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RESEARCH WORK IN PROGRAMS FOR MASTERS OF ECONOMICS

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Abstract

Currently, organization of educational process in higher educational establishments requires special attention to be paid to training offered within Master programs. Acquisition of skills in research work has major implications as Masters are to be verse in searching for and processing a wide range of legislative sources and research publications, be capable of operating different types of data, possess well-developed abilities of generalization and deduction, of logical reasoning and argumentation, of presenting and publishing research findings. Research work is deemed a basic mode of individual research activities and cognition procedures with postgraduates. Relevance of the topic discussed is based on postgraduates developing skills in identifying research problems, searching for solution to the problems identified, accompanied by relevant skills in effective organization and time management. The study offers options for organization of internship for postgraduates specializing in economics based on scientific research with assignments formulated to correspond to the topics of Master theses. The first semester is the introductory stage including research-centered review of relevant theories and theoretical approaches; the second semester is devoted to extensive studies in existing methods and methodologies; in the third semester practical experiments and tests are used to verify and assess the knowledge gained. Reports on internship taken are regarded a preliminary stage in preparation and writing of the Master qualification paper.

Keywords: Research work, scientific research, knowledge-intensive project, innovative project, efficiency evaluation methods

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1. Introduction

In training postgraduates specializing in economics the Federal State Educational Standard for Higher Education of the Russian Federation provides for classes and practice-oriented training in research-related activities in the form of postgraduate internship during semesters 1-3 (Ministry of Science and Higher Education of Russian Federation, 2020). This type of activity and training has major implications for acquisition of professional qualifications by postgraduates in economics. It can be regarded a necessary condition for further development of research-related skills, ability to organize research work, collect analytics, analyze and process the data obtained, prepare a report on research activities, a conference presentation or a paper for conference proceedings or a journal. Postgraduate research-related activities is logically extended into all aspects or educational activities, with research itself centered on identification and analysis of specific problems and on finding optimum solutions to them.

Research performed by postgraduates is aimed at acquiring the competences required for Masters under the Federal State Standard of Higher Education of the Russian Federation. Research work is to improve professional training and qualifications of postgraduates, its main purpose is obtaining new information, knowledge in most immediate connection to future profession-related activities and abilities. Postgraduates in their research activities are assigned a scientific advisor – a professor or a teaching instructor of the respective department to supervise, assist and guide research work.

2. Problem Statement

The organization of postgraduate research-oriented training and research work is discussed by the example of training and research activities within the Master program in Business Administration and Economics of Innovative and Knowledge-Intensive Projects (Bulatova, 2018). Research-centered internship is included in Block 2 of the curriculum. When determining the aims and tasks to be solved by the discipline, certain general principles can be identified – they can be applied to research-centered studies within any Master program in economics, with certain more specific principles relevant primarily for training in the field of business administration and economics of knowledge-intensive and innovative projects.

The most basic principle and most general aim is to reveal specific character of research as a way of thinking based on examination of evidence and economic processes in order to determine correspondences and interrelations and to make relevant conclusions and identify tendencies.

This aim can be achieved by setting and solving a specific set of problems which include:

- Ability to identify, given a specific combination of economic developments and processes, those problems that are of controversial and debatable nature and thus can be regarded as an object of research.
- Abilities and skills required for extensive study and analysis of existing literature in the field to identify basic theoretical approaches, views expressed by leading researchers in the field, to describe historical development of the views on the problem studied, inconsistencies in discussions and evaluations, to review the current legislation and regulations relevant for the

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problem discussed, to evaluate possible applications of IT and digital technologies in the analysis.

- Skills and basic principles underlying procedural knowledge: deduction, induction, assessment of the event probability, selection and justification of terminological system and conceptual framework applied in research.
- Knowledge of and skills in application of economic, financial, investment analyses providing the basis for testing and evaluating the conclusions made.
- Ability to suggest, based on the research theoretical findings, practical measures and plans for an individual company, organization, industry, sector of economy, administrative and territorial units, etc.

3. Research Questions

Postgraduates engaged in research-related activities in the area of Economics and Administration of Innovative and Knowledge-Intensive Projects are to satisfy most strict demands and qualification standards. They are to be able to apply techniques and methodologies required for relevant organization of research work, of processing the findings, of publishing and presenting them. In preparing a Master thesis in Economics and Administration of Innovative and Knowledge-Intensive Projects, the general purpose of the study with more specific tasks to be solved for its achievement are similar to those of any other research work, with a certain limitation. The purpose of study is to be related to approaches, procedures and functions of business administration and economics in the field of project development and is to necessitate research and further innovative solutions. The tasks, in this case, are to be specified by the following research questions:

- Debatable issues in business administration and economics of innovative and knowledge-intensive projects causing controversial approaches are criteria and indicators for selection of options and solutions in social projects, methods for assessing efficiency of innovative (IRP) and knowledge-intensive research projects (KIRP) in various industries, methods allowing to account for inflationary pressures in realization of such projects, assessment of possible risks, principles for selection of funding schemes, with further analysis and control of their implementation.
- Literature review is to aim at collecting and analyzing the already published research findings in methods of evaluating the efficiency of IRP and KIRP, in arrangements suggested for organization of joint research projects by experts in specialized research and development, for manufacturing based on most innovative technologies, identification and justification of funding sources.
- Examination of the existing terminological base and conceptual framework, development of understanding of the notion of research work for further practical use – in the case discussed related to concepts of knowledge-intensive project, innovative project, project programs, strategy of research work, strategy of raising funding for research work; also this stage implies

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abilities to select an option in IRP or KIRP based on the system of project indicators which are to provide for evaluation of the effect rendered by the project realization on more general indicators of the economic agent efficiency.

- Acquision of skills in selecting options and methods of analyzing and evaluating IRP or KIRP efficiency, necessary and sufficient for making a well-grounded managerial decision. Justification of application of relevant software packages and applications.
- Development of skills in presenting and publishing the research findings in the form of writing an abstract, memorandum, report, research article, literature review, of making a presentation and preparing a conference speech.

A strict requirement, in this respect, is the postgraduates' ability not to simply compile the materials and data obtained, but to process and analyze them, thus creating the foundation for making conclusions and developing their own views and attitudes which are further to become a basis for gaining new knowledge. In this perspective, writing a paper is regarded a form of reporting on the course coverage and a demonstration of skills developed in reasoning, argumentation, structuring and using the language required for writing.

4. Purpose of the Study

The purpose of study in activities related to research work can be stated as follows: establishment of such a system of training that is capable of providing for postgraduates to acquire skills in the field of research work and identification of its object, a knowledge-intensive innovative investment projects (a number of projects within a program of innovations); methods to analyze and evaluate the efficiency of an object of study and its financial feasibility and expediency; arrangements and principles for testing the theoretical findings.

5. Research Methods

The study analyzes arrangements and principles of organization of courses for training postgraduates in research work, identifying areas of prospective research for setting the research problem, attendance rates, academic record, postgraduates' motivation, the influence rendered by research work on further internships (industry-based and pre-graduate internships) and on formulation of the Master thesis title and the quality of research performed within the course and presented in the form of the thesis itself and publications required for its acceptance.

6. Findings

In performing research activities, postgraduates learn to identify and formulate problems, to set tasks, to make decisions based on the data collected and analyzed while improving skills in presentation and public speaking. Analysis of the research work-oriented training process organization in the course of 3 academic semesters has revealed various options and arrangements to be applicable and effective.

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The first organizational approach requires development of a list of approximate research titles in a few areas suggested for research work. Postgraduates are to select one title and respective research question for each semester. In different semesters they can be different titles and areas, with no relation between them. Under supervision by professors postgraduates perform the process of research; they collect and review the related body of literature; they learn how to process and analyze statistical data and acquaint themselves with the relevant regulations. They study and analyze definitions, develop understanding of terminological base, discuss methods of analysis to be applied, determine developmental trends and evaluate prospects. The most valuable outcome of such arrangement is that postgraduates are exposed to different areas of research thus widening their professional outlook. The main disadvantage appears to be stemming from a highly formal approach to studies and research. Motivation, in this case, resides with the formal assessment of internship, and not with the interest developed in the research area.

The second organizational approach also requires division into 3 separate courses taken during 3 consecutive semesters. Postgraduates are to select single research area and problem for all the three semesters. The first semester is given to study the theoretical basis of the problem; the second semester is used for examination of existing methods and methodologies for evaluation and analysis of the research problem feasibility and effect; the third semester is devoted to testing the theoretical and methodological approaches chosen. The main advantage of such arrangement is consecutive and continuous study of the problem area chosen allowing for a more profound understanding. The drawbacks are basically the same as those in the first arrangement.

The third organizational approach offered also requires selection of a problem to be researched during 3 consecutive academic semesters. A specific feature of this approach is selection of a research problem to further become the center of Master thesis. Such solution makes this approach the most valuable and effective among the three. Postgraduates are given incentive to improve the quality and efficiency of their studies, are motivated to be more proactive in both working on the assignments offered by professors and in performing their own research work. They are also offered a chance to collect the data which will further form the basis of their Master thesis and related papers. The only negative effect of such approach is narrowed horizons of research area.

In more detail, the results to be obtained and reported after each semester course in research work can be described in the following manner. Initially, during the first 4 weeks after enrollment, postgraduates are introduced to essential principles and procedures of research work, to its methodological bases. Identification and statement of the research problem is performed by each postgraduate individually and then discussed and refined with professors and fellow postgraduates in the classroom.

The first semester of the course is completed with a presentation and report on the research work performed which is to include:

- Problem statement, analysis of types and forms of the research object chosen.
- Review of opinions and approaches taken by recognized authorities in the field both nationally and internationally.
- Regulatory elements and principles applying to the research object.

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The report completing the second semester of the course includes the following sections:

- Review of the methods applied in analysis and evaluation of the efficiency in relation to the object chosen.
- Analysis of advantages and disadvantages of the methods reviewed.
- Justification of the methods and methodologies chosen for research.
- Allowances for inflation rates, associated risks and levels of uncertainty.

Report produced in the third semester of the course in research work is to include:

- Analytics related to assessment of the firm (organization, industry, cluster, territorial and administrative unit, etc.) condition which is used as the basis for further testing and verification of conclusions made and presented in the earlier reports.
- Justification of software packages and applications selected for calculations.
- Presentation of findings and analysis of the calculations and evaluations performed.

Such approach provides a solid basis for development of research-related skills of postgraduates which are to be applied in further activities underlying the process of writing research papers and Master thesis. The requirements postgraduates' reports are to meet are the following: a report is to be logical and structured, demonstrate sound and relevant argumentation techniques, while revealing creative thinking abilities of its author and expertise in the latest research methods and techniques.

Statements of problems and research areas suggested for research are to correspond to the competences required of Masters in Economics and Administration of Innovative and Knowledge-Intensive Projects. They can include theoretical and methodological problems related to justification of selection, assessment and analysis of the outcomes obtained from projects in technological innovations, innovative materials, developments and projects in knowledge-and technology-intensive industries, development of innovative industrial clusters. An example of such problem and research area is development and implementation of innovative projects aiming at decreased energy consumption and increased energy efficiency (Dmitriev, 2019; Ermolayev, 2018; Oborin, 2019; Smirnova, & Senderov, 2018; Teksler, 2018; Yeroshin & Klimentov, 2020). Increased efficiency of public funds allocation requires specialized studies to select and determine the conditions for multiple projects in various industries of the Russian economy (Talanova, 2016; Zagorodnikov, 2018), and also for projects aimed at improved social infrastructure (Nikonova, 2019; Popov et al., 2019). Another problem area is financial provisions, sources and schemes of funding for knowledge-intensive and innovative projects (Bulatova, 2018; Foundation for Small Business Development in Science and Technologies, 2021; Podernya, 2019; Shvidky & Miroshnichenko, 2016).

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7. Conclusion

A most immediate connection of the course in research work with industry-based and pre-graduate internships and working on the Master thesis provides a motivation required for improved quality of undergraduates' research work and qualification papers. The general lines for research can be defined as:

- Evaluation and analysis of knowledge-intensive and innovative projects feasibility and efficiency in general and, more specifically, individual stages of project development and implementation.
- Administration of projects implementation, evaluation and analysis of their efficiency in terms of an individual industry, including, primarily, technology-intensive projects in aviation, propulsion engineering, rocket and space industry, shipbuilding, radio engineering, nuclear industry, communication and information technologies.

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