

Information System of University: Goals and Problems

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Abstract. The main usage goals of the Information system are specified. The processes, which are planned to computerize in the future, and organizational solutions employed in Information system creation process are indicated. The computerization level and the problems in computerization of the university processes are reviewed. The main university Information system future development directions are formed.

1 Introduction

Information system is very important part of the contemporary university. The university achievements in the education and the science areas straightly depend on the university activities computerization and the level of that computerization.

2 Purposes of Use of Information System

Increasing of Competitive Ability of University. The evaluation's criterion of the university activity is its competitive capacity comparing with other universities. This is competitive capacity is moved by the university pedagogical and academic production, which is stipulated by graduates, teachers, scientists, academic results, publications, arrangements, assortment, quality, etc. In order, the university board (principals) could evaluate university competitive capacity; they have to get the reliable information about university pedagogical and academic production and how it is evaluated outside the university.

Improvement the University Management. Information system requires the systematisation of computerised process, the establishment general parts of processes' and the integration of separate processes. Such a system helps for the university principals to make decisions and increases their reliability, as it allows to get reports of united several processes. Having such described university processes, before making the decision, the ability of decision influence modelling and correcting appears.

Decreasing of administration expenses. Information system's potentials allow to simplify some of administration procedures, and sometimes to reject them at all. For

example, after the introducing of new scholarships division and the payment order, the servant has only to form the division of scholarships' documents and instructions, in order information system would start to calculate scholarships and send the calculated results to banks through communication lines, and the rest is performed by information system. It releases the bookkeeping and other subdivisions from the inputting of infinite documents into the databases, their controlling, etc., and in addition, it decreases the mistake probability.

Effective and Precise Presentation of Information. Information system allows effectively and precisely to form the confirmed forms' reports for ministries of Finance, Education and science and Department of Statistics.

Transparency of Financial and Economical Activities (Accountability). Information system creates the ability for ministries and another institutions to observe the processes at university. It increases the transparency and accountability of these procedures. Spreading correct information about it strengthens the prestige of university. That's why the information system has to be more open for the society. It has to be accessed not only for users of the university community, but also for parts of the society outside the university. The system has to be accessible in Internet.

3 Technological and Organizational Solutions

The university information system is created as the integrated system, aiming to computerise all university processes. Processes use general university registers, general classifications. It allows for individual users to avoid the different interpretation of the same data. All data are stored in a centralised database. This way it allows the avoiding of data duplication. Information is gathered, put to the database and managed, where the first sources are placed, i.e. in the university subdivisions. That's why the circulation time of documents decreases, less logic mistakes are made, and search and elimination of mistakes can be done effectively.

The information system is based on University computer network. The fibre optic lines connect the most university subdivisions. It ensures quick and reliable information's transmission.

Information system operates using Oracle database management system. The client – server architecture is used for information system, it enhances data reliability and security, in connection with technologies of Internet.

4 Computerizing Processes

The university information system contains all basic processes at university (see Fig.1):

- Study process;
- Science activities;
- The management and administration of university;

- Human resources;
- Financial activity and accountability;
- Social activity;
- Library services;
- Publishing;
- Archiving.

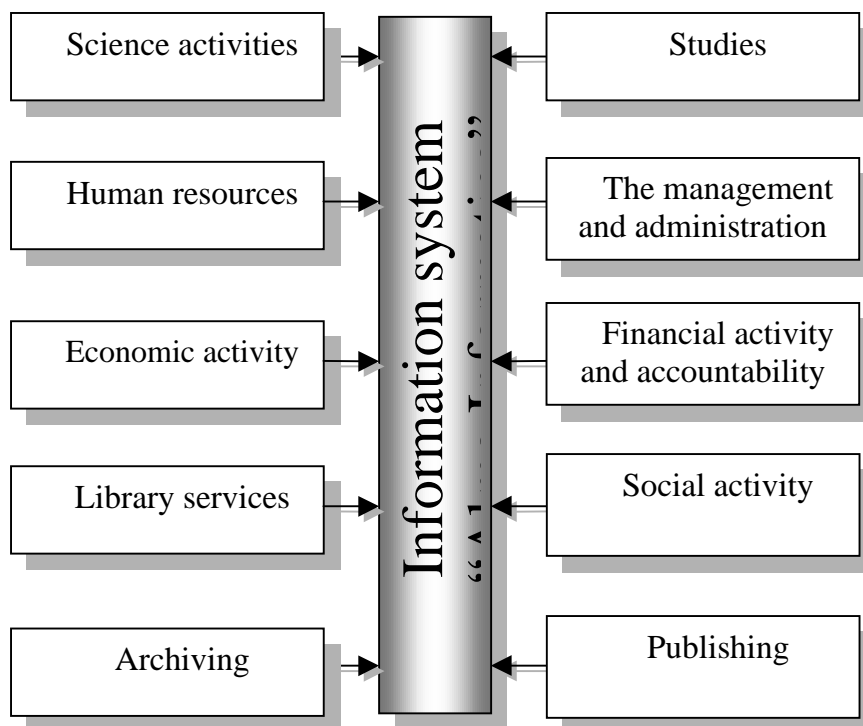


Fig. 1. The structure of information system

The all processes of information system are not computerised in the same scale. The level of computerisation of processes' was defined by these factors: the priority of information demand of that process, the potential ability of process to computerise by itself, the university's financial ability to give funds for the computerisation, quite often changing of computerised processes.

Let's examine every separate process, and pointed its computerisation level and supplying advantage (usefulness).

4.1 Studying Process

This process is one of the main the university's activities. Its structure is presented at Fig. 2.

The enrolment of new students into the first and the second levels, as well, is computerised in studying process. The enrolment for the first studying level is executed together with other universities. The pretender takes part in a competition of some studying programmes from different universities at the same time. It creates more possibilities for the pretender to realise own wishes and for university to accept students with higher knowledge level. Since the preparing students' quality of university depends on the pretenders' quality, the information about the secondary education supplying institutions and their gained knowledge level are collected.

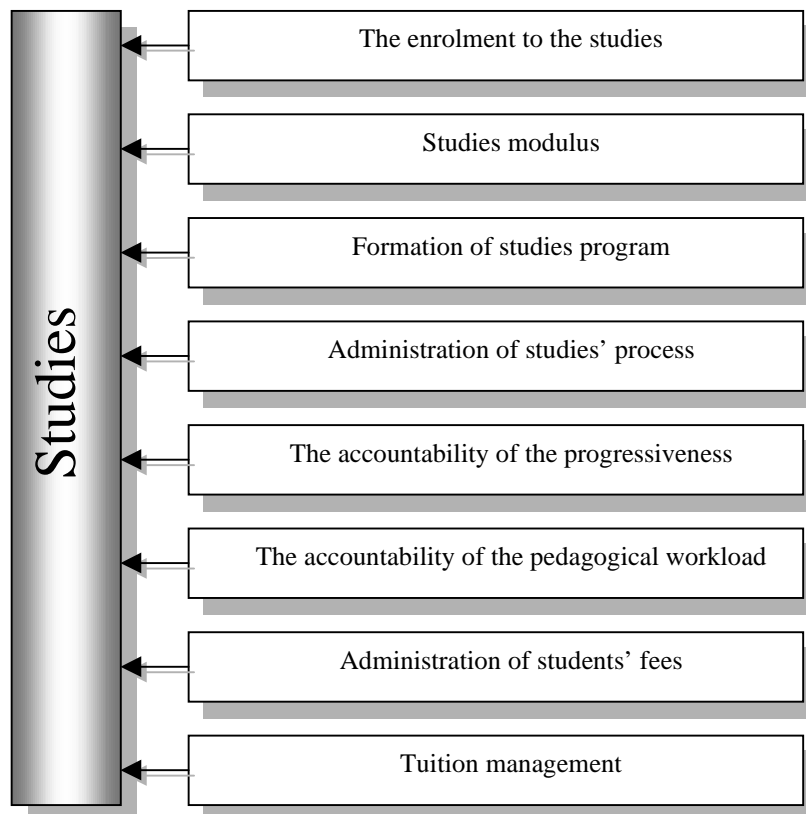


Fig. 2. The structure of studies process

Studying modulus and studying programmes at university vary with the time. The task of information system is to save the finished studies programme and the received each subject's evaluations of every student. The working out of computerised studies modulus and the formation of studying programmes is necessary for other processes. They are used for accounting of students' progressiveness, providing and registration of diplomas, calculation of teachers time job.

The computerization enables the control of studying students of studies process. The precise and operative information about studying students amount in each studies program is presented, the changing of this number and the tendencies of changing

allow for the university administration to control this process, to make the conclusions about each studies' program demand and to correct the admitted students number. Information system allows the operative preparing of statistical reports for ministries of Education and science, Finance and Department of Statistics.

The accountability of students' progressiveness quantitatively allows the evaluating of the studies process. The database stores the information about the students' received studies modulus evaluation, the date of exam and the examiner. From it can be derived how the student fulfils studies plans of chosen studies program. This accumulated information decreases expenses of work for preparing the documentation of graduation.

Planning and Accounting of pedagogical job for teachers. According the studies programme and studies modulus, planned students' amount of the modulus and the type of studies, the staff number of every department is counted. It allows to use the salaries funds in optimum way and to distribute them precisely among university departments.

4.2 Human Resources

The computerisation of human recourses allows the receiving of the complete information concerning university staff, to observe the staff occupancy, to execute the control of certification of the university workers. Exhaustive and operative information about university staff provides the university administration with the opportunity of effective using of human resources. In addition, precise information about taken posts, the work time, the salary of every servant is necessary for bookkeepers for the accounting of salaries.

4.3 Financial Activity

The computerised part of the process of financial controlling and accountability is presented at Fig. 3. The nomination of payments for students, the accounting and payment process are computerised. The processes of connected different university subdivisions to the continuous system, allowed to prepare funds, from which the payments are done, to distribute the disposition of these funds better among students, speed up this process and to enhance reliability of the control of funds using implementation.

The direct distribution of payment data from information system to banks allowed for university to reject quite many expenses of work and speeded up they're receiving for student.

The one united system forms the payment of student fees, which usually is done in the bank, and the use of these fees. Precise information about the fulfilled payment operatively reaches from the bank through the computer network the university information system, which facilitates to fulfil the fees administration and their distribution to funds. The fund administrators have used the information system for the disposition of the received funds. The information system is also used for the disposition of another non-budgetary incomes of the university and the execution of the accountability.

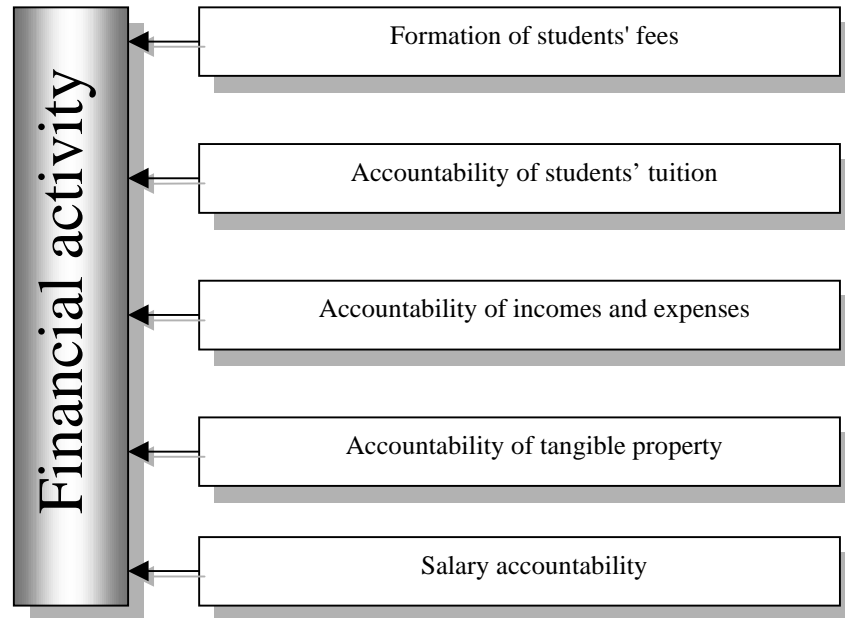


Fig. 3. The structure of the process of financial activity

4.4 Economic Activity

The information system is used for the controlling of students' settlement in the hostels. As it was mentioned above, the processes are executed by connecting into the one continuous system of the university different subdivisions. These subdivisions are engaged in distribution of places in hostels, execution of the accommodation processes and the accountability of hostels' expenses. Information system allowed the increasing of the effectiveness of the hostel use. The subdivision engaged in the student's accommodation is informed if the non-taken place appears in the hostel. The computerisation of accounting of settlement of in hostels improves the collecting of fee and their distribution among the hostels.

4.5 Management and Administration of University

The information system is a model of the majority processes, executing at university. The fact that the university principals operatively can get reliable information helps to control them in real environment. The registration of the received and sent documents was created in information system, improving the university administration. At the same time, the executing control of assignments and responses according these writings is carried out. In addition, the signed contracts between the university and other organisation are registered. Information system renders the information concerning these contracts and helps to control their execution.

5. Conclusions

We have further to develop computerization processes, which level doesn't satisfy university requirements. The processes which are planned to computerize are property and materials account, some processes of financial activity.

Outside the university the tasks for information system grouping into united information system of Lithuania universities are waiting. The beginning is the functioning united admission into universities system.

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