

INFORMATION PAGE ON NEW SCIENTIFIC AND PRACTICAL CONTRIBUTIONS OF THE DISSERTATION

Dissertation title: Impact of information technology application on the banking performance of Vietnamese commercial banks

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1. New Scientific Contributions

❖ *Contribution to Research Methodology*: This study addresses the research gap regarding the impact of IT investment on bank performance by separating hardware and software investment costs into two distinct independent variables within the research model. The results indicate that both hardware and software investments have an inverse effect on ROA and ROE, but their effects may not be immediate and require a certain period (lag) to take effect, once the systems are deployed and operate stably. This is a novel contribution regarding the time factor in IT investment effectiveness, helping Vietnamese commercial banks adjust their IT investment strategies effectively.

❖ *Assessment of the role of IT human resource infrastructure and IT technical infrastructure*: This study has addressed the research gap by analyzing the impact of IT human resource infrastructure and IT technical infrastructure on bank performance. The results show that both of these factors have a significant impact on the bank's performance, but their effects may require some time to materialize, especially in the context of IT systems being deployed and operated.

❖ *Identifying the difference between the short-term and long-term impacts of IT*: The research results show that IT investments (hardware, software, human resources, and technical infrastructure) generally have a negative impact in the short term due to high initial costs and prolonged integration periods. However, they yield positive results in the long term when systems are integrated and operated stably. This represents a new perspective on the time factor in IT investment effectiveness, expanding the scientific understanding of this relationship.

❖ *Analyzing the role of IT applications in improving banking performance*: The study confirms that IT applications, particularly, internal IT application within banks, online services and cashless payments, have a significantly positive impact on banking performance. This underscores the critical role of digital

transformation in enhancing the competitiveness of banks. The findings provide new scientific evidence on the impact of IT application factors in the Vietnamese context.

❖ *Integrating theoretical frameworks in analyzing IT impacts*: The dissertation integrates various theoretical frameworks, including: the Technology Acceptance Theory, Innovation Theory, Resource-Based Theory, Transaction Cost Theory, Agency Cost Theory, and the Efficient-Structure Theory, to analyze the impact of IT investment and application on performance. This integration enriches the theoretical foundation and opens up new research directions on IT and performance in the banking sector.

2. New practical contributions

❖ *Supporting IT application strategies in Vietnamese commercial banks (CBs)*: The study demonstrates that IT application factors, including internal IT systems, online services, and cashless payments, have a significantly positive impact on the banking performance. This provides practical insights for Vietnamese CBs to prioritize investments in IT applications to enhance operational efficiency, improve customer experiences, and meet the demands of digital transformation.

❖ *Orienting the development of online services and digital payments*: The findings reveal that online banking services (Internet Banking, Mobile Banking) and payments via credit and debit cards play a crucial role in improving banking performance. This emphasizes the need for Vietnamese CBs to accelerate the development of cashless payment systems and online applications to meet customer needs and enhance competitiveness.

❖ *Strengthening IT system security and integration capabilities*: The application of internal IT systems and online services requires banks to ensure the security and stability of their IT infrastructure. This suggests that banks should invest in advanced security solutions and build robust IT infrastructures to address potential risks in the digital environment.

❖ *Developing a synchronized technology investment strategy*: The study highlights that the effectiveness of IT investments (hardware, software, human resources, and technical infrastructure) can only be achieved when these components are implemented in a coordinated manner. This serves as a basis for banks to develop long-term investment strategies, ensuring the integration of technology with business operations.

❖ *Supporting policy formulation by the State Bank of Vietnam (SBV)*: The research provides practical evidence for the SBV to implement clear policy guidelines, focusing on technology standardization, promoting digital payments, and enhancing credit management. These measures aim to ensure the sustainable and secure development of the banking system.

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