

REVIEW
on a dissertation
for the acquisition of an educational and scientific degree "doctor"

The review was prepared by: Assoc. prof. Nikolay Penev Ivanov, PhD

Thrace University - Stara Zagora, Faculty of Economics, Department of Economics;
Scientific field 3. Social, economic and legal sciences; in a professional direction: 3.8.
Economics; scientific specialty: "Accounting, control and analysis of economic activity";
determined according to Order No. 1127 of 22.11.2023 of the Rector of the Academy of
Economics "D. A. Tsenov" - Svishtov as a member of the scientific jury.

Author of the dissertation: PhD student Emil Hristov Alexandrov

Business Academy "D. A. Tsenov" - Svishtov, Faculty of Finance, Department of
Finance and Credit; Scientific field 3. Social, economic and legal sciences; in a professional
direction: 3.8. Economics; scientific specialty: "Finance, money circulation, credit and
insurance (Finance)".

***Topic of the dissertation: "Financial and economic evaluation of investments in the
production of energy-efficient building materials"***

I. General presentation of the dissertation work

The dissertation work submitted for evaluation by doctoral student Emil Hristov Alexandrov on the topic "Financial and economic evaluation of investments in the production of energy-efficient building materials" is a logically bound and in-depth study developed in a total volume of 266 standard typewritten pages.

The financial and economic evaluation of investments is an important part of the process of making strategically important investment decisions. From a research perspective, the implementation of financial-economic evaluation in analytical processes is applied to investigate the benefits obtained from the practice.

The main text of the dissertation includes an introduction, three chapters, a conclusion, a list of used tables, figures and a list of 107 literary sources used. The dissertation is illustrated and contains 76 tables and 28 figures.

The research is well balanced in terms of structure. The dissertation work is properly constructed, which allows to examine the considered problems with the necessary logical sequence.

The literature used, which was studied by the doctoral student in the research process, consists of 107 titles, in Cyrillic and Latin, which testifies to the author's awareness of the research on the subject, both by Bulgarian and foreign authors. The sources correspond to the thematic focus, and no fraudulent use of foreign texts has been found.

II. Assessment of the form and content of the dissertation

Acquaintance and analysis of the dissertation allows us to conclude that research on a similar topic is relevant and of contemporary importance. The chosen topic is dissertable and allows to make reasoned conclusions, proposals and to formulate contributing aspects.

The subject of the dissertation research focuses on consumer attitudes towards the search for insulating building materials for energy efficiency, which forms a positive financial-economic assessment for investments in their production.

The object of the study is the production and placement of insulating building materials that ensure energy efficiency.

The research thesis is well formulated: the development of technologies for the production of insulating building materials forms a supply that ensures the demand from customers for financially and economically sound investment decisions in energy efficiency projects of the building stock in an environment of high targets under the "green deal" of EU and energy price dynamics for end users.

The main goal is adequate to the subject and object of research: to justify the demand for investments in the production of insulating building materials for the purposes of improving energy efficiency, by studying the theoretical-technological aspects of this process and the financial-economic impact of these investments on consumers.

The purpose and tasks of the research are precisely formulated, which is a prerequisite for in-depth conclusions and recommendations. The derived theoretical statements of investments in energy efficiency substantiate the methodological framework and the management context in the process of implementation of projects in the field of energy efficiency. A survey was carried out to investigate the attitudes of end users towards energy efficiency investments.

The language and style of presentation in the dissertation work are at a good level. There are no repetitions or deviations in the presentation. The work is properly structured. There is a proportionality of its individual parts. The scientific toolkit is suitable for the specific problem and allows to draw reasoned conclusions.

The used literary sources are accurately cited in accordance with the requirements and norms of scientific and professional ethics.

The submitted abstract, in the amount of 32 pages, fully and accurately presents the content of the dissertation work. It is written in a clear, comprehensible and scientifically sound style, reflecting the main points of the dissertation and giving a clear idea of what the PhD student has achieved.

The publications related to the dissertation were developed independently, and their total number is four.

In a methodological aspect, the research is based on a literature review, historical research, analysis and synthesis, system analysis, retrospective data analysis, inductive-deductive method, verbal-graphic modeling, written research (survey). The survey results were processed using IBM SPSS Statistics with the application of descriptive statistics modules. The sources of data used to reach the main scientific and scientific-applied achievements are: NSI, Eurostat, a field survey of the type of survey.

The time scope of the present work includes the last five-year period from 2019 to 2023, with a clear consideration of the force majeure impact of the pandemic crisis and the war in Ukraine on the price parameters in the field of energy efficiency investments. National energy efficiency programs targeting high-rise structures with multiple owners remain outside the scope of this work. The present study is based on the derivation of data based on the author's survey.

Chapter one covers a theoretical overview of the literature sources concerning the study of investments in energy efficiency. The main emphasis is placed on theoretical and practical dimensions of investments and implementation of energy efficiency; the characterization of energy efficiency in buildings; European and national tools for short-term and long-term building performance.

Within the scope of chapter two, the methodological framework for carrying out a user study based on the assessment of energy efficiency investments is carried out. By formulating a methodological framework for research and evaluation of investments in energy efficiency, as well as financial controlling in crisis conditions. An analysis of the state and trends of sector F "Construction" in Bulgaria was made.

In the third chapter, the results of the conducted large-scale survey are mainly presented, and the information obtained from the survey is applied in a practical aspect for the financial evaluation of state investments to support the increase of energy efficiency in Bulgaria. Structurally, chapter three contains a description of survey respondents, presentation of environmental aspects, insulation technology and budget for energy efficiency and grant programs and technology efficiency.

III. Scientific and scientific-applied contributions of the dissertation work

The dissertation contains the positive aspects and achievements of the author, which can be characterized as contributions to the theory and practice of the banking business. The author's scientific achievements stand out for their originality and practical applicability.

The work provides a direct up-to-date assessment of the possibilities for realizing a sustainable transition to energy efficiency in the construction sector, which can be perceived as a kind of business niche in the construction sector. Based on the retrospective analysis of the dynamics and trends in the construction sector in Bulgaria, the need to strengthen the integration of energy efficiency in the Bulgarian construction sector is shown.

A possible option for this is the construction of an integrated installation for the production of high-quality energy-efficient building materials, through which to achieve accessibility on the Bulgarian market to a similar type of building materials, as well as a high degree of sustainability and adaptability to European energy standards. The research can be the basis for the derivation of an objective assessment arguing for the establishment of an association of national stakeholders to define national goals and strategies towards a sustainable building capacity and a construction sector with lower carbon emissions, the need to create mandatory energy rules for building potential and setting the path to achieve energy-efficient standards, supply chains that promote energy-efficient projects, low-carbon and sustainable construction, and to stimulate governmental and non-governmental actions to increase investment in energy efficiency and promote the transition to "circular material economies" for a more ecological and carbon-neutral status of real estate in Bulgaria.

The more substantial scientific and applied contributions are well articulated:

- The author's interpretation of the concept of "energy efficiency" is derived. An innovative version of the construction of an integrated installation for the production of high-quality energy-efficient building materials is presented.
- A precise user survey was carried out in the field with a focus on financial and economic evaluation of investments in the production of energy-efficient building materials. Through the survey, the need to take adequate measures based on optimal values of the percentage ratio of sanitation by means of styrofoam was deduced.
- A new vision for carrying out an expert financial assessment of state investments to support the increase of energy efficiency in Bulgaria has been approved.

VI. Criticisms, opinions, questions and recommendations

Regarding the dissertation work and the materials provided, I have no significant critical remarks and recommendations. I will allow myself to make a recommendation to the doctoral

student - after expanding the research on the topic, the development should be published in the form of a monograph with a view to reaching a wider circle of interested experts.

The topic can be defined as interdisciplinary. As can be seen, the preparation of the candidate for the doctoral degree is broader than the purely economic aspects of the subject. I would be happy to hear the dissertation's opinion on the following question:

1. Do you think that only through economic measures could the conservation of the planet's ecosystem be achieved?

The indicated remarks, recommendations, as well as the assessments presented in this opinion do not reduce the value of the analyzed materials, but should be perceived as recommendations in future development.

V. Summary evaluation of the dissertation work and conclusion

Based on the in-depth analysis of the developed dissertation work, it can be confidently stated that it is a scientific development with significant achievements. The contributions, scientific merits and content of the dissertation present the author and his results in a positive light.

The research tasks have been successfully completed, and the set main goal has been achieved. Scientific and scientific-applied contributions in the dissertation enrich scientific knowledge and support practice.

The materials presented to me for the preparation of the present opinion comply with Regulations for its application in the Economic Academy "D. A. Tsenov" - Svishtov.

Therefore, I allow myself, fully convinced and objective, to give my positive assessment and propose to the respected members of the Scientific Jury to award the educational and scientific degree "Doctor" in the scientific specialty "Finance, monetary circulation, credit and insurance (Finance)" to a doctoral student Emil Hristov Alexandrov.

12/19/2023

Prepared the review:.....

(Assoc. prof. Nikolay Penev)