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MODELING AS A TOOL FOR ORGANIZING ACTIVITIES IN THE BUSINESS SPHERE

МОДЕЛИРОВАНИЕ КАК ИНСТРУМЕНТ ПРИ ОРГАНИЗАЦИИ ДЕЯТЕЛЬНОСТИ В БИЗНЕС-СФЕРЕ

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Abstract. In the world of modern technologies, constant digitalization of society, it is difficult to imagine the life and activities of a person, organizations, firms, states and other economic entities without visual, understandable and symbolic images that help determine the development and activities in the future. One of these assistants is business process modeling.

Аннотация. В мире современных технологий, постоянной цифровизации общества сложно представить жизнь и деятельность человека, организаций, фирм, государств и других субъектов экономики без наглядных понятных и символьных образов, которые помогают определить развитие и деятельность в будущем. Одним из таких помощников является моделирование бизнеспроцессов.

Business (activity, occupation, enterprise) is an activity aimed at systematic profitmaking. In English, the term «business» is used for all shades of the meaning of the concept of «business».

A model (French modele from Latin modulus «measure, analogue, sample») is a system which research serves as a means for obtaining and analyzing information about real processes, devices, concepts or systems [1]. Also, a model is an abstract representation of reality in some form, designed to represent certain aspects of this reality and to provide answers to the questions being studied [2].

Modeling is performed in order to reduce the uncertainty of various characteristics. When transferring all knowledge about an object, several types of models (schemes) are developed that reflect the object from different points of view, for example: structural; functional; behavioral; temporal, etc.

A business-model is a representation of how an organization makes (or intends to make) money. The business model describes the value that an organization offers to various customers, reflects the organization's abilities, the list of partners required to create, promote and deliver this value to customers, the capital ratios necessary to obtain sustainable income streams [3].

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A business-process is a set of sequential «steps», the implementation of which leads to the creation of a product or the expected result of an event that fully meets the initial requirements. At certain steps, it is necessary, based on the available data, to choose one of the possible branches of movement, which significantly affects the final result. A thorough analysis of the initial data and choice options leads to an optimal solution that cannot be obtained without the use of modeling.

The purpose of the article is to explore approaches and types of building business-processes, to build a business-process.

The business-process model can be presented in the form of a graphical, tabular, textual and symbolic description that reflects the actual or intended activity of the subject.

Modeling must begin with the definition and description of the functionality of the business-process as a whole.

Let's model a business-process that describes the stages of admission to a higher educational institution in the form of a flowchart (Figure 1).

The algorithm of the business-process «Admission to the university» consists of the following processes:

- 1. The first stage assumes that the future applicant, with the help of career guidance tests, his inclinations and hobbies, advice from relatives and teachers, makes a choice of who he wants to become.
- 2. The choice of specialty is made, then you need to find out which universities have the chosen specialty, for this you need to explore various educational sites, directories, university websites.
- 3. At the next stage, the applicant is determined with the city and university for admission. The main driving force at this stage is transport communication, the prestige of the university, the cost of education.
- 4. Then preparation for the CT begins, which includes self-study, attending extracurricular classes or tutors.
- 5. The next function involves testing knowledge on the RT, where the applicant checks his strength and makes a forecast for admission.
- 6. Next, the final school exams take place, at the entrance of this stage the applicant receives a document on general secondary education, which is necessary for further admission.
- 7. Delivery of the DT takes place within the time limits established by the Ministry of Education and in accordance with all requirements.
- 8. Next, the applicant undergoes a medical examination and at the exit receives a certificate of eligibility for training in the chosen specialty.
- 9. Then the applicant receives the CT certificates necessary for submitting documents in accordance with the rules for admission to universities.
- 10. At the stage of monitoring the introductory company, a branching occurs when the applicant sees that he knows enough or not enough points.

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- 11. In the first situation, the applicant submits to the selection committee all the necessary documents for admission specified in the rules for admission to universities and waits for lists of enrolled.
- 12. When adding the second option, a branching occurs again, which assumes that the applicant chooses a similar specialty or another university, or decides to enter another educational institution (college).
- 13. At the output of the business-process, the applicant receives a positive result enrolled or unsatisfactory not enrolled.

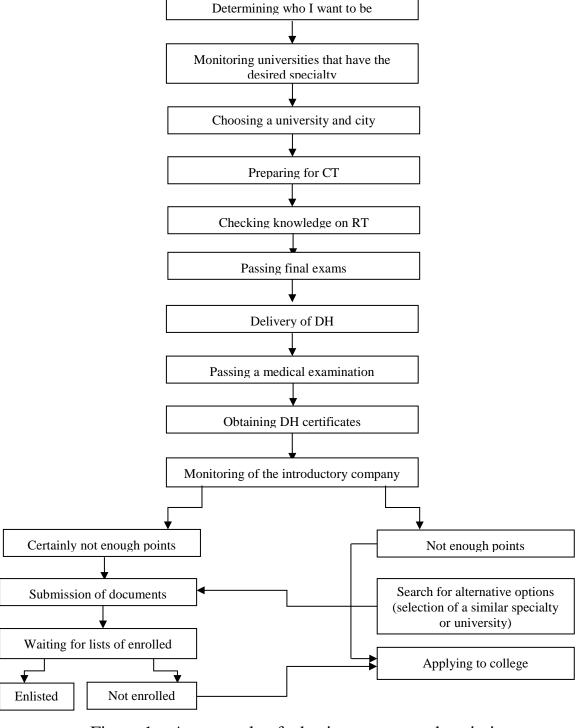


Figure 1 – An example of a business-process description

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As a result of the work carried out, the following conclusions can be drawn:

Firstly, the visualization of the business-process allows you to visually see all the «steps» of the simulated situation.

Secondly, an adequately designed model allows you to identify the shortcomings that exist in this model, redirect and improve business-processes and conduct the necessary analyzes.

Thirdly, the use of any modeling method suggests that the main concept is the connections that serve to describe the interactions of objects.

Fourthly, business-processes are used for various purposes, therefore, it is necessary to determine in advance the purpose and structure of the model being developed based on the available data.

References

- 1. ISO/IEC/IEEE 24765:2010 Systems and software engineering Vocabulary IEEE Std 1233 1998 (R2002) IEEE Guide for Developing System Requirements Specifications.
- 2. Когаловский, М. Р. и др. Глоссарий по информационному обществу / под общей ред. Ю. Е. Хохлова. М.: Институт развития информационного общества, 2009. 160 с.
- 3. Остервальдер, А. Построение бизнес-моделей: настольная книга стратега и новатора: практическое пособие / А. Остервальдер, И. Пинье. Москва: Альпина Паблишер, 2016. 288 с.

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ASSESSMENT OF INVESTMENT AND INNOVATION DEVELOPMENT OF THE REPUBLIC OF BELARUS ОЦЕНКА ИНВЕСТИЦИОННО-ИННОВАЦИОННОГО РАЗВИТИЯ РЕСПУБЛИКИ БЕЛАРУСЬ

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Ключевые слова: инвестиции, инновационное развитие, экономический рост, Республика Беларусь, конкурентные преимущества.

Abstract. The article considers the main directions of the State Program of Innovative Development of the Republic of Belarus; the competitive advantages of the country are revealed. The results of the Global Innovation Index are presented. An

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