

THE TECHNOLOGY IMPLEMENTATION IN ACADEMIC PROCESSING TO ACHIEVE EFFECTIVENESS AND EFFICIENCY OF INFORMATION (A sharing from The Private University in Bandung)

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ABSTRACT

The massive development of information technology, gives a great benefits to increase effectiveness and efficiency to institution in making decision. An education institution also needs information system technology in handling their operation, especially in handling their academic aspect. The institution expect to use the information resulted from the system in making an accurate decision and improve their operation.

In this research, the education institution has applied satisfy academic information system, the system will handle processing students registration and subject marking/scoring process. Students' registration system has resulted some information like the list of all subjects that will be taken by each student in the new semester, the list of allocating class for each student and lecturer, and how much tuition fee will be charged to each student. And subject marking process has resulted in information about the list of final marked subject each class, the list of all marked subjects for each student that will be send through student portal, and an early warning system.

Because of the information resulted from registration system can be used by all users in making decision, like students, lecturer, students parent and it indicates that the objective of formulating information is achieved or means can fulfill the effectiveness aspect, and since the decision based on those information can be made quickly, accurately, and in real time then it means can save time and also reduce using resources, then those information called efficient information. The result of subject marking system can achieve some objectives in academic aspect like evaluate students academic performance, avoid subjective aspect of each lecturer, can make final mark accurately, on time/faster report, and as warning to students to finish their study on time or faster. So then those information resulted from this marking system is fulfill the effectiveness and efficient information.

Key words : academic information system, effectiveness, efficiency.

1. INTRODUCTION

Globalization era has a significant effect in business practices that is a competition in business has become more and more sharply. So, in facing this competition, companies need increase their competitive advantages, and furthermore they need relevance and reliable information to support that. And if information can be used as relevance and reliable in making decision, then the information called as efficient and effective information.

Creating reliable and relevance information can be used a tools like technology, because information system based on technology can result in accurate, efficient (time and cost),

reliable, and relevance information for decision making by users.

An Education institution also needs information system in handling their operation. And as we all know in education institution the most important processing is to handle academic aspect. Institution needs to know how their operation especially in academic can achieve better performance, and achieve their goals or they have to make some improvement to achieve their expectation. And this need/requirement can be fulfilled by a relevance and reliable academic information.

Research Questions

In this research, the research question for academics aspect will be focused in 2 groups:

- (1) How the institution apply information technology in processing students registration and subject marking process?
- (2) How the information that resulting from academic aspect processing (students registration and subject marking process) can be used for decision making, as efficient and effectiveness information?

2. THEORITICAL BACKGROUND

The Concept of information. All processed data defined as information (Romney: 2009), and all users will use those relevance information to support their decision. This explanation about information processing is all describe in the information system. From this perspective, managers are willing to formulate and disseminate those information to all users, because of they're have authorize to process all transaction data to create financial reporting or all other information. Managers themselves need information to support their decision in both making strategic or operational decision to develop their business (Godfrey et. Al: 2010: 375).

The company needs to process information which is for achieving some objectives, such as: (1) to reduce monitoring data; (2) reducing cost of ex-post settling up and to achieve efficiency; (3) to predict future cash flow which can affect the future value of the firm; (4) indicating how the value of the firm and claims against will change; (5) monitoring/confirming what economic events /transaction have occurred in the company. And any changes in information will have changed decision making by users too (Godfrey et. Al: 2010: 375 – 376).

The important of information (Iqbal: 2002: 309). As Iqbal says (2002): "... The rise of the corporate economy, or the more large-scale business enterprise, then at the same time the information storage and retrieval aspect of information become even more

important than it had before ...". And also Prof Yuji Ijiri in Iqbal (2002: 309) says: "... The economy may suffer somewhat without financial statement, but should there be a black out without an accounting report, and quickly destroying the fabric of the economy ...".

One approach in formulating information is participatory design approach. This approach describe that all participant in a company must be actively involved in the development of the information system, because the system will be better suited to their needs, thus enabling them to serve the organization effectively and efficiently (Iqbal: 2002: 310), because they can provide valuable advice to the system experts in area such as internal control, costing strategy, data communication and so on.

Cost and Benefit of Information. Cost of information such as direct cost and indirect cost (Wolk, 2002) as direct cost is all payment for formulated and disseminated of information. And indirect cost is some information that will cause competitive disadvantages to the company. Benefit of information especially like relevance in making decision. Of course benefit aspect should be greater than the cost of information.

Relevance and Reliable information. As Wolk (2002) said, relevance information means information can be used in making decision by users, and reliable means information can be traced accurately.

3. RESEARCH METHOD

This research has used Analytical descriptive method. This method revealed the company situation based on the data obtained by collecting and analyzing data with high logical thinking to generate conclusion. In this case, especially analyzing software about academic information aspect which is processing and implementing in Economic faculty of a private university in Bandung. Another variable is efficiency and effectiveness of using information that result from academic information technology processing.

Research Object

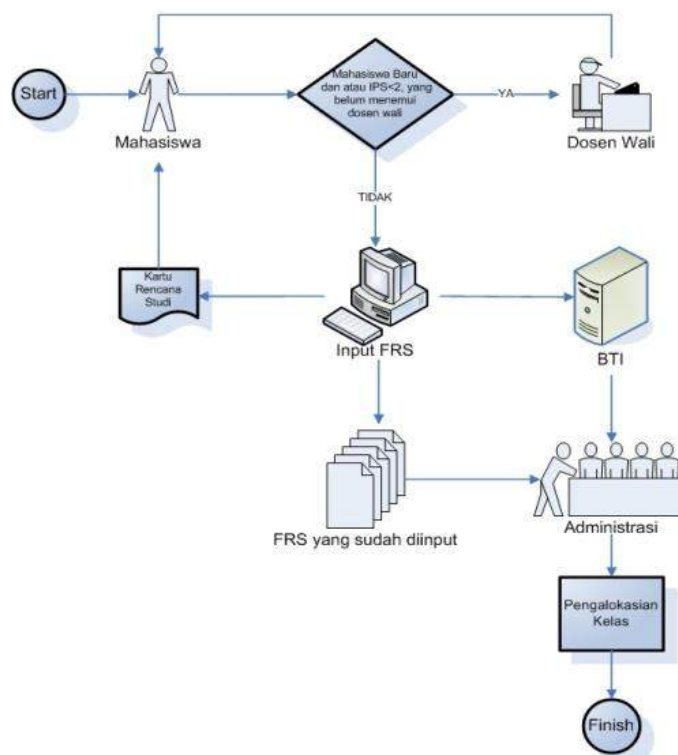
The object of this research is in the education institution namely Economics Faculty in a private university in Bandung, West Java – Indonesia. The Institution has student body about 3.000 students, with 3 departments which are: Economics development, Accounting, and Management department. The institution has human resources about 60 person full time lecturer, and full time supported employees about 45 persons, and also the rest one is about 102 part time lecturers.

4. RESULT AND DISCUSSION

This education institution has used an application software system, which is tailored made by university team from Information technology department. This software was based on Web, which is used server apache, the language program is used PHP and classified as hyper technology language. And the data based processing has used my SQL, and macro media, ream weaver 8, macro media Flash as supporting application,

The discussion in this research will focused on the analysis of implementation of this application that has handled the process of students’ registration and mark processing for each subject. First of all, let see flowchart 1.

DIAGRAM FRS



Flowchart 1. Student Registration Process (Portopholio FE: 2008)

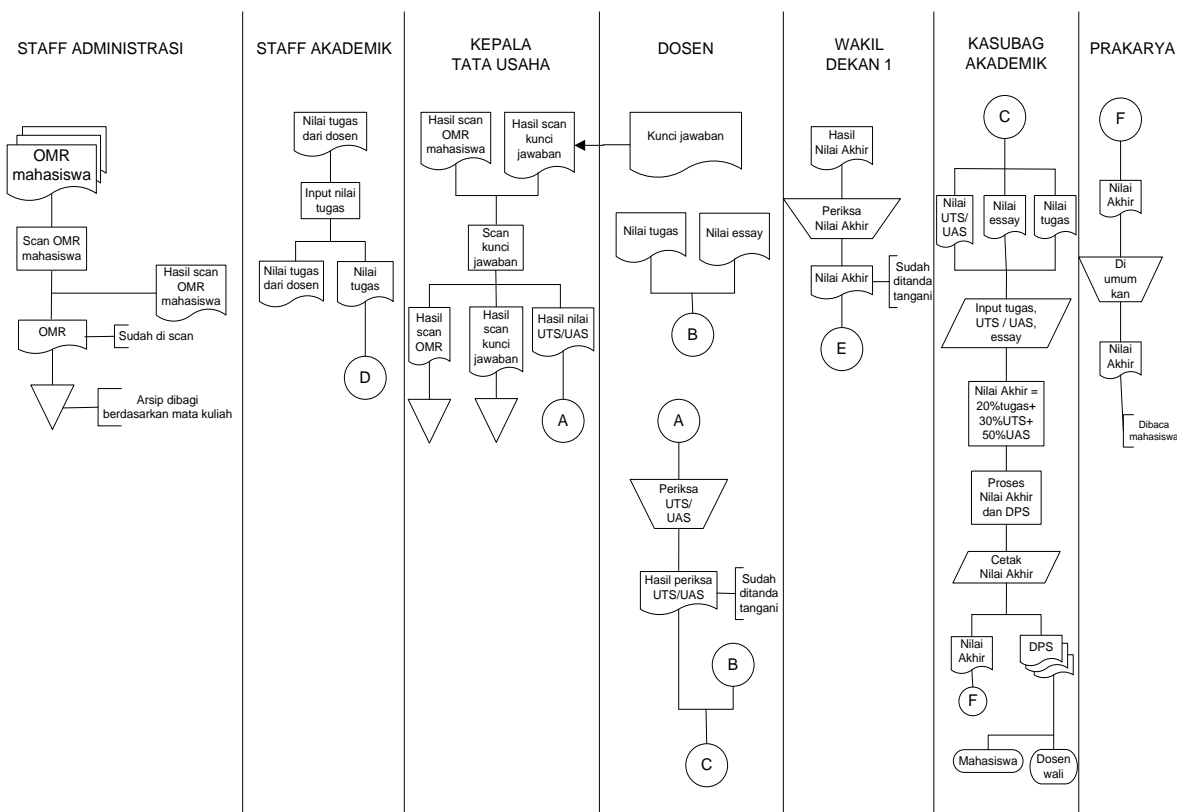
Notes: Diagram FRS = Students Registration Diagram; mahasiswa = Students; Mahasiswa baru dan IPS <2 = for new students and GPA <2; dosen wali = ; kartu rencana studi = study planning card; BTI = Information technology department; frs yang sudah diinput = output report; administrasi = administration; pengalokasian kelas = class plotting.

The Procedure of Students Registration, as follow: After students get registration form from administration office, and if their GPA > 2 then they can directly input to the

academic system about all subjects which are they will be taken in the next semester through the internet. But for students which have GPA <2 then they have to meet their

academic supervisor usually is a certain lecturer who has task to do this supervising. Supervisor will evaluate how the student can improve their academic performance and doing some improvement like get mixed subjects some difficult and some easier to increase their score, also can reducing extra curriculum activities like sport, music, or other activities. After the supervisor put the approved in registration form then they can input all subjects that they choose to the system after the officer has opened the password. And if the system has finished processing this furthermore the officer in information technology department and academic head have to review and final list of subjects each student will be sent to student portal. The system also will run the process of class allocation for each student and each lecturer. If the process of student registration finish, then the system automatically will link to tuition fee financial processing system, and to the Bank.

The system has separated function which are independently each other, like administration office, information technology department, academic supervisor which are they can make some internal check to result an accurate information. In case there is some mistake then student can complain and cash guaranteed will be refunded, or can be used in the next enrolment and this indicates a good control over the academic system. And because the information resulted from this system can be used by all users in making decision then it indicates that the objective of formulating information is achieve or means effective, and since the decision based on those information can be made quickly, accurately, and in real time so then it means can save time and also reduce using resources, then those information called efficient information.



Flowchart 2. Mark/Score Subject Processing (Source: Portopholio FE, 2008)

The Procedure of Subject Marking/scoring, as follow: each lecturer will make some correction of the result of students assignment, mid-tern test and final test,

seminar, laboratory, and assistance then will input each mark to the academic information system; and if the examination model is using multiple choice model then

the computer will make correcting process. The system will process all mark confirm/ based on the regulation like the weighted for each mark; then system will sent draft of the list of mark each class through the lecturer e-mail; the lecturer will review in case there is an error, but if it is all true, then send the final mark again to academic system. Then all mark subject of each class will be final reviewed by academic vice dean and if all clear then faculty will put an authorization to publish the mark through student portal or publication board.

In the end of each semester, this system will make the list of all mark for all subjects for each student, in this list will included information like final grade of GPA, academic leave, *early warning system* and so on. So then, student and his/her academic supervisor can *evaluate* how the academic performance of each student, how many semesters the student *need to finish* the study. This evaluation form very useful to *evaluate the success* of student study, especially from the early warning system which is warning about the government standard/requirement that need fulfilled by students in each certain period. This subject marking system can achieve some objectives in academic aspect like evaluate students academic performance, avoid subjective aspect of each lecturer, can make final mark accurately, on time/faster, and as warning to students to finish their study on time or faster. So then information resulted from this system is fulfill the effectiveness and efficient information.

5. CONCLUSIONS

To answer the research questions, we have come-up to some conclusion, which are:

A. The institution has applied satisfy academic information system, the system handled processing students registration and subject marking/scoring process. Students registration system has resulted an information about the list all subject that will be taken by each student in the new semester, the list of allocating class for each student and

lecturer, and how much tuition fee will be charged to each student.

B. Because of the information resulted from registration system can be used by all users in making decision, it indicates that the objective of formulating information is achieved or means can fulfill the effectiveness aspect, and since the decision based on those information can be made quickly, accurately, and in real time then it means can save time and also resources, then those information called efficient information. This subject marking system can achieve some objectives in academic aspect like evaluate students academic performance, avoid subjective aspect of each lecturer, can make final mark accurately, on time/faster, and as warning to students to finish their study on time or faster. So then information resulted from this marking system is fulfill the effectiveness and efficient information.

Research Implementation

All companies which is interested in formulating information system much better if applied participatory design approach, because by being involved in the information system design they can provide valuable advice to the system experts in area such as internal control, costing, data communication. All this will be achieved better suited information system.

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