МИНИСТЕРСТВО ОБРАЗОВАНИЯ И НАУКИ РОССИЙСКОЙ ФЕДЕРАЦИИ

ФЕДЕРАЛЬНОЕ ГОСУДАРСТВЕННОЕ АВТОНОМНОЕ ОБРАЗОВАТЕЛЬНОЕ УЧРЕЖДЕНИЕ ВЫСШЕГО ОБРАЗОВАНИЯ «САМАРСКИЙ НАЦИОНАЛЬНЫЙ ИССЛЕДОВАТЕЛЬСКИЙ УНИВЕРСИТЕТ ИМЕНИ АКАДЕМИКА С.П. КОРОЛЕВА»

НАУЧНО-ИССЛЕДОВАТЕЛЬСКАЯ РАБОТА МАГИСТРОВ RESEARCH EXPERIENCE FOR MASTER'S STUDENTS

МАГИСТЕРСКАЯ ПРОГРАММА «HIGH-TECHNOLOGY BUSINESS MANAGEMENT» MASTER PROGRAM IN HIGH-TECHNOLOGY BUSINESS MANAGEMENT

Рекомендовано редакционно-издательским советом федерального государственного автономного образовательного учреждения высшего образования «Самарский национальный исследовательский университет имени академика С.П. Королева» в качестве методических указаний для студентов Самарского университета, обучающихся по основной образовательной программе высшего образования по направлению подготовки 38.04.02 Менеджмент

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Объяснен порядок организации и выполнения научно-исследовательской работы магистров, систематизированы требования к структуре, содержанию и выполнению работы. Определены форма графика, способы представления результатов научно-исследовательской работы и представлен образец отчета по ней.

Предназначены для студентов института экономики и управления очной формы обучения по направлению подготовки 38.04.02 Менеджмент.

Подготовлены на кафедре менеджмента.

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Introduction

In the structure of present-day Russian higher education, the master's level is the second stage of education and it precedes the third level - post-graduate study.

The program of master's training forms the educational level of an alumnus. It indicates that the graduate has knowledge, skills and experience inherent in the novice researcher.

Master program in High-Technology Business Management is focused on four types of professional activity:

- organization and management;

- analytics;

- research;

- teaching.

Graduates of the master's program should have a wide erudition, know the scientific methodology, have skills to operate with the up-to-date information technologies and be able to analyze and synthesize scientific papers.

Research experience of the of master's students is organized to achieve these goals.

1. Goals and Objectives of the Research Experience of Master's Students

The following goal and objectives are defined for research experience of master's student.

The main goal is to study a specific scientific or practical problem within the master program in High-Technology Business Management.

The objectives are to develop master's students' skills of research experience and to form their abilities to choose methods and tools for conducting research and implementing its results in practice.

Master's students, who gain research experience, should:

1) demonstrate their abilities and skills of the adequate application of scientific theories to the key issues of high-technology business management;

2) demonstrate their ability to use up-to-date economic methods and models;

3) perform the necessary technical and economic calculations using computer facilities;

4) apply the advanced achievements of science and practice, justify the economic feasibility of their implementation, and justify new concepts in high-technology business management;

5) formulate their ideas logically, justify scientific proposals and recommendations.

Research experience is a kind of student activity. It belongs to the category of educational and research activity, which is based on modeling key issues, synthesis of the best experience, engaging students in a variety of research projects.

The results of the research experience of master's student are documented in the report.

Scientific publications and presentations at the conferences and symposia are the mandatory results for formative assessment of students' research experience in the semester.

2. The Content and Stages of Research Experience of Master's Students

According to the curriculum, the research experience for master's students is 10 ECTS-credits for the first three semesters of the study (although 60 ECTS-credits are the equivalent of a full year of study). Thus, the total workload of this type of student educational activity is 25% of the total credit volume of the master's program.

For this reason, research experience plays an essential role in the developing of research competencies of master's students.

The contents and stages of the research experience are determined by the student scientific supervisor. They must be approved at the meeting of the Department of Management and documented in student individual learning plan.

The plan of research experience for master's student contains:

- 1. The title of research experience in the semester.
- 2. The form of report.
- 3. Executed date.
- 4. Signature of the supervisor.

The plan of research experience should be divided into semesters of study.

The structure of the plan is presented in the *Table 1*.

<i>Tuble 1.</i> Subclute of the plan of research experience for master s student	Table I	1. Structure	of the plan	of research	experience	for master's student
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N₂	The title of the research experience in the semester	The form of report	Executed date	Signature of the super- visor
1	2	3	4	5
1	 Preparatory stage Definition of the purpose and objectives of the study Identification of the object and the subject of research Clarification of the research topic Choice of research methods 	Analytical review, ab- stracts of the report (s), presentation (s) at the con- ference (s)		
2	 Analytical stage of the research (analysis) Design of the scientific hy- pothesis of research Summarizing and searching for analogues Review of the results obtained in this (or related) subject areas Specification of the research plan Collection and processing of initial information Results Analysis 	Publication of the article (s), presentation (s) at the con- ference (s)		
3	 Stage of scientific search (synthesis) Study of the present-day problems Simulation and qualitative analysis of the problem Analysis of the results of problem solutions and their systematization Make some conclusions and recommendations based on the results of the study 	Publication of the article (s), presentation (s) at the con- ference (s)		

Each stage of research experience is characterized by its own methods and techniques.

As a rule, the following actions are implemented at the preparatory stage. Review of scientific sources for investigating:

- methodology of scientific work;

- techniques of organizing creative activity;

- methods of working with bibliographic scientific databases.

The choice of the research topic:

- review of scientific achievements in the research area;

- analysis and synthesis of materials in the research area;

- systematic consultations with the supervisor of studies.

The result of the first stage of research experience is a number of ideas that determine the main goal of student research and its objectives.

These goal and objectives should be relevant to the chosen area of research and discover the issues of high-tech business management.

Statistical data should be the sources of quantitative and cost characteristics, parameters and criteria. They play a crucial role in this aspect.

At the analytical stage of research, the model approaches are used to explain the studied phenomena; the cause and effect characteristics are analyzed; the dominating factors and laws are investigated.

The main result of this stage is a quantitative and qualitative description of the objective (research issue) at the model's level. At the same time, the results of the analytical stage of research should be logically correct and consistent.

During the model construction process, some indicators, criteria and characteristics are created. They reflect the links and sequence of key activities to achieve the goals and objectives of the research.

An assessment of the model quality and its further transformation to refine the obtained results is conducted at the stage of scientific search (the synthesis of new knowledge about the issue).

Previously obtained results are formulated and summarized. Synthesized scientific knowledge is organized in the paragraphs and chapters of the future master's thesis, papers and articles.

The topic of student research should be novel and relevant to practice, appropriate to achieve within the existing conditions. The choice of the research topic is need to be carried out under the guidance of the supervisor.

The choice of research topics is facilitated by the following methods:

1. Review of the achievements of science.

2. Acquaintance with the results of research in related fields of science.

3. Research and development of methods for increasing the efficiency in specific sectors of the national economy.

4. Analysis and synthesis of theoretical and practical materials.

The logic of developing of the research topic can be presented in the following steps:

1. Justifying the relevance of the selected topic.

2. Setting the goal and objectives of the research.

3. Defining the object and the subject of research.

4. Choosing the methods of the research.

5. Describing the research process.

6. Discussing the research results with the scientific supervisor and their presentations at the scientific events.

7. Formulating conclusions and evaluation of the results.

Justifying the relevance of the research topic is the initial stage of any research. At this stage, creativity, critical thinking, and logic are required to generate new concepts and ideas in solving a research problem. It characterizes the author's scientific and professional preparedness.

Formulation of a scientific issue (research question) is to show the student ability to separate the main thing from the secondary things, and to find out what is already known about the research issue. Research question should not be too narrow or too broad or unfocused. The question sets the framework. Thus, mastering the literature, participation in the conferences, and discussion in seminars are sources for developing research questions.

The research purpose identifies the features of objective that must be investigated by master's student. As a rule, objectives are presented in the following format:

- study ...;

- describe ...;

- determine ...;

- develop

The object of investigation is a process or phenomenon that generates a problem situation, which is selected for study.

The subject of investigation is the specific part of object that determines the topic of the master's thesis and the direction of the student research activity.

Method of investigation is a set of techniques that allows student to achieve the purpose of the research, investigate phenomena and find out the problems solution.

Usually, the methods of scientific knowledge are divided into three groups:

1) Empirical methods (Observation, Comparison, Measurement, Experimentation).

2) Methods used both for the empirical and theoretical level of the study (Abstraction Method of Problem Solving, Analysis and Synthesis, Induction and Deduction, Entity-Relationship Modeling, Database Modeling Method etc.).

3) Theoretical methods (Dialectical thinking, Abstract thinking and Concrete thinking, etc.).

Special methods of research include:

1) Logical Analysis Method, Factorial Analysis of Variance (ANOVA), Simple Regression Analysis, Multiple Correlation Analysis, System Analysis and Design, Situational Analysis and Process-Oriented Approach.

2) Qualitative and Quantitative Forecasting Methods, Expert Evaluation Method, Simulation, Deviation Control Method, Simulation Games.

Planning and conducting of student research experience is determined according to the planning of the study process. It begins with the developing of an individual learning plan of master's student and ending to a report on the research experience (Appendices A-C). Each semester the student gets credit on the research experience and it is registered in the official academic transcript and in the student record book.

3. Approval of the Results of Research Experience of Master's Students

Assessment of the fulfillment of the plan of research experience is carried out according to the individual learning plan of the master's student in credit form by the student supervisor.

The master's student submits to the Department of Management a list of published papers (articles) and other documents to confirm the results of his research activity (certificates, conference programs, forums programs, copies of conference's protocols, etc.).

The research experience of the master's student is the integrated investigations that can include different forms of activities:

1) Course project;

2) An essay;

3) Projects based on the results of workshops and laboratory work;

4) Presentations at the conferences;

5) Publications of papers and articles;

6) Reports on the results of the student research experience at the meetings of the Department of Management.

The program of research experience for master's students should provide them with the information searching skills and abilities to collect, gather, visualize and analyze information, including the use of up-to-date information technologies (electronic databases, the Internet and other forms of access to scientific and technical information). In addition to the theoretical component, it should include analysis of different activities of real organizations and companies.

To investigate key issues, master's students are provided with access to the library collections and databases, as well as visual aids, samples, audio, video and multimedia materials.

APPENDIX A The Cover page of the Report on the Research Experience

MINISTRY OF EDUCATION AND SCIENCE OF THE RUSSIAN FEDERATION

SAMARA NATIONAL RESEARCH UNIVERSITY

Institute of Economics and Management

Department of Management

Report

on Research Experience of Master's Student

Research experience period (dates)

Master Program in High-Technology Business Management

 Student of group №______first name, middle name, last name

 Supervisor, degree, position ______first name, middle name, last name

Date of submission _____

Date of defense _____

Grade / credit _____

Samara 2018

APPENDIX B

MINISTRY OF EDUCATION AND SCIENCE OF THE RUSSIAN FEDERATION

SAMARA NATIONAL RESEARCH UNIVERSITY

Institute of Economics and Management

Department of Management

INDIVIDUAL ASSIGNMENT ON STUDENT RESEARCH EXPERIENCE

Student group

Learning Outcomes (according to the cur- riculum)	Student outcomes from research experience	Task Description

Assignment date	

Report submission deadline

Supervisor, degree, position ______ first name, middle name, last name (signature)

The task was accepted by student of group №______ first name, middle name, last name

APPENDIX C

MINISTRY OF EDUCATION AND SCIENCE OF THE RUSSIAN FEDERATION

SAMARA NATIONAL RESEARCH UNIVERSITY

Institute of Economics and Management

Department of Management

TIME SCHEDULE OF STUDENT RESEARCH EXPERIENCE

Date (time period)	Task Description	Student outcomes from research experience

Supervisor, degree, position		first	name,	middle	name,	last	name
	(signature)						

Методические материалы

НАУЧНО-ИССЛЕДОВАТЕЛЬСКАЯ РАБОТА МАГИСТРОВ.

МАГИСТЕРСКАЯ ПРОГРАММА «HIGH-TECHNOLOGY BUSINESS MANAGEMENT »

RESEARCH EXPERIENCE FOR MASTER'S STUDENTS.

MASTER PROGRAM IN HIGH-TECHNOLOGY BUSINESS MANAGEMENT

Методические указания

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