life, because of beings through education, human become cultured and able to develop a culture in order to achieve a better life. Education plays a role not only in the formation of the individual but also in the formation of cultural and community development towards a better quality of life. Strategic role of education requires the provision of education as well, planned, organized and systematic that the processes occurring in it is able to contribute appropriately in order to people's lives.

In the globalization era, communities experiencing significant changes as the rapid development of science and technology. In the context of the changes and developments, a nation can no longer simply rely on the availability of natural resources. Which will occupy a more important position confront the natural resources is human resources productive and capable of creating a network of innovative and technologically. The progress of a nation will be determined by the quality of its human resources which is able to compete in the global economic arena (competitive advantage) (Indrajit and Djokopranoto, 2006).

In relation to the existence and role of higher education, demands that need to be anticipated with the efforts of enhancing accountability in the management of education. Indonesia through the Ministry of National Education has established a policy that is a guideline program planning in the development of education in Indonesia including higher education both public universities and private colleges. Higher education policy covers three main aspects, namely: equity and expanding access, improving the quality, relevance and competitiveness and strengthening governance, accountability and public image.

Corresponding with the policy number strengthening governance, accountability and public image, Indonesia Univeraitas of Education has implemented an online information system. Various applications of information systems ranging from new admissions, contracts courses, management courses, students value management, research management, reference management, faculty performance, profile lecturers, faculty expertise, finance, facility assets, management of the trial exams, graduation, etc. To see the successful implementation of information systems, measurement of online information system implementation needs to be done. This study describes the results of the study of the application of information systems at the Indonesia University of Education one of the colleges of government with special autonomous that is legal entity college.

**Conceptual information system model:** The information system is the overall process flow of data and information from the identification and collection of data and information storage, deployed and used for various purposes implementation of organizational tasks. In practice, information system can be viewed from two aspects: technical and organizational aspects. The technical aspects relating to data processing technology that is good for getting information fast, punctual and correct. While closely related to the organizational aspects of information flow arrangements both sources and users of information, so that according to its importance and usefulness (Kenneth and Laudon, 2014).

The information system consists of the concept of management and information systems. Management is a device of information that helps the decision making process. The function of the information system is to control, analysis and visualization. Management information system is always associated with computer based information processing. The information system is a computer-based formal system to provide information for decision makers in the organization (Turban, 1990). The nature of the information system that

is comprehensive, coordinated rationally, change the data to be information, increase productivity, according to the characteristics of the manager and using quality criteria (Davis, 1985).

The information system can be defined as a system that perform functions to provide data and information that affect affecting all computer operations. Information system provide data and information for managerial interests at all levels of management and the need of routine. Before no computers, information systems have been around for supplying leaders with information to enable them to plan and control control the operation of the organization. The presence of the computer to add some dimension such as speed, accuracy, increased volume of data which allows consideration of alternatives become more in a decision (Efraim *et al.*, 1994).

A good information system can provide data sets on the final outcome (ultimate outcomes), output, process and input in such a way consistent with each other so that the efficiency ratio can be calculated. Integration of information systems require coordination with relevant parties to avoid differences in perception between the analysis of systems and users of information, misconceptions and enthusiastic exaggeration in receiving information systems, human resource capabilities and technologies that have not been synchronized, conflicts of structural constraints and innovation in information technology and the commitment they weak (Kenneth and Laudon, 2014).

The system generates information that is homogeneous to serve the needs of the user heterogeneous. The work culture of the applied information technology have contributed in generating quality information from a system. Every organization must adapt information systems to the needs of the user. The three main objectives which are common to all systems, namely) supports management functions (stewardship) management, support management decision making and support the organization's activities day by day. The information system has an important role in providing information for management at all levels, so that the information generated by the information system can be used for management then the analysis to system design must supply the needs of information desired by management. Development of an online university information system generally uses a conceptual model of information system refers to Fig. 1.

Based on the conceptual model of Fig. 1 can be formulated connectedness between the components as shown in Fig. 2 containing context of the development, use and impact of the existence of information systems.

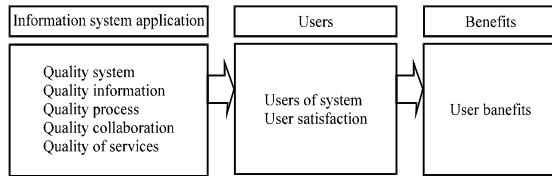


Fig. 1: Conceptual model of information systems

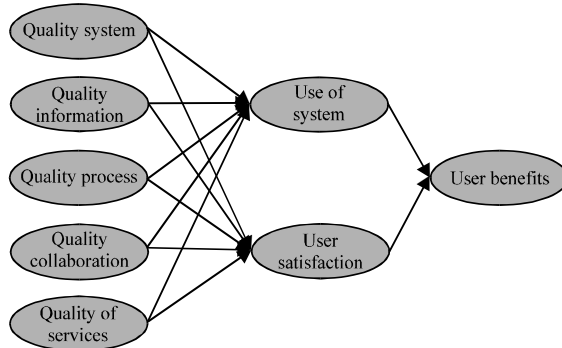


Fig. 2: Connection conceptual model of information systems

The assumptions built into the development of information systems to the conceptual model above as follows. Quality systems, information, processes and services affect the system's use. The quality of systems, information, processes and services affect the satisfaction of the system. Use of the system the user satisfaction effect on user benefits. Based on the assumptions above the instrument components satisfaction level information systems formulated as:

**Quality system:**

- Navigation
- Design
- Usefulness
- Function
- Response
- Completeness

**Quality information:**

- Understanding
- Usefulness
- Attractiveness
- Reliability
- Wealth
- Speed

**Quality process:**

- Efficiency
- Reliability
- Accuracy

- Ease initiation
- Understanding
- Traceness
- Completeness

**Quality of collaboration:**

- Support and communication
- Information from various sources
- Storage and documentation is
- Coordination
- Contact person
- Effectiveness network
- Collaboration effectiveness

**Quality of service:**

- Responsiveness
- Reliability
- Empathy
- Security
- Training

**The use of the system:**

- Everyday use
- Level of use features

**User satisfaction:**

- Adequacy
- Keefesienen
- Effectiveness
- Satisfaction

**User benefits:**

- Performance
- Achievement
- Productivity
- Effectiveness
- Simplification
- Usability/benefits

Based on the conceptual model above, produced a questionnaire containing 43 items component satisfaction component for student satisfaction for academic units and supporting units and 30 items component for student satisfaction levels. The differences number of items of components due to students not contain components related to the policy and managerial.

**MATERIALS AND METHODS**

This study uses a quantitative approach in explaining the satisfaction of academic faculty of information systems. The method used is descriptive survey verification, explanatory or onfirmatory. Data were collected from a sample that has been determined,

Table 1: Distribution of research samples

Respondents	Description	Amount
<b>Academic units</b>		
Leader	8 units×4 persons	32 persons
Lecturer	8 units×8 persons	64 persons
<b>Supporting units</b>		
Leader	5 units×persons	20 persons
Staff	5 units×8 persons	40 persons
Students	All units	970 persons
Leaders (interview)	4 units×1 person	4 persons
Lecturer (interview)	8 units×1 person	8 persons
Operator (interview)	5 units×1 person	5 persons
Students (interview)	All units	40 persons
	Total	1.183 persons

research data captured using questionnaires and interviews. The data collected is then used to describe the characteristics of a particular population. For the deepening of information, gauges compliance data used interview (Sugiyono, 2009).

The research procedures adopted in the implementation of the study include formulation of the problem, literature review, instrument development, sampling, data collection, processing and analysis of data and conclusions results (Fraenkel and Norman, 2006).

The population in this study is all academic faculty and staff of Indonesia University of Education consist of various elements, namely leadership, technical implementation, faculty and students. Samples were taken by purposive sampling each representative leadership, faculty and students scattered who was on the faculty, study program and supporting unita directorates and buerau. Samples were dispersed as in Table 1 (Sugiyono, 2009).

Distribution of samples as in Table 1 occupy a university academic community representation both from aspect both of the number of and units.

## RESULTS AND DISCUSSION

**Qualifications of civitas academic satisfaction level:** Based on units of respondents the level of satisfaction with the information system developed by the Indonesia University of Education are in good category with an average value of 2.95 out of a maximum value of 4 such as in Table 2.

Lecturer and students expressed satisfaction level of information system services first and second highest with a value, respectively 3.23 and 3.06. This shows that in general the lecturers and students feel satisfied with the service of information system developed. Supporting units leader expressed satisfaction at the level of the lowest level of 2.58. Leaders of supporting units mostly from lecturer, so it needs to boost the understanding of information systems at the unit. Each respondent have used the information system applications in accordance

Table 2: Qualification of satisfaction level

Respondents	Qualification of satisfaction level
Academic units leader	2.97
Lecturer	3.23
Supporting units leader	2.58
Staff	2.92
Students	3.06

Table 3: Trend of satisfaction

Respondents	Satisfaction level (%)			
	Very satisfied	Satisfied	No satisfied	Do not know
Academic units	19.33	75.92	4.31	0.44
Supprting units	12.69	64.44	13.66	9.21
Students	11.20	83.76	4.77	0.27

Table 4: Level of satisfaction of information system components

Conceptual component	Qualification of satisfaction level
Quality system	2.95
Quality information	2.96
Quality process	2.89
Quality collaboration	2.89
Quality of services	2.93
Use of system	2.86
User satisfaction	3.03
User benefits	3.10

with the scope of work. Supporting units leaders and staff more use managerial applications. While lecturer and students more use of information system applications that are academic. It shows that the managerial information systems more complex and require a comprehensive understanding. This follows the trend of satisfaction level of information systems by users as shown in Table 3.

In general, academic civitas showed high levels of satisfaction with online information systems as much as 89.21% (17.12% very satisfied and 72.09% satisfied). Academic units leaders and lecturer expressed satisfaction at the highest 95.25% (19.33% very satisfied and 75.92% satisfied) student 94.96% (11.20% very satisfied and 83.76% satisfied) and the lower by supporting units 87.13% (12.69% very satisfied and 64.44% are satisfied). Not satisfied categories and do not know on information systems are the supporting units especially staff. This shows the difference in interest and understanding of the online information systems (Indrajit and Djokopranoto, 2006). Respondents academic units and students more focused on academic information system while the supporting units more focused on information systems related managerial and reporting. Thus, the model of online information system developed generally have appropriate academic needs of users.

**Satisfaction level based on information system components:** This the satisfaction average associated with the conceptual model developed of information system includes (eight) components such as (Table 4).

Table 5: Academic units

Components of conceptual model	Satisfaction level (%)			
	Very satisfied	Satisfied	No satisfied	Do not know
Quality system	19	73	7	1
Quality information	24	72	3	1
Quality process	22	88	6	1
Quality collaboration	10	85	5	0
Quality of services	9	85	5	0
Use of system	0	100	0	0
User satisfaction	26	71	4	0
User benefits	37	61	2	0

Table 6: Supporting units

Components of conceptual model	Satisfaction level (%)			
	Very satisfied	Satisfied	No satisfied	Do not know
Quality system	24	55	15	6
Quality information	10	69	13	8
Quality process	6	84	17	10
Quality collaboration	4	57	27	12
Quality of services	0	78	11	12
Use of system	0	83	4	13
User satisfaction	15	64	11	10
User benefits	36	53	3	7

Table 7: Students

Components of conceptual model	Satisfaction level (%)			
	Very satisfied	Satisfied	No satisfied	Do not know
Quality system	13.92	82.56	3.42	0.10
Quality information	10.13	86.70	3.14	0.00
Quality process	10.15	83.35	6.10	0.40
Quality collaboration	10.55	81.03	8.01	0.41
Quality of services	09.51	84.48	5.34	0.67
Use of system	14.59	81.65	3.76	0.00
User satisfaction	11.82	83.99	3.85	0.34
User benefits	10.46	85.13	4.28	0.13

In general based on the average value of satisfaction level is 2.95 on a scale of 4 and can be categorized as good or satisfactory. The value of satisfaction with the components of the system use the lowest 2.86, it indicates that the frequency of use and the use of features are still limited at the time of need. The highest satisfaction score of 3.10 is the benefit of users this indicates that the online information system provide high benefits. The quality of the process and collaboration is closely related to planning systems of the same value of 2.89 this was confirmed by interviews and document tracking process, some application development systems do not properly planned or scheduled. Quality of collaboration relates to collaboration between stakeholders or users of the system with the system developer (Scott, 1986). Often the request for the system is not equipped with an academic scripture or a description of the systemic and systematic. This follows the trend of satisfaction with the information system components (Table 5).

Academic units generally use the system according to the needs of all of the respondents expressed satisfaction. This shows that the academic units relies on

Table 8: Quality systems

Respondents	Satisfaction level (%)			
	Very satisfied	Satisfied	No satisfied	Do not know
Academic units	19.44	72.57	07.29	0.69
Supporting units	24.31	54.86	14.58	6.25
Students	13.92	82.56	03.42	0.10

Table 9: Quality information

Respondents	Satisfaction level (%)			
	Very satisfied	Satisfied	No satisfied	Do not know
Academic units	24.31	71.53	03.47	0.69
Supporting units	10.42	68.75	12.50	8.33
Students	10.13	86.70	03.14	0.00

online information systems. Components of quality system, quality process and quality collaboration still had no satisfied response and do not know this indicates system processes and the development of systems that have not been well understood (Indrajit and Djokopranoto, 2006) (Table 6).

Supporting units using the system according to the needs and tasks of the service but the category not satisfied and do not know still high. Component quality collaboration got the worst response this shows that the support units requires improved a good understanding of system (Indrajit and Djokopranoto, 2006) (Table 7).

The information system that relates directly to students generally stable and is a major process in the academic business process. The student dissatisfaction is caused by the speed of the access process that is strongly linked to the internet network infrastructure. In general the student satisfaction level towards online information system is quite good with a total average of very satisfied and satisfied reached 94.96% (Indrajit and Djokopranoto, 2006). Information system which student used include lectures contract, value, trust and evaluation. Student satisfaction of information systems is very high which means do not get a lot of obstacles in operation (Table 8).

**Level of satisfaction each component information system:** The quality system of getting a response not satisfied and do not know most of the supporting units followed by academic units and students. This shows an understanding synchronization of business processes between academic units with supporting units as the owner the operator and developer of the system, especially in the main system (Table 9).

Quality information is also still got no satisfied response and do not know the most by supporting units followed by academics and students. It shows there are still differences in the understanding of the data and information. Student response as a whole was very good

**Table 10: Quality information**

Respondents	Satisfaction level (%)			
	Very satisfied	Satisfied	No satisfied	Do not know
Academic units	21.9	87.5	05.9	1.4
Supporting units	05.6	84.0	17.4	9.7
Students	10.2	83.4	06.1	0.4

**Table 11: Quality collaboration**

Respondents	Satisfaction level (%)			
	Very satisfied	Satisfied	No satisfied	Do not know
Academic units	09.52	85.42	04.76	00.30
Supporting units	04.17	56.55	27.38	11.90
Students	10.55	81.03	08.01	00.41

**Table 12: Quality of services**

Respondents	Satisfaction level (%)			
	Very satisfied	Satisfied	No satisfied	Do not know
Academic units	9.17	85.42	05.42	00.00
Supporting units	0.00	77.50	10.83	11.67
Students	9.51	84.48	05.34	00.67

**Table 13: The use of system**

Respondents	Satisfaction level (%)			
	Very satisfied	Satisfied	No satisfied	Do not know
Academic units	00.00	100.00	0.00	00.00
Supporting units	00.00	083.33	4.17	12.50
Students	14.59	081.65	3.76	00.00

and very satisfied highest also given by students (Table 10). The quality process of getting a response that satisfied almost evenly by all units but the response was not satisfied and do not know also given by all units. It shows no understanding of business processes almost equally between academic units and supporting units. Students expressed a lower quality of the process of academic units. However, student satisfaction can also be disturbed by the treatment that is considered a unitary operator information systems services (Table 11).

The quality of the collaboration received high satisfaction ratings from academic units and students. Supporting units giving lower satisfaction level. This indicates that the information system should be developed jointly and fully integrated (Table 12).

Quality of service got satisfied responses were almost evenly by all units but the units response greatest advocates of low and no special response. This strengthens the existing weaknesses of competence and a good understanding on the supporting units. Academic units and most of the students respond well but there is still no response was not satisfied and do not know. This shows the difference in the perception of the service with a supporting units (Table 13).

The use of the information system got a total response categories satisfied 100% of the academic unit

**Table 14: User satisfaction**

Respondents	Satisfaction level (%)			
	Very satisfied	Satisfied	No satisfied	Do not know
Academic units	25.52	70.83	03.65	00.00
Supporting units	14.58	63.54	11.46	10.42
Students	11.82	83.99	03.85	00.34

**Table 15: Benefits of the system**

Respondents	Satisfaction level (%)			
	Very satisfied	Satisfied	No satisfied	Do not know
Academic units	37.15	61.11	1.74	0.00
Supporting units	36.11	53.47	3.47	6.94
Students	10.46	85.13	4.28	0.13

which means that the academic units most use of information systems. No satisfied and do not know responses are the most from supporting unit. While students give the category of very satisfied but still, there is also a response is not satisfied. This shows there is still a gap between the expectations of students with academic and supporting units (Table 14).

User satisfaction received good response from all respondents but supporting units respondents are at least a small position. Academic units responds extremely satisfied highest category followed a supporting units and then students. While most satisfied categories responded by students. While the categories no satisfied and do not know the most by supporting unit. Students provide the most stable and consistent satisfaction (Table 15).

Benefits of the system has been perceived well by all respondents it indicates that the information system developed in general given benefit for all parties. Academic units and supporting units responded very satisfied category greater than students but satisfied category most are given by the students. This shows that several students do not feel a maximum benefit from the use of information systems.

## CONCLUSION

Development of information systems at Indonesia University of Education refers to the good conceptual model of information systems. Online information system qualification of Indonesia University of Education has been in the good category that is 3 of the maximum value 4. Academic Civitas of Indonesia University of Education have literacy of information and communication technology was quite good.

Lecturers and students gave a high appreciation in the application of information systems online. The leader of both academic and supporting units must have an understanding of business processes in order information system services running well.

Quality collaboration should be a serious concern in the development of the information systems of the university as it relates to the various units. Supporting units must be strengthening the understanding and competence in the development of information systems.

#### **ACKNOWLEDGEMENTS**

Research activities supported by several parties and personnel who contributed to the thoughts, ideas and concrete action in particular we would like to thank the principal and academic civitas of Indonesia University of Education.

#### **REFERENCES**

Davis, G.B., 1985. Management Information Systems: Conceptual Foundations, Structure and Development. 2nd Edn., McGraw-Hill, New York, USA.,.

Efraim, L., J. Turban, K. Davod and C.H. Michael, 1994. Management Information Systems. Macmillan Publishing Co., London, England.

Fraenkel, J.R. and E.W. Norman, 2006. How to Design and Evaluate in Research. The McGraw-Hill Companies, Inc., New York, USA.,.

Indrajit, R.E. and D.R. Djokopranoto, 2006. Modern University Management. Andi Publisher, Yogyakarta, Indonesia.,.

Kenneth, C.L. and J.P. Laudon, 2014. Management Information Systems. 13th Edn., Pearson Education Limited, London, England.

Scott, G.M., 1986. Principles of Management Information Systems. McGraw-Hill, New York., USA., ISBN: 9780070561038, Pages: 618.

Sugiyono, 2009. Qualitative and Quantitative Research Methodology and R & D. ARIS Publisher, Bandung, Indonesia.,.

Turban, E., 1990. Decision Support and Expert System: Management Support System. 2nd Edn., Mc-Millan Publishing Company, New York, USA., IBN: 9780024216632, Pages: 846.