

**WEST UNIVERSITY OF TIMIȘOARA  
RESEARCH DOMAIN ACCOUNTING**

**Leveraging Accounting Information for Predictive Modeling and  
Investigative Activities: Essential Tools for Business Consulting and  
Forensic Accounting**

**SUMMARY OF THE HABILITATION THESIS**

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## SUMMARY

*„Accounting numbers of course, are the language of business and as such are of enormous help to anyone evaluating the worth of a business and tracking its progress.”  
(Warren Buffet)*

Achieving habilitation represents a high level of academic and research recognition, certifying maturity in scientific research and attesting the ability to share acquired knowledge, research methods and enthusiasm with upcoming generations of researchers. Consequently, this Habilitation Thesis aims to provide a detailed analysis of my teaching and research experience gained since I obtain the PhD in the economic field, specifically in the accounting, while working as a member of the Department of Accounting and Auditing at the West University of Timișoara. It also outlines the primary directions for the future.

In an increasingly complex business environment, where the need for transparency and accuracy of financial information provided to stakeholders is mandatory, predictive modeling and investigative activities conducted in accounting are more than vital. As businesses face constant challenges in staying competitive and responding appropriately to an complicated regulatory framework, the role of accountants exceeds beyond the traditional bookkeeping to cover accounting and tax consulting activities, as well as forensic accounting. This paradigm shift highlights the significance of using accounting information not only for reporting to interested users but also for conducting predictive analyses and investigations, which can be used as a foundation for managerial decision-making as well as for resolving legal, business, or other disputes. Accounting professionals can offer insightful perspectives through their work that support risk management, fraud detection, and strategic decision-making. They can also help to improve financial performance, operational effectiveness, and organizational sustainability.

Consequently, the starting point for the research directions discussed in this thesis is the role and significance of accounting information as the main source for supporting strategic and operational business decisions, enhancing the efficiency with which an organization uses its resources, assessing performance, promoting sustainability, and identifying and preventing fraud. Therefore, through the use of financial and nonfinancial information, the professionals in accounting, they will be able to perform predictive modeling based on statistical tools, machine learning algorithms, decision trees, and neural network models. This will enable the gathering of relevant future predictions resulted from the recorded tendencies. Furthermore, accounting professionals can use financial information to provide specialized assistance for the investigation and prevention of fraud as well as for the resolution of legal disputes. This can be done by looking through accounting records to find anomalies, fraudulent or unusual transactions, delapidations, errors, contractual infringements, etc.

The aim of this paper is to bridge the gap that currently exists between theoretical and practical approaches to the use of financial data for predictive modeling and investigative activities. These activities are included in the portfolios of certified public accountants, the results of modelling and investigative activities are tools and techniques used for obtaining evidence to support the professional opinions.

The habilitation thesis entitled **"Leveraging Accounting Information for Predictive Modeling and Investigative Activities: Essential Tools for Business Consulting and Forensic Accounting"** consists of two parts organized as follows.

**The first part** is further divided into two sections.

*The first section* highlights the main original scientific results published after the PhD in the field of Economics, subfield Accounting, with an emphasis on using accounting data to develop prediction models regarding the future evolution of a company's activity. In order to provide recommendations to their clients for consulting services, the accountants try to identify solutions for optimizing performance, efficiency, sustainability, and risk management.

The main goal of scientific research is to ensure broad acceptance and advancement of new knowledge, which improves human and social well-being. These broad objectives have been the main focus of my research, which has contributed develop specific scholarship that is helpful to practitioners and researchers equally. Furthermore, I have demonstrated how irregularities, fraud, and errors can be found based on accounting information, as result of accounting records investigation, as well as verifying supporting documents and financial reporting statements. As result, professional opinions are based on the evidence obtained from these investigations, which can be used by the beneficiaries of accounting consulting, legal, and investigative activities, supporting the resolution of different disputes.

Consequently, I have structured the main scientific results obtained after earning the PhD into three main directions pursued during the time. These areas together demonstrate the significance and adaptability of the accounting profession in ensuring the effectiveness, efficiency, and resilience of businesses and economies overall, their sustainability.

A first research direction followed was *"Leveraging Accounting Information in Business Consulting: Predictive Modeling and Professional Opinions Adapted to Different Sectors."* In this context, the results obtained from the studies highlight how accounting information is used by professionals to provide consulting for business organizations on matters such as forecasting financial and operational performance, ensuring sustainability, and improving efficiency. Accordingly, based on predictive modeling, future trends will be anticipated, supporting the professional opinions expressed, adapted to each context, and assisting in the process of strategic and operational decision-making.

A second research direction was related to *"The Contribution of Accounting Professionals to Achieving Sustainability through the Assessment of Efficiency, Performance, and Resilience of*

*Business Organizations and the Economy.*” From this perspective, the research papers aimed to investigate the essential role of accounting professionals in promoting business sustainability and the sustainable development of society.

As a result, the findings of the studies highlight the contribution of accounting professionals to assess the efficiency and financial performance of organizations from the perspective of their sustainability, as well as to measuring and improving their resilience in various economic and financial crises. Moreover, the current era has brought a new challenge for accounting professionals to develop the necessary competencies and skills to evaluate and report not only financial information but also non-financial information, especially related to sustainable development goals and corporate social responsibility. Based on the research results obtained, the contribution of the accounting profession to the development of environmental, social, and corporate governance practices and policies is highlighted.

The third direction of research is focused on the use of “Forensic Accounting – as Evidence for Preventing and Investigating Financial Frauds and Legal Disputes” and explores how this activity can serve as evidence in solving how financial frauds occurred, evaluating their damages, and also representing a means of proof often used in resolving legal disputes involving patrimonial relationships. Additionally, in this context, various techniques used by accounting experts in detecting and obtaining evidence related to documenting financial irregularities examined.

*The second section* of the thesis presents my teaching activity and involvement in university activities, highlighting the main achievements from the moment of PhD until now. After graduating from the Faculty of Economic Sciences and Law at the West University of Timișoara, specializing in Accounting and Information Systems, in 1996, I began my university teaching career at the same institution. Since October 1996, I have become a teaching assistant in the Department of Accounting, thus beginning a new phase of specialization and knowledge. After completing a master's program in accounting expertise and evaluations at the same university, I studied for doctorate under Professor Mihail Epuran's supervision. In 2005, I received the title of Doctor in Economics with a specialization in Accounting and completed the thesis titled “*Study on the Evolution of Accounting Expertise in Romania.*” I progressed up the academic hierarchy over my career, becoming an associate professor in 2007, after starting as a university assistant in 2000 and working my way toward becoming a lecturer in 2002. My teaching activity has always been fully connected with professional practice, also obtaining specific professional certifications, thus becoming a certified accountant, financial auditor, and tax consultant, being a member of the Body of Expert and Licensed Accountants of Romania, the Chamber of Financial Auditors of Romania, and the Chamber of Tax Consultants of Romania. I have accumulated extensive experience in teaching accounting subjects, significantly contributing to the evolution of forensic accounting in Romania. Through all my teaching activities, I have contributed to the formation of numerous professionals in accounting, being involved in teaching courses at both bachelor's and master's levels, always aiming for future accountants to be well-prepared for professional challenges and to obtain professional certifications. In terms of

involvement in university life, I have contributed to the running of administrative activities within the Faculty of Economics and Business Administration. Thus, from 2008 to 2012, I held the position of Vice Dean, overseeing the financial domain. In the last two terms, I have occupied one of the eligible seats on the Faculty Council, allocated to the Department of Accounting and Auditing, of which I am an honored member.

**In the second part** of the thesis, I have highlighted the main future research directions that I plan to pursue alongside future doctoral students or within research teams, as well as the most important professional development objectives in the field of academic research. Future research directions and professional development objectives are essential for maintaining excellence in this constantly evolving field. Through a commitment to innovative research, interdisciplinary, national, and international collaboration, mentoring, and improving competencies and skills, I will ensure that I continue to contribute significantly to the training of future accounting professionals and the advancement of the profession.

Even though the importance of predictive modeling and investigative activities conducted by accounting professionals is fully recognized, there remain specific aspects that need to be studied, which this work aims to address. In this context, a primary objective is to raise awareness among accounting professionals about the need to integrate predictive analysis into their current activities, thus contributing to the increased knowledge and use of necessary tools, both statistical and artificial intelligence-based, which are increasingly present in our work. Since the results of predictive modeling depends on the quality of the accounting information used, another aspect pursued by this work is to emphasize the need for organizations to develop accounting information systems capable of providing information in the necessary format and accuracy. Additionally, another objective of this research is to contribute to bridging the gap between theoretical research and the practical application of its results. This is because the research conducted and synthesized in this thesis overwhelmingly stems from my practical professional experience and is strongly connected to the challenges that accounting professionals face in their current activities.

In conclusion, by addressing these objectives, this work aims to improve the ability of accounting professionals to perform predictive modeling that can be used in the business consulting they provide, as well as to conduct investigative activities necessary for the preparation of forensic accounting reports. Through these activities, they contribute to improving the decision-making process, risk management, fraud detection, and the resolution of various disputes in which business organizations may be involved.