

UDC 004.47:339.128(075.8)  
BBK 65.250-21-9 я73  
R 69

Published by the decision  
Educational-methodical Council  
The North Caucasus Federal  
University

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R 69 **Analysis and optimization of business processes:**  
course of lectures. – Stavropol: Publishing house  
of NCFU, 2016. – 154 p.

Textbook (course of lectures) on the subject "Analysis and optimization of business processes" is developed in accordance with the program of discipline for students of direction of training of master 09.04.02 – Information systems and technologies.

Lectures the proposed tutorial include the plan of the lectures, the necessary theoretical information and questions for discussion.

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## Introduction

Currently, the effective management of the company cannot be imagined without the use of advanced information technologies. The use of the process approach to the management of the company has allowed to identify the business processes of its activities, and to identify persons responsible for their implementation. Using software products available on the market of information systems and technology, process modeling and analyzing business processes of the enterprise becomes as easy as possible. The analysis of the organization's activities is necessary to highlight the existing business processes, identify problem areas and make recommendations for their elimination. The use of different methods and analysis tools available in modern software, such as Bizagi Process Modeler and ARIS allows you to quickly and accurately optimize the business processes of an enterprise, which in turn will significantly improve the efficiency of the company as a whole.

To ensure quality functioning of the enterprise periodically to analyze and optimize existing business processes, as over time they, somehow, are undergoing various changes.

The purpose of learning the discipline "Analysis and optimization of business processes" the formation of professional competence of future masters in the field of training 09.04.02 Information systems and technology and training data Management and knowledge acquisition, practical skills for analysing and optimizing business processes.

Objectives of the discipline:

- to study the characteristics of the organization: to highlight the existing business processes;
- to analyze existing business processes to identify problem areas;
- to optimize business processes, taking into account the elimination of problem areas.

In the process of mastering discipline student are formed the following professional competence: ability to carry out author's

supervision of the processes of design, implementation and maintenance of information systems and technologies (PC – 4); ability to organize the collaboration with the teams of customer and developer, managerial decision making under conditions of different opinions (PC – 5); the ability to find a compromise between the different requirements (cost, quality, deadlines), with long-range and short-range planning, finding optimal solutions (PC – 6); ability to collect, analyze scientific and technical information, domestic and foreign experience on the subject of the research (PC – 7); ability to conduct research and development of methods of analysis, synthesis, optimization and forecasting of quality of functioning of information systems and technologies (PC – 9); the ability to analyze the results of experiments, make the choice of optimal solutions, developing and writing surveys, reports and scientific publications (PK – 12); to develop methods for solving non-standard tasks and new methods to solve traditional problems (PC – 15); to carry out preparation and training of personnel (PC – 17).

As a result of mastering discipline student must know: the theory of business processes; principles of structuring organizations; methodology of structural analysis; tooling systems used to describe business processes; basic principles for analysis and optimization of business processes. Be able to identify types of business processes and their features; to apply methodological tools in the development of quantitative design and optimization of business processes; to make decisions that enable you to create requirements to the business processes of the enterprise, consistent with corporate strategy, priority directions of development and efficiency criteria.

Have basic methods, ways and means of analysis and optimization of business processes; tools to design and optimize business processes, notations describing business processes; modern information technologies and system analysis in the design and optimization of business-processes; methods of evaluation and monitoring of the efficiency of the business processes of the enterprise.