

## Report on Doctoral Thesis

<b>Doctoral student:</b>	Arif Ibne Asad
<b>Title of Doctoral Thesis:</b>	Factors Influencing the Business Performance of the Pharmaceutical Companies: Contemporary Challenges and Opportunities
<b>Reviewer:</b>	prof. Ing. Aleksandr Ključnikov, Ph.D.
<b>Place of Doctoral Examination:</b>	Faculty of Management and Economics, Tomas Bata University in Zlín, the Czech Republic

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### *Evaluation of the actuality of the topic of the Doctoral Thesis*

The topic of the doctoral thesis is highly relevant. The pharmaceutical industry faces significant challenges, including technological inefficiencies, rising R&D costs, issues with patents, and supply chain disruptions, especially after COVID-19. Additionally, the increasing competition, the role of strategic alliances, and patent problematics are crucial factors affecting business performance. Given the industry's critical role in public health and economic development, research that identifies key determinants of success and explores strategies for sustainable growth is both timely and valuable. The study provides essential insights for policymakers, industry leaders, and researchers navigating these contemporary challenges.

### *Evaluation of the fulfillment of the objectives set out in the dissertation thesis.*

The dissertation presents a comprehensive and valuable study. It successfully identifies key factors affecting the business performance of pharmaceutical companies, using multiple analytical approaches, including PRISMA, DEA, DEMATEL, and SWOT. The findings align well with the stated objectives and offer both theoretical and practical contributions, demonstrating a high level of success in addressing the research goals, questions, and objectives. Overall, the dissertation effectively fulfills its objectives.

However, despite its high quality, the work has some weaknesses. The introduction does not clearly define the focus on the pharmaceutical industry, particularly European pharmaceutical companies. A more precise explanation of why the study concentrates on European firms would improve clarity. Additionally, while the dissertation provides extensive data and analysis, it lacks a structured summary of the answers to the research questions, making it difficult for the reader to grasp key findings quickly.

Another issue is the organization of content. The dissertation includes a large amount of valuable information, but its structure could be improved for better readability. A more systematic approach to presenting findings and linking them to the research objectives would enhance its effectiveness.

### *Evaluation of the procedure of research objectives solvation, results of Doctoral Thesis, and the contribution of the student*

The doctoral thesis presents a thorough study of factors influencing the business performance of pharmaceutical companies. While the research is extensive and methodologically diverse, several issues affect its clarity and focus.

The research objectives are addressed through a combination of systematic literature review (SLR), panel regression models, data envelopment analysis (DEA), the DEMATEL approach, and SWOT analysis. However, the introduction is overly broad, and the research gap is not clearly defined, particularly in relation to the pharmaceutical industry. The PRISMA framework was applied to the keywords “challenges in the European pharmaceutical industry”, which do not align well with the second part of the study’s primary aim. Additionally, the selection of literature from 2011–2022 lacks justification, and the inclusion of the WTO (2006) paper falls outside the systematic review's scope.

The empirical analyses provide valuable insights into factors affecting pharmaceutical business performance. However, the literature grounding for some hypotheses does not explicitly establish a strong connection to the pharmaceutical sector. The evaluation of hypotheses, presented in Table 6.16, lacks sufficient explanation of the process and results. Furthermore, the discussion of findings does not clearly link them to research questions and hypotheses. A minor issue is that variables in the formula on page 60 are not explained.

The research objectives were addressed through a structured methodology that effectively combines qualitative and quantitative approaches. However, the combination of different methodologies is unusual and not fully justified. Additionally, the selection of experts for the DEMATEL analysis and their qualifications are not well described. A more focused approach, clearer explanations, and improved structuring of findings would enhance the study’s impact.

The student's contribution to the field is significant, providing valuable insights into pharmaceutical business performance, particularly within the European context. The study presents a well-developed analysis and offers relevant conclusions, though refining the research focus and methodology would further strengthen its impact.

### *Evaluation of the contribution to the development of the field of study and the practice*

The doctoral thesis makes a valuable contribution to the study of pharmaceutical business performance by identifying key factors influencing the industry, particularly in Europe. It integrates multiple analytical approaches, providing both theoretical insights and practical recommendations. The research enhances understanding of efficiency, strategic alliances, R&D investments, and human resource management in pharmaceutical companies. For practice, the findings can support decision-making in business strategy, policy formulation, and industry competitiveness. However, a clearer focus on the pharmaceutical sector and improved structuring of results would further strengthen its impact on both academic research and real-world applications.

### *Evaluation of formal and language issues of the Doctoral Thesis*

The Doctoral Thesis is well-organized, with a logical structure that contributes to the logical flow of the research. The language is generally formal and appropriate for academic writing, demonstrating a good command of English. However, there are occasional minor grammatical and formatting errors (eg. mistakes in the number of pages in the table of contents). The thesis meets the formal and language requirements for a doctoral dissertation.

*Evaluation of the publications of the doctoral candidate*

The doctoral candidate presented a list of nine articles published in peer-reviewed international scientific journals, eight of which are indexed in the Web of Science (2x SSCI, Q1, 6x ESCI (2x Emerald)) and Scopus databases (1x). Additionally, the student presented 12 conference papers. Several of the publications presented are closely related to the field of research. The number and quality of publications exceed the requirements for proceeding to the defense.

*Questions for the student for further discussion*

1. How do you explain the finding that current R&D spending is positively and statistically significant for the present year's sales revenue, while R&D lag1 and R&D lag2 are negatively and statistically significant for business sales revenue? Is there a logical explanation for this pattern?
2. What was the motivation for focusing your research exclusively on European pharmaceutical companies?
3. A significant part of the literature review relates to the SME segment, while your empirical analysis focuses on large publicly traded companies. Do you believe the results would be similar for SMEs and large corporations?

*Definite statement of the reviewer of the fulfillment of the Doctoral Thesis evaluation*

**Based on a comprehensive assessment of the topic, the degree of achievement of goals, results, and benefits of work for the practice and the development of the scientific field, I recommend the Dissertation thesis for the defense. In case of a successful defense, I propose granting the doctoral candidate the academic title of "Doctor" (abbreviated as "Ph.D.").**

In Ostrava, 20.03.2025

**prof. Ing. Aleksandr Ključnikov, Ph.D.**  
European Centre for Business Research  
Panevropská univerzita, a.s.