Academic Business Processes

Yasen Tsvetanov

Abstract:

Universities and their preparation level are every nation majority. EU universities education level and Bulgarian universities education level have difference and this difference is more than acceptable. Do Business Processes can help solve the problems in this area and how? Is there any specifics in Academic Business Process design and what are they? Does e-Learning entering would be a big problem or a big opportunity?

Key words: *BP – Business Process, KPI – Key Performance Indicator, IIS – Integrated Information System, FB – Feedback*

University Level Education Problems

The higher education system in Bulgaria gives autonomy of the universities. The independence possibility within the process of education gives possibility to each university to find its own best method of work. Different schemes of education variety is the best way to sift out in practice the working decisions. In the same time the universities' independence appears the general reason for making mistakes and occurrence of problems. In result of that fact each university appears as totally detached and independent unit, having its own criteria and rules.

Bulgaria's State institutions' official reports of reveal the unsatisfactory level of erudition at each levels of education. There is unacceptable big difference in the level of education of the universities in European Union and universities in Bulgaria. This imposes to be asked the following question: What is the reason for that situation? Why the education quality in the Bulgaria's universities is lower than the same in the European Union?

The answer of that question reveals not one but several reasons causing that situation. General reasons can be grouped and presented by the following manner:

- Organizational reasons – internal for each university, similar by character and appearance;
- Educational system – the educative program on which the students prepare themselves and are also examined, together with the teachers participating in said program;
- Control – insufficiently effective or missing control of the education processes.
- Innovation policy – weak or missing innovation policy in the education system.

Organizational problems general consequences that reflect in Bulgaria's universities are:

- Each faculty and desk, as well as all others internal structures, exist as independent "islands" in frames of the university;
- The existence of different procedures and requirements for one and the same thing;
- The communication between teachers and students is difficult;
- The communication between the university, by one side, and the students, by other side, is difficult;
- The communication between the teachers is bad.

Organizational problem results reflect in:

- Waste of time and resources;
- Giving much more efforts for fulfillment of all the activities;
- Unsatisfactory final results.

Academic Business Processes Design

Higher education problems solution requires their consideration as one entity. Their complex character and reciprocity demand reconsideration of the education process in the universities. An education process development uniform methodology is necessary to be created. The new methodology requires formal and objective description of the activities which have to be fulfilled.

Business processes (BP) are one of the possible solutions for formal fulfilled activities description. They give clear picture of the passing internal processes, their problems, utilized and really necessary resources. They also give a perfect opportunity for coordination of the efforts and actions on the organization and execution of normal education process, which guarantees the final results.

The description of the activities in the in the universities supposes the utilization of different models of BP. Those models describe different aspects of one and same educative activity. The utilization of only one model, which has to include all available information for the processes in the universities, practically is not possible. It would be so big and complex that its correct understanding and utilization is extremely difficult. That imposes the utilization of numerous different models, related each other and describing the different aspects of the education process.

One of the models, which can be used for description of Academic business processes, is the *model of organizational structure (ORG)* of the university. Said model represents the different internal organizational units, the relations between them, the elements they are consisting of, their functions and hierarchical subordination, etc. (fig. 1).
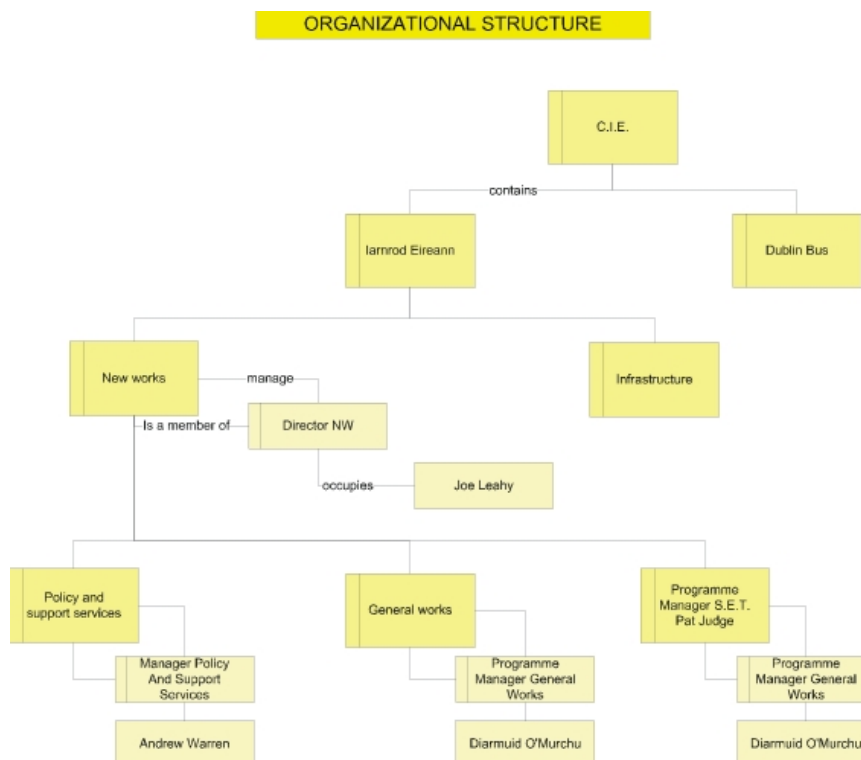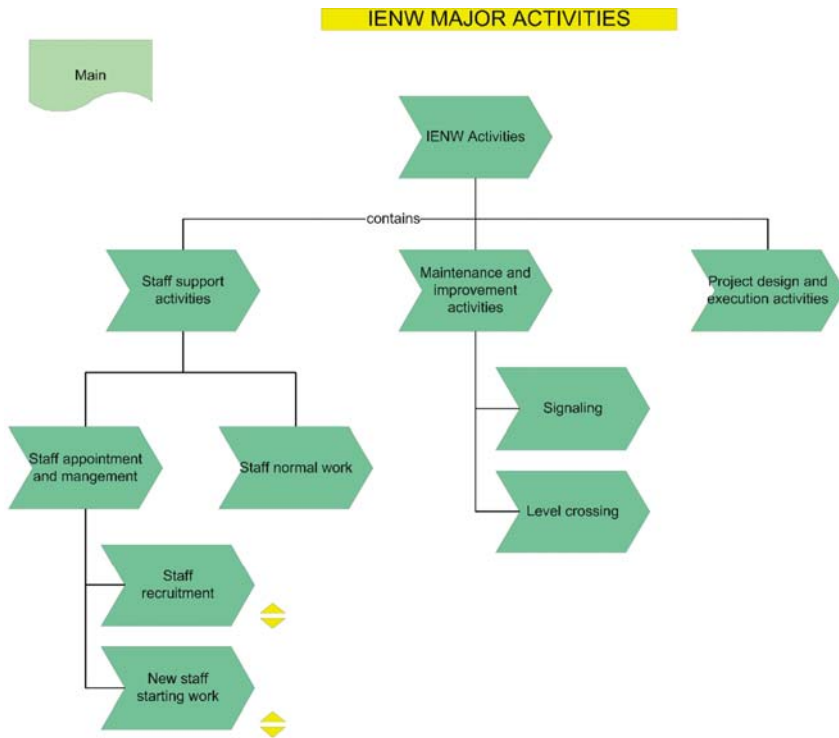

Fig. 1 ORG model

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Other description of the education process is through *the model of general steps (VAD)*. Said model represents the general (more valuable) steps in the academic processes and the relations between them, without making a detailed description. That gives synthesized view on the passing processes and constructs their entire and common pattern. (fig.2).

Fig. 2 VAD model

For lower level processes description and their consideration by activities, the *model of processes, managed by events* (eEPC) might be used. Here are presented the functions in one process, their succession, the resources and documents, necessary for their fulfillment, as well as the means, appointments or people who execute them. (fig. 3).
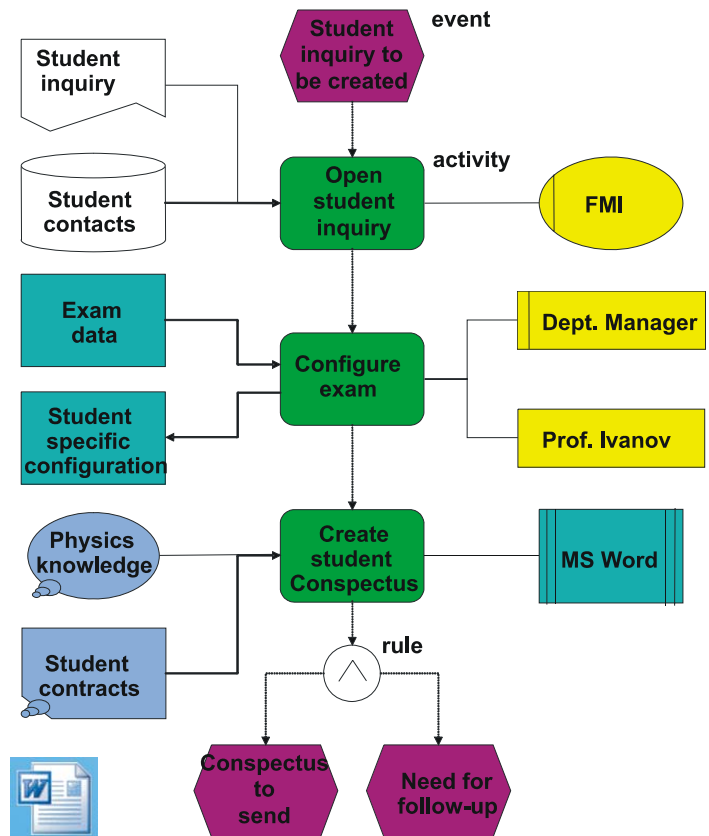

Fig. 3 eEPC model

Necessary knowledge description for normal execution of the educative and organizational processes can be described by *the knowledge model* (fig.4).
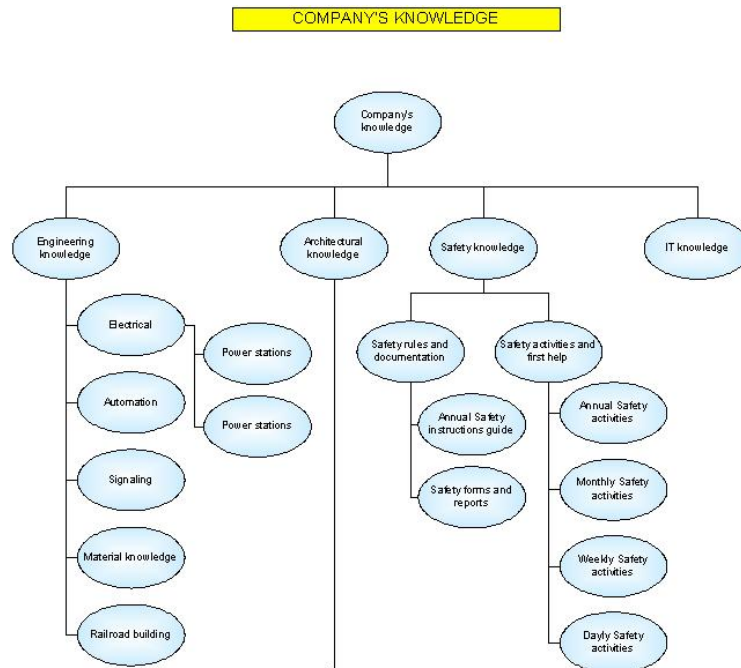

Fig. 4 ORG model

The variety of models is not exhausted by the presentation of the above-mentioned models for description of business processes. In some methods 80-100 different types of models can be used.

Models construction allows direct comparison of two different varieties at fulfillment of one and the same activities (fig.5).
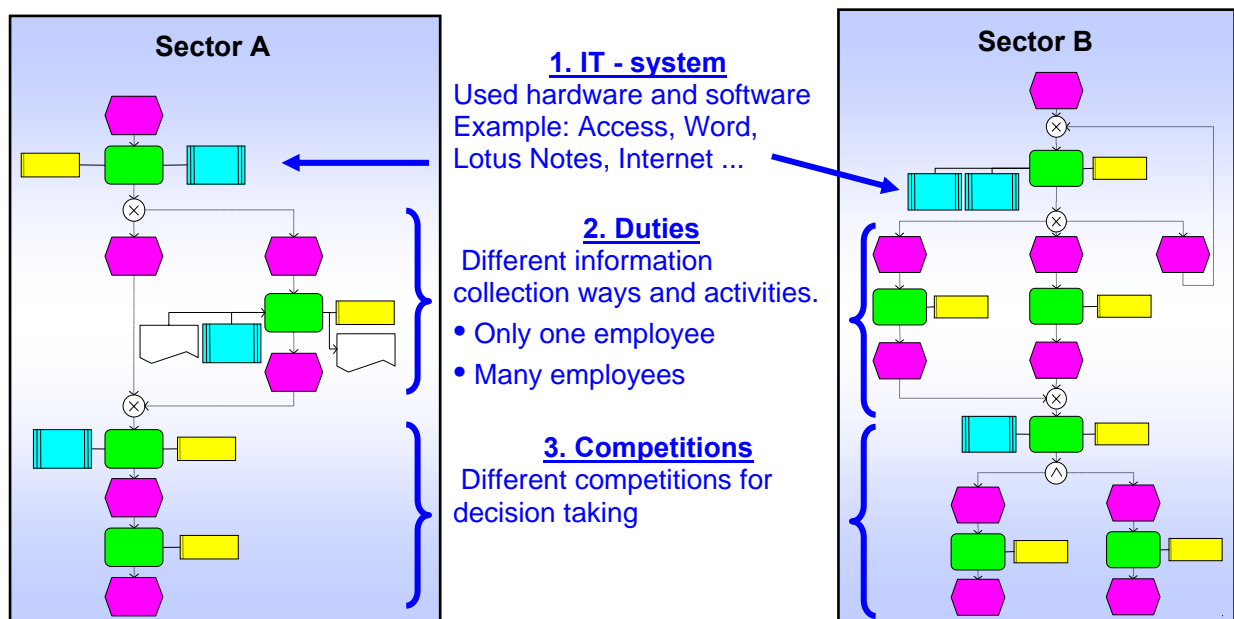

Fig. 5 Processes differences

Thus the weak and strong sides of each variety can be easily seen and the creation of better model is possible. Data sharing and transformation should be reviewed carefully. Many major educational, organizational and communication processes can be designed. Each process has own attributes and characteristics.

This model diversity clearly shows the educational process systematic nature. Academic business processes creation or description needs to look over the university like a single complex unit. From a systematic point of view, university is a unit with many entries, internal elements, connections, functions, data and exits (fig. 6).
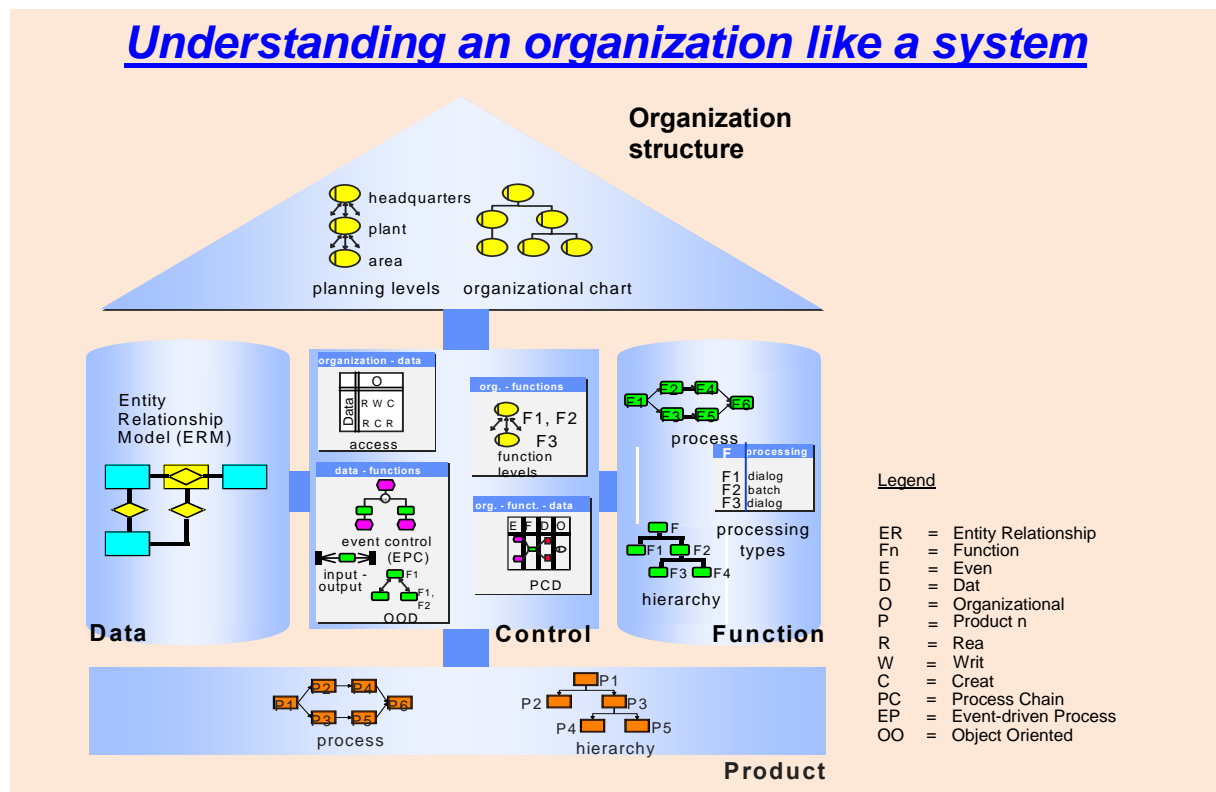

Fig. 6 Understanding an organization like a system

Academic Business Processes Specifics

Business processes should represent the logic of the running activities. Following this, it is obvious that different industries may not have same processes. Additionally if they have same ones, details might have difference. Each industry has its own specifics, which should be mind at design stage. Academic business processes are not exception. They have own specifics reflecting on education like a system. Some Academic business processes major specifics are:

- The incoming students' knowledge level changes constantly. It mainly depends on previous education. It is not influenced from public advertisement like the other market;
- Technologies development and their daily work entering are a strong factor for skills and knowledge formation;
- All industry is "client" of university education. That means business needs should influence and drive educational process;
- Interdisciplinary knowledge is a major issue – at least specialists should have Professional + IT knowledge.

- Educational programs should be adaptive. It demands flexible academic management;
- Lecturer knowledge should be extended constantly;
- Students' professional realization and growing feedback is required.

University education must be flexible. This flexibility requires from university education to be dynamic and conformable with the changing environment – like inputs and data and like output results and knowledge. Following the environment dynamic lecturers must be adaptive and collect new knowledge. Interdisciplinary knowledge is a major objective. Students' consumers – industry – change its requirements as well. Integrated Information System (IIS) is a must, because to track students realization, their professional progress and problems facing. Continuously results' comparing with EU universities is required. Feedback must be lead in and result analysis – from lecturers, students and student users - the business. It is necessary to be studied science and education novelty and their in time applying. Processes dynamic requires activities dynamic. The best way for work dynamic improvement is modern ICT and conceptions use.

E-learning and Academic Business Processes

Today's IT make distances insignificant. Dynamic life needs to be implemented new educational forms, according to realities. New individual education methods implementation adapted to students will allow better results achievement. That should be new education quality. If we unify all education development directions, requirements and opportunities in a single product, that would be e-learning. E-learning can not create itself. Classical educational model is required, that allows to be transformed to e-learning. New e-learning features should be taken in mind. E-learning does not mean e-documents. E-learning is a complex of activities analogous to classical learning, but new technologies enriched.

E-learning establishment requires suitable software creating and suitable BP. This process requires complex concordance between academic business processes, software developers and end users. Every single e-learning component is vital and the system can not exist without it. Task complexity needs clear understanding and coordination when it solves. Logically rise the question – can it be done?

IT development and their scale influence create possibilities for e-learning passing. E-Learning is the next step after academic business processes design! E-Learning has some requirements:

- E-Learning should be able to share knowledge remotely;
- E-Learning should represent at least the normal academic education;
- E-learning should have resources, rules and performance requirements;
- E-Learning should be adaptive according to personal students' knowledge and skills.

IT developments tendentious do not tell direction change. It is normally to expect e-learning implementation in recent future. E-learning design, development and implementation and its improvement should not be regarded as a heavy task, but as a great opportunity.

References:
Some understandings, terminology and pictures are used from ARIS software.

Author:
Yasen Tsvetanov, eng. M.Sc.
Ph.D. Student SU "St. Kliment Ohridski", dept. FMI, ICT
e-mail: yasen@systman.com