

RESEARCH ARTICLE

Impact of digital transformation on financial performance of licensed commercial banks in Sri Lanka pre and post COVID-19 pandemic

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Abstract: Enhancing the quality of goods and services through innovation and the integration of electronic applications is a fundamental aspect of digital transformation. This topic has increasingly captivated the attention of management and organizational scholars. This focus is especially relevant in improving organizational performance by digitalizing core operations. The global and Sri Lankan economies have faced severe disruptions due to the COVID-19 pandemic, which has compelled commercial banks to adopt innovative digital strategies as a means of mitigating the resultant risks and maintaining stability. This study explores the impact of digital transformation on the financial performance of 10 Licensed Commercial Banks in Sri Lanka, comparing outcomes before and after the pandemic's onset. By employing a robust methodological framework that includes descriptive statistics, correlation analysis, and T-test analysis, the research investigates key variables to discern trends and patterns across different timeframes. The assessment of digital transformation is conducted through a multi-dimensional approach, focusing on metrics such as the volume of digital transactions, income from fees and commissions, and the proliferation of Automated Teller Machines (ATMs) and Cash Deposit Machines (CDMs). Financial performance, on the other hand, is gauged using critical indicators like Return on Assets (ROA) and Return on Equity (ROE). The analysis reveals nuanced insights: while the increase in ATMs and CDMs correlates positively with financial performance, this relationship lacks statistical significance. In contrast, a substantial and positive effect on financial performance is observed from the volume of digital transactions and the income generated from fees and commissions. Significantly, the findings indicate that digital

transformation initiatives have enabled commercial banks to not only weather the pandemic but also enhance their financial performance during this period of unprecedented challenge. These results emphasize the imperative for financial institutions to strategically integrate advanced technologies, such as artificial intelligence, into their digital transformation agendas. By doing so, they can secure and potentially elevate financial performance, even amidst unforeseen global crises like a pandemic.

Keywords: COVID-19, digital transformation, financial performance, licensed commercial banks, Sri Lanka.

BACKGROUND OF THE STUDY

Banking firms have been the dominant force in Sri Lanka's financial industry, as it comprises 33 licensed banks in 2013. This includes 12 foreign Licensed Commercial Banks (LCBs) and 21 domestic banks, featuring 9 licensed specialized banks and 12 local LCBs (N&A 2015). Significantly, the banking sector represented nearly two-thirds of the total assets within the financial system. Consequently, the stability of banking institutions wields a substantial influence on the overall strength of Sri Lanka's financial landscape.

Digital transformation, as defined by Kitsios *et al.* (2021), pertains to systems enabling bank customers to access their accounts and obtain information on bank products and services through the bank's website,

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eliminating the need for traditional methods such as letters, faxes, original signatures, and telephone confirmations. This transformation involves integrating digital technology across all aspects of a business, fundamentally altering its operations and value delivery to customers. Online banking services have evolved to encompass a range of transactions, from basic functions like transfers and bill payments to more complex operations such as account openings and credit card applications.

The development of Internet technologies has reshaped the traditional delivery channels of banking services, prompting financial institutions to explore the appeal of these alternative channels for widespread consumer adoption (Mateka *et al.*, 2017). As banks globally vie for market share, studies emphasize the pivotal role market share plays in a bank's profitability, growth, and survival (Nazari & Mashali, 2020). This research seeks to compare the impact of digital transformation on the financial performance of commercial banks in Sri Lanka before and after the COVID-19 pandemic. While posing challenges to the banking sector in 2020 the pandemic also accelerated the pace of digital transformation across industries. Financial institutions, in particular, leveraged digital technologies such as robotic process automation (RPA) and artificial intelligence to enhance customer services, ensure compliance, and navigate the evolving landscape.

Digital transformation brings advantages to commercial banks such as increased efficiency and reduced costs, make it a crucial strategy. Past studies have demonstrated the decline in traditional banking transactions, and the efficiency gains realized through technology adoption (Lika *et al.*, 2023; Caliskan & Kirer, 2020). To assess the impact on financial performance, this research focuses on key indicators, including return on assets (ROA) and return on equity (ROE), utilizing data from the period 2017 to 2022. The study examines the number of ATMs/CDMs, digital transaction volumes, and fees and commission income as dependent variables. All data is sourced from the annual reports of specific banks, ensuring a comprehensive analysis. In conclusion, this study aims to shed light on the correlation between digital transformation and the financial performance of commercial banks in Sri Lanka, particularly in the context of the pre-and post-COVID-19 scenarios. The findings are expected to contribute valuable insights into the evolving landscape of banking in the digital age.

The research theme is presented comprehensively, with a background section outlining the research problem, research questions, objectives, and the scope of the study. The literature review covers past research related

to the theme, while the methodology section details the research method, design, population, sample, data collection and analysis methods, conceptual framework, hypotheses, and operationalization of variables. The data presentation and analysis section generalizes the findings to align with the objectives, and the conclusion section provides conclusions, implications, and implications for future research based on the findings. The dissertation outline concludes with a comprehensive overview of the research topic.

RESEARCH PROBLEM, QUESTIONS, AND OBJECTIVES

The impact of digital transformation on the financial performance of licensed commercial banks in Sri Lanka is a significant research gap. Existing studies acknowledge the positive influence of digital transformation, but there is a lack of research on how the impact may vary among different sizes. Larger banks may have more resources for implementing digital technologies, leading to different outcomes. The study should investigate resource allocation and implementation challenges, customer segmentation, adaptability and agility, and risk management strategies among different banks. This understanding is crucial for policymakers, regulators, and banking executives to optimize the impact of digital transformation on the financial health of licensed commercial banks in the post-pandemic era. The banking sector is experiencing significant changes due to the rapid expansion of digital transformation. However, there is limited research on the impact of digital transformation on the performance of banks, especially in the Sri Lankan banking industry. This study aims to fill this gap by investigating the effect of digital transformation on performance of selected commercial banks in Sri Lanka before and after the COVID-19 pandemic, thereby extending the existing literature on digital transformation and contemporaneous studies in Sri Lanka. Based on the above research gap that the researcher is exploring to find out the issues to identify the research questions for this study are,

The primary focus of this research is to examine the impact of digital transformation on the financial performance of licensed commercial banks in Sri Lanka, both before and after the onset of the COVID-19 Pandemic. The study aims to delve into the multifaceted aspects of digital transformation and its consequences on the financial metrics of commercial banks, providing insights into the extent and nature of these effects. Additionally, the research endeavors to gauge the depth of digital transformation's impact on the financial performance of commercial banks, exploring the specific dimensions and variables that play a pivotal role in influencing the overall financial health of these

institutions. By addressing these questions, the research seeks to contribute a nuanced understanding of the intricate relationship between digital transformation initiatives and the financial dynamics of licensed commercial banks in the Sri Lankan context. Therefore, the primary objective of this study is to comprehensively evaluate the influence of digital transformation on the financial performance of licensed commercial banks in Sri Lanka, both in the pre- and post-COVID-19 pandemic periods. Specifically, the research aims to investigate the dual facets of this impact: firstly, by scrutinizing the direct effect of digital transformation on the financial performance of licensed commercial banks; and secondly, by assessing how the unique circumstances brought about by the COVID-19 pandemic have influenced the trajectory of digital transformation initiatives within the licensed commercial banking sector. Through a focused analysis of these interrelated dynamics, the study seeks to provide a nuanced understanding of the intricate relationships between digital transformation, financial performance, and the external factors introduced by the pandemic, contributing valuable insights to the evolving landscape of banking in Sri Lanka.

LITERATURE REVIEW

This chapter conducts a comprehensive literature review, offering readers an insight into the theoretical foundation of the research problem while presenting a synthesis of previous studies and an analysis of their relevance to the current issue. The overarching goal is to avoid redundancy with previously covered material. The literature study involved a meticulous examination of prior research activities focused on establishing relationships between digital transformations. Historical reference sources, including magazines, newspapers, journals, and online platforms, were scrutinized to compile relevant data. The review critically evaluates the existing literature while acknowledging any inherent limitations in the research. The prominence of digital transformation in recent scholarly investigations is evident. According to Xie & Wang (2023), the advent of digital technologies, notably big data, artificial intelligence (AI), and the Internet of Things (IoT), has ushered in profound changes across various industries in recent years. Within the financial sector, these digital advancements have given rise to novel financial services, such as digital payments, online big-tech lending, and robo-advisors, compelling banks to enhance competitiveness and customer service through digital transformation. Further, a study by Kalapper & Miller (2021) highlights the impact of the COVID-19 pandemic on the adoption of digital payments, with a surge in new users during the epidemic. Notably, the study examines specific questions regarding how individuals in Argentina and Mexico access government

social benefit transfers, receive payments, or settle energy bills, emphasizing the evolving landscape of digital payments. In this context, several studies emphasize the motivations that drive banks towards digital transformation. These motivations include the need to align with clients' lifestyles, provide more cost-effective services, streamline operations by eliminating branches, and achieve cost savings. Romanova & Kudinska (2016) point out that the pandemic accelerated the adoption of digital banking, as people increasingly relied on banks for routine transactions, such as bill payments and purchasing essential goods. The pandemic prompted rapid digital changes, including front-end enhancements, to offer customers a contemporary and trustworthy digital interface. The evolution of Internet banking applications has further facilitated the development of new, efficient payment methods, simplifying transactions for users.

The context of digital transformation

In essence, digitization involves the automation of manual processes by converting analogue information into digital data, and streamlining workflows and operations (Plekhanor *et al.*, 2022). Gartner's Information Technology (IT) Glossary defines digitization as the shift from analog to digital forms. Digitalization, as described by Eidhoff *et al.* (2016), encompasses the use of digital technologies and information to transform business operations, restructuring social and economic life around communication and media infrastructure. The technological, organizational, and environmental (TOE) framework highlights technological, organizational, and environmental factors influencing the digitalization process. Gunawardene's (2017) research study positions digital transformation as a strategic, customer-driven, end-to-end business transformation involving organizational changes at the core level. Scholars view it as an opportunity arising from digitization, impacting organizational patterns, cultural barriers, business models, and legal measures. Digital transformation primarily focuses on altering market-facing elements of an organization, affecting its purpose, boundaries, and activities (Kraus *et al.*, 2022).

Examining separate conceptual constitutions, Kallinikos *et al.* (2013) distinguishes digital transformation from IT-enabled organizational change. IT-enabled organizational change centers on the creation, application, and usage of IT, encompassing hardware and software artifacts grouped into systems for operational effectiveness. In contrast, digital transformation is an ongoing, dynamic process involving continuous adaptations to new technologies and trends. This summary encapsulates scholars' analyses of digital transformation over time, recognizing the evolving nature of this field.

Further concentrating on the theoretical underpinning that the researcher found, the relationship between digital transformation and financial performance can be understood through a theoretical framework. Digital transformation involves the integration of digital technologies into all areas of a business, transforming how it operates and delivers value to customers. Financial performance is measured by metrics such as profitability, return on investment, revenue growth, and cost efficiency. The framework is based on the Dynamic Capabilities Theory, Resource-Based View (RBV), and Contingency Theory. The impact of digital transformation on financial performance can be attributed to operational efficiency, customer experience, innovation, and risk management. The relationship can be influenced by industry type, organizational structure, market conditions, and organizational culture. The hypothesis development suggests that digital transformation positively impacts financial performance through increased operational efficiency, with stronger effects in technology-intensive industries. Organizational flexibility and market conditions also moderate the relationship. A visual model can be created to illustrate these relationships. Therefore, this theoretical framework needs clarity on the existence of such a relationship, while the research mentions a conceptual framework as explained in Figure 1, elaborating on the specific theories or models that support the relationship between digital transformation and financial performance would further strengthen the study scenario.

Why has digital transformation come into the business world?

In a study conducted by Westerman *et al.* (2014), it was observed that companies with a high level of digital maturity consistently outperform their counterparts regarding revenue growth and profitability. Digital transformation emerges as a catalyst for innovation, process optimization, and agility in responding to market changes, thereby contributing to enhanced overall performance. The positive impact of digital transformation on a corporation's performance and competitive advantage is underscored by various research findings. Notably, Ivanov *et al.* (2019) demonstrated that companies embracing digital transformation were better positioned to meet customer expectations, provide personalized experiences, and offer convenient engagement channels, fostering increased customer loyalty and retention. Furthermore, research by Nambisan *et al.* (2019) emphasizes the transformative potential of digital technologies in enabling firms to experiment with new business models, products, and services. This adaptability allows companies to leverage new

technologies, swiftly adjust to market dynamics, and stay ahead of competitors. Brynjolfsson & McAfee (2014) highlight the significant productivity boost afforded by digital technologies like automation and data analytics. Digitizing procedures, streamlining supply chains, and automating repetitive tasks contribute to more efficient and cost-effective operations. As underscored by Tripathi's research in 2021, businesses face disruptions in traditional models, necessitating a digital transformation for continued relevance. The imperative for organizations to embrace digital transformation becomes apparent as they navigate changing market landscapes, explore new markets, and proactively adjust to digital technologies to avoid industry disruptions. Collectively, these research insights highlight the critical role of digital transformation in enhancing performance, customer satisfaction, and overall competitiveness in the evolving business landscape.

Impact of digital transformation on commercial Banks

According to Nayanajith *et al.* (2021), the process of transitioning to a digital business context is termed "digitalization." This involves utilizing digital technologies to reshape business models, offering new avenues for revenue and value creation. The banking industry is experiencing significant disruptions due to the development of digital technologies, leading to a paradigm shift in banks. The introduction of novel products and services, evolving business models, rapid technology adoption, and dynamic regulatory changes contribute to this transformative landscape. To effectively mitigate adverse business effects, digitalization necessitates robust change management and value chain analysis. The entire banking value chain is expected to be disrupted by digitalization, impacting infrastructure development, personnel management, and technological advancements. Full-fledged digital banking, customer-centric Omni-channel banking, and payments banking models are gaining prominence, altering business models in response to the adoption of digital services. Information and Communication Technology (ICT) and fintech advancements play a crucial role in facilitating digitalization, utilizing technologies such as cloud computing, mobile applications, blockchain, artificial intelligence, and big data analytics to create agile, customer-centric architectures. Banks must ensure adaptability and optimization of back-office processes to provide an omni-channel customer experience, leveraging robotic process automation for increased precision and efficiency in digital banking services. In parallel, the need for a robust governance and risk management structure has intensified in the context of

comprehensive digitalized banking, requiring competent leaders with cross-functional capabilities. Thanh *et al.* (2023) further emphasizes the increased demand for effective governance and risk management structures in the face of rapid technological evolution. Researchers have identified emerging forms of banking digitalization, underlining the necessity for adaptable leadership in managing these synchronous structures, transcending specific banking functions. This summary captures the multifaceted implications and evolving landscape of digitalization in the banking industry.

Impact of COVID-19 in the banking industry

According to Ferrari (2022), digital transformation is described as a deliberate adjustment of managerial and economic activities, business models, processes, and competencies to harness opportunities presented by digital technologies and their growing economic impact. The COVID-19 pandemic has induced severe instability and volatility in the global financial system, impacting banks and retail institutions. Recognizing the crucial role of banks as primary sources of financing for many businesses, the pandemic has created challenges with businesses unable to make payments due to quarantine measures. Addressing this, the government may need to consider debt moratoriums to ensure liquidity for banks. Consequently, the adverse consequences of the pandemic present opportunities for digital platforms, pushing towards a cashless society as consumers seek contactless payment options. The personal mobile device becomes a central mode of payment, and exploring biometric validation methods for remote operation of machines is suggested. The pandemic acts as a catalyst for advancements in digital technology, fostering social distance measures required to combat the virus. Consumers' adaptation to technological developments is anticipated to redefine how businesses operate, making people more digitally connected. In Sri Lankan context, private commercial banks have prioritized digitalization, emphasizing customer convenience. Initiatives include the launch of mobile virtual wallets, interactive credit card statements, and innovative services like "MySpace," which incorporates ATMs, CRMs, kiosks, and versatile teller services for enhanced customer experience. Therefore, in response to the pandemic, strategies implemented to increase employee engagement include providing necessary tools such as laptops, tablets, and data for remote work, ensuring security is maintained. The bank invests in employee education on business intelligence tools and customer analytics, contributing to digital collaboration platforms for enhanced communication between clients and staff. Overall, the research highlights the transformative

impact of the pandemic on banking operations and the accelerated adoption of digital technologies to meet evolving demands.

Strategies for digital transformation

According to the Dumind *et al.* (2020) research paper, local banks have strategically advanced their digital initiatives for the coming years, aligning with new technologies and trends. The bank's digital strategy is built on four pillars: digital channels, digital payments, digital operations, and digital services, leading to the introduction of numerous products and services. In the short term, the bank prioritizes addressing cash withdrawal requests through mobile ATMs from the call center, especially in areas under curfew. Information is actively disseminated via the internet, utilizing pop-ups to display banking hours and promotions. The bank offers online chats to assist customers with Coronavirus relief measure queries and has introduced platforms for opening accounts and credit cards online. Website video chat and live chatbots, available in three languages across all social media platforms, enhance customer interactions. Phase II introduces new features for ATMs, including credit card payments, virtual wallet payments, balance inquiries, third-party fund transfers, and service registrations. The Virtual Wallet consolidates various digital banking features, making it more user-friendly. Cheque deposit machines will be available at 15 new locations, and customers can utilize M teller for cash withdrawals and Virtual Wallet for CEFT payments. Mega Pay's Pay-and-Go machines, integrated with Lanka QR and Just Pay, allow customers to top up mobile phones and pay bills at 25 locations. Looking ahead, the future of banking technology is shaped by consumers, particularly Generation Z, who view technology as a life-enhancing tool. The use of Application Programming Interface (API) technology is highlighted, allowing banks to share proprietary data securely with authorized parties. The adoption of APIs is a trend among fintech, inspiring competition among banks to develop their APIs. Furthermore, advancements in blockchain and artificial intelligence are expected to significantly impact banking, with 48% of banking executives anticipating these technologies' dominance by 2020. As a response to the global spread of COVID-19, digital communication and social media platforms have seen a surge in usage. Banks are leveraging these platforms to increase brand awareness and engage with the audience. Digital activities, such as those launched by Sri Lankan banks on Facebook, have witnessed a substantial increase in reach, interactions, and video views. The paper emphasizes the pivotal role of digital communication in the new norm, where people increasingly rely on social

media for communication. Under the Matt *et al.* (2021) research, the bank's efforts to enhance brand awareness include digital activities that have garnered significant attention on social media platforms. The adoption of Temenos' T24 core banking system integrates a Customer Relationship Management (CRM) system, an advanced online banking system, and a mobile app developed in tandem with the core system. The core banking system is set to integrate with a new Anti-Money Laundering (AML) system in 2021, focusing on customer-centric offerings and personalization. Finally, the local bank actively embraces digital innovations, continually enhancing its digital banking services while prioritizing customer convenience. The strategy revolves around simplicity, ease of use, and prioritizing the customer experience, aligning with both domestic and international banking trends. The commitment to personalization and customer-centric services remains integral to the bank's digital strategies, reflecting its dedication to being at the forefront of digital advancements in the banking sector.

Financial performance in commercial banks

Financial performance serves as a critical metric for evaluating how effectively a company utilizes its resources, implements its business model, and generates revenue. The CAMEL framework, encompassing Capital Adequacy, Asset Quality, Management, Earnings, and Liquidity, is widely used to assess various facets of a firm's financial health. In the context of the banking sector, market risk sensitivity has been added as a crucial component. In 2020, Sri Lankan banks demonstrated a net interest income of Rs. 427.4 billion, resulting in a profit after tax of Rs. 190 billion. However, when compared to developed countries, these banks exhibit a lower profit percentage related to E-banking, with studies indicating a lack of motivation among Sri Lankan individuals to use E-banking facilities. In this context, the studies, such as those by Kariyawasam & Jayasiri (2016); Premarathne & Gunatilake (2016), reveal that there is no significant relationship between the implementation cost of E-banking facilities and financial performance. Momo *et al.* (2022) utilize Return on Assets (ROA) as a key indicator of financial performance, considering profit before taxes to eliminate tax effects. Positive macroeconomic environments in Sri Lanka have been linked to higher profitability in the banking sector (Andrew, 2014), and bank-specific characteristics and favorable economic policies are found to enhance banking industry performance (Suganya & Kengatharn, 2018). Recommendations for banks include focusing on increasing their equity-to-total-asset ratio and prioritizing credit risk management. Further, examining the Bangladeshi banking sector, studies reveal that bank loans intensity, credit risk, and cost have positive impacts

on performance, while bank size exhibits a negative impact on return on average equity (ROAE). Corporate governance mechanisms also play a vital role in bank performance, with total assets, total deposits, and loans influencing profitability indicators in Nepalese finance companies. Recognizing the need for a competitive edge in the banking sector, banks are advised to develop innovative programs to maintain superior customer service levels while ensuring profitability, as suggested by guidelines from the Central Bank of Kenya (2010).

In the wake of an extensive empirical review, this study delves into the relatively unexplored realm of the impact of digital transformation on the financial performance of commercial banks in Sri Lanka, both before and after the tumultuous period marked by the COVID-19 pandemic. The empirical foundation of this research addresses a significant gap in the existing literature, particularly within the context of Sri Lanka. Recognizing the scarcity of studies empirically investigating the specific dynamics of digital transformation and its correlation with financial performance in Sri Lankan commercial banks, the researchers embark on an endeavor to contribute meaningfully to this emerging field of knowledge. This study aims to bridge the gap in the contemporary literature, offering valuable insights into the repercussions of digital transformation on financial performance within the banking sector. Focused on selected licensed commercial banks in Sri Lanka, this research strives to provide a nuanced understanding of the implications and outcomes of digital transformation, thereby enriching the understanding of this critical intersection between technology and finance in the Sri Lankan context.

Fulfillment of theoretical and empirical gap in study

The relationship between digital transformation and financial performance is gaining interest in both academic and practical domains. However, several theoretical and empirical gaps need to be addressed. Theoretical gaps include the lack of comprehensive frameworks that integrate multiple theories, overlooking of contextual factors, and the focus on immediate effects. Empirical gaps include inconsistent measurement of digital transformation, the struggle to establish clear causal relationships, and the lack of cross-industry comparisons. Theoretical models should consider dynamic and evolving nature of digital transformation, examining how sustained investments contribute to long-term financial stability and growth. Empirical research should employ more rigorous methodologies, such as longitudinal studies, experiments, or advanced econometric techniques, to isolate the causal effects of digital transformation on financial performance. Cross-industry comparisons are needed to identify industry-specific drivers and barriers to

successful digital transformation. Finally, the researchers view that the necessity of having conducted this research by exploring how digital transformation influences various financial metrics, potentially revealing trade-offs or complementarities between different outcomes that show the cruciality of advancing our understanding of the relationship between digital transformation and financial performance.

RESEARCH METHODOLOGY

Research Methodology is a procedure that describes how research is being conducted. This chapter describes the researcher's methodology. It involves equipment and methods for performing specific studies or obtaining specific results. You can understand the sample and population as well as the conceptual framework that explains the relationships between independent and dependent variables by mentioning this chapter before and after the COVID-19 period. The researcher discusses the guidelines for research design, conceptual framework, sample selection, data collecting, and data analysis in this chapter. This mostly concentrated on the major changes in regression findings before the pandemic period compared to after the COVID-19 period. The research design employed for this study is descriptive, aiming to provide a comprehensive understanding of the Impact of Digital Transformation on the Financial Performance of Licensed Commercial Banks in Sri Lanka before and after the COVID-19 Pandemic. The primary focus of the study is to investigate the relationship between digital transformation and the financial performance of selected commercial banks in Sri Lanka. The researchers conducted an examination to determine the existence and nature of this link, with a specific emphasis on understanding the financial impact of digital transformation on quoted commercial banking firms in the Colombo Stock Exchange (CSE) from 2017 to 2022. The study utilized secondary data, sourced from the balance sheets and profit and loss accounts of the selected commercial banks. Panel data, encompassing both cross-sectional and time series data, was employed to conduct a thorough analysis over multiple periods. The target population for this study comprised 10 licensed commercial banks listed on the CSE, and the evaluation spanned a five-year period. "The justification on this stream can be approached this specific way of concentration as follows; "The study focuses on Licensed Commercial Banks in Sri Lanka, a highly regulated industry with limited firms. The chosen sample size includes the most influential banks, ensuring a comprehensive view of the impact of digital transformation on financial performance. The study covers major market players and a wide range of digital transformation strategies, allowing for a detailed

analysis of the relationship between digital initiatives and financial performance. The depth of analysis is achieved through in-depth analysis and detailed data collection. The sample size is practical due to resource constraints and accessibility. The methodological rigor of the study is maintained through power analysis, ensuring consistency with previous research. The findings from these 10 banks can be generalized to other banks within similar economies or sectors, providing valuable insights for policymakers and industry stakeholders. Thus, selecting a small sample size is justified as necessary and sufficient for achieving the study's objectives."

This research spans two distinct periods, encompassing a time frame of six years from 2017 to 2022. Specifically, to delineate the impact before and after the Covid-19 pandemic, the study focuses on a pre-pandemic duration of three years (2017 to 2019) and a post-pandemic span of three years (2020 to 2022). To facilitate the analysis, the researchers employed various statistical techniques, including graphical representation, descriptive statistics, correlation analysis, and T-test methods. The findings of the study, derived from these analytical tools, revealed a negative and significant association between capital structure and financial performance. This suggests that an increase in digital transformation correlates with robust financial performance, potentially attributed to agency conflicts that drive firms to optimize their financial performance by being highly consistent. The conceptual framework of the study elucidates the relationships between digital transformation and the financial performance of licensed commercial banks. It outlines the latent variables, their operationalization, and the hypothetical relationships derived from empirical findings. This framework serves as a guide for understanding the intricate dynamics at play in the realm of digital transformation and financial performance within the context of licensed commercial banks in Sri Lanka.

Conceptual framework

The conceptual framework is a graphic that illustrates the relationship between predictor variables and dependent variables (Dumind *et al.*, 2020). Based on the in-depth literature review with its underpinnings (Nayanajith *et al.*, 2021), Figure 1 shows the conceptual relationship between digital transformation of licensed commercial banks (independent variable) and financial performance (dependent variable). The dependent variable was the financial performance of licensed commercial banks in Sri Lanka as measured by the return on asset ratio and return on equity ratio. However, the independent variable is the number of digital transactions, including the number of ATMs/CDMs, fees and commission income.

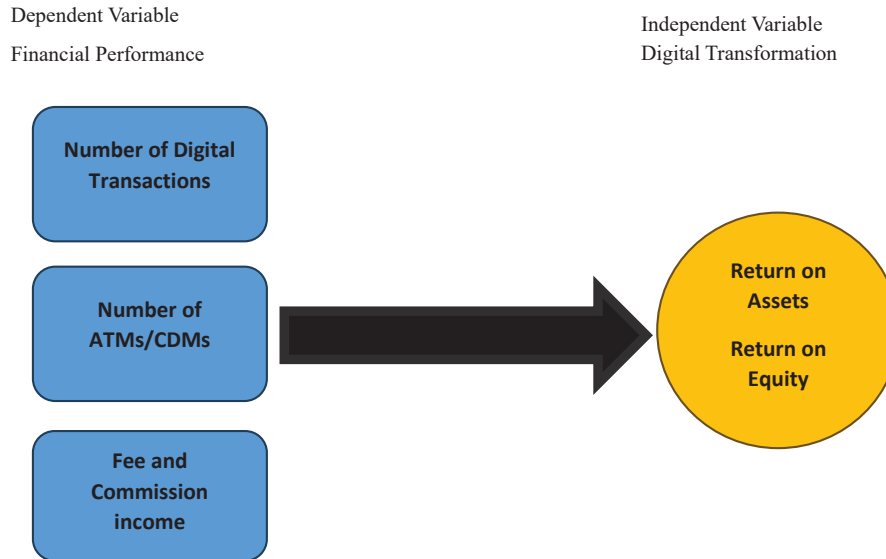


Figure 1: Conceptual framework developed by researchers (2024)

In this conceptual framework, denominations of proxies of independent variable (digital transformation) and measures of outcome variable (dependent variable Financial Performance) are follows;

- Number of Digital transactions

[Digital transformations are automated transaction take place between people and organizations without use of paper. Those are internet banking, mobile banking, banking card and cloud computing.]

- Number of ATMs /CDMs

[An automated teller machine (ATM) is a customized computer that enables you to carry out banking operations without having to speak with a bank staff. CDM, or cash deposit machine, serves the opposite purpose of an ATM or automated teller machine by accepting deposits against a customer's bank account rather than dispensing cash from the same account.]

- Fee and Commission income

[Fees and commission are one revenue stream for banks. These can include account fees, transactional costs (including those associated with ATM withdrawals), penalty fees, and exchange rate fees. The majority of fees incomes from digital banking services.]

- Financial performance

Return on Assets = [Net Profit Before Tax / Total Assets] -
Return on Equity = [Net Income / Shareholders' Equity]

Hypotheses development

Building upon the relationships elucidated in the aforementioned conceptual framework, which accentuates the empirical underpinnings of this study, the subsequent hypotheses have been formulated to extrapolate the findings and achieve the objectives of this research. The primary hypotheses, along with their specific counterparts, are outlined below.

Hypothesis (H): There is an impact of digital transformation on the financial performance of licensed commercial banks of Sri Lanka before and after the COVID-19 pandemic situation.

Hypothesis (H_{at}): There is an impact of the number of digital transactions on the Return on Asset (ROA) of the licensed commercial banks of Sri Lanka before the COVID-19 pandemic.

Hypothesis (H_{bt}): There is an impact of the number of ATMs /CDMs on the Return on Assets (ROA) of licensed commercial banks of Sri Lanka before the COVID-19 pandemic.

Hypothesis (H_{ct}): There is an impact of fees and commission income on the Return on Asset (ROA) of licensed commercial banks of Sri Lanka before the COVID-19 pandemic situation.

Hypothesis (H_{dt}): There is an impact of number of digital transactions on the Return on Equity

(ROE) of the licensed commercial banks of Sri Lanka before the COVID-19 pandemic.

Hypothesis (H_{e1}): There is an impact of the number of ATMs/CDMs on the Return on Equity (ROE) of licensed commercial banks of Sri Lanka before the COVID-19 pandemic.

Hypothesis (H_{f1}): There is an impact of fees & commission income on the Return on Equity (ROE) of licensed commercial banks of Sri Lanka before the COVID-19 pandemic situation.

Hypothesis (H_{a2}): There is an impact of number of digital transactions on the Return on Asset (ROA) of the licensed commercial banks of Sri Lanka after the COVID-19 pandemic.

Hypothesis (H_{b2}): There is an impact of number of ATMs /CDMs on the Return on Assets (ROA) of licensed commercial banks of Sri Lanka after the COVID-19 pandemic.

Hypothesis (H_{c2}): There is an impact of fees & commission income on Return on Asset (ROA) of licensed commercial banks of Sri Lanka after the COVID-19 pandemic situation.

Hypothesis (H_{d2}): There is an impact of number of digital transactions on the Return on Equity (ROE) of the licensed commercial banks of Sri Lanka after the COVID-19 pandemic.

Hypothesis (H_{e2}): There is an impact of number of ATMs/CDMs on the Return on Equity (ROE) of licensed commercial banks of Sri Lanka after the COVID-19 pandemic.

Hypothesis (H_{f2}): There is an impact of fees and commission income on Return on Equity (ROE) of licensed commercial banks of Sri Lanka after the COVID-19 pandemic situation.

interpreting the results obtained. The primary objective is to investigate the impact of digital transformation on the financial performance of licensed commercial banks in Sri Lanka, considering the period spanning from 2017 to 2022, with a specific focus on the influence of the COVID-19 pandemic. The data were meticulously analyzed and presented using tables, graphs, and figures. The analytical tools employed for this study included using SPSS software to derive meaningful insights from the collected data.

Graphical analysis

The graphical representation for each variable is shown in the following with their data presentations that the researcher computed based on the data collected from the audited annual financial statements of the selected licensed commercial banks. Figure 2 illustrates the dynamics of digital transactions both pre- and post the COVID-19.

In the COVID-19 period, shedding light on the substantial impact of high digital transaction volumes on the financial performance of commercial banks. The graphical representation and accompanying table distinctly portray the average digital transaction changing every year. Notably, the digital transactions for the years 2017 and 2018 exhibit a similar trajectory, whereas in 2019, there is a marked increase compared to the preceding years. Before the COVID-19 era, spanning from 2017 to 2019, digital transactions consistently grew each year. However, the scenario underwent a shift in 2020, during the initial wave of the pandemic, witnessing a decline. Yet, in 2021, digital transactions rebounded, reaching 147.618 million (Mn), surpassing the volumes of previous years. This trend continued into 2022, registering the highest figure of this period at 154.698 million (Mn). Noteworthy is the discernible alteration in digital transaction behavior post-COVID-19 outbreak in 2020–2022, indicating a direct correlation with the pandemic's impact. The substantial change in behavior during this period is evident from the graph. It is crucial to acknowledge that the global onset of the COVID-19 virus occurred in December 2019, but its direct impact on Sri Lanka was observed in April 2020. Consequently, the discernible shift in digital transactions from 2020 to 2022 underscores the profound influence of COVID-19 on the financial performance of commercial banks.

Figure 3 presents the data regarding the number of ATMs and CDMs both before and after the COVID-19 period, offering insights into the fluctuations in their averages. The period from 2017 to 2019 is designated as the period preceding the pandemic, while 2020 to 2022 represents the post-COVID-19 era. In 2017,

DATA ANALYSIS AND FINDINGS

This section comprises the process of data collection and presentation, data analysis, and the derivation of outcomes. It aims to address the research question by

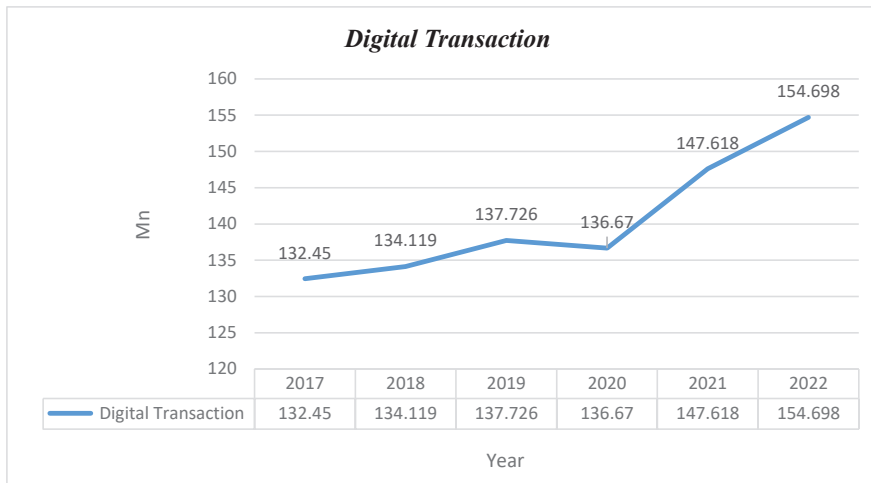


Figure 2: Number of digital transactions

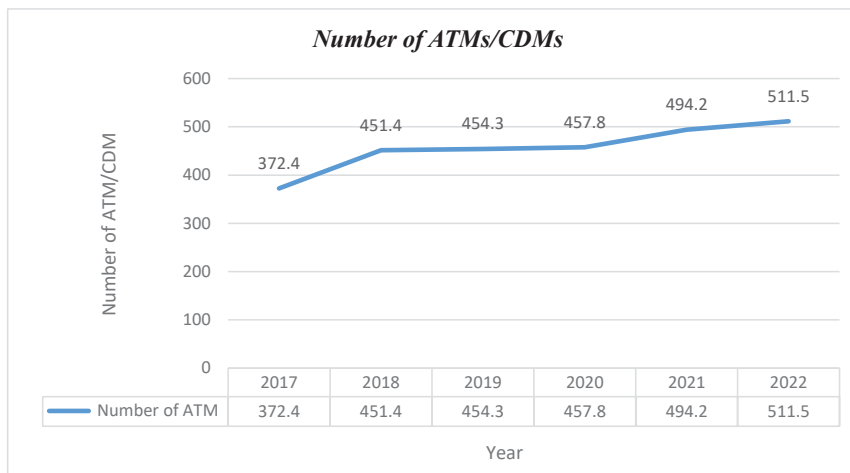


Figure 3: Number of ATMs/CDMs

Sri Lanka had 372.4 ATMs and CDMs, a number that increased in 2018 and further rose to 454.3 in 2019. This progression indicates a gradual increase in the number of ATMs and CDMs over the preceding years. Analyzing the subsequent years, the data reveals 457.8 ATMs and CDMs in 2020, with a continued increase in 2021. Notably, in 2022, the figure reached 511.5, marking the highest count in this timeframe. The discernible rise in the number of ATMs and CDMs post-2020 is indicative of the transformative impact of COVID-19 on these banking facilities. It is important to note that while the global onset of COVID-19 occurred in December 2019, its direct impact on Sri Lanka was observed in April

2020. Therefore, the observed changes in the number of ATMs and CDMs align with the period when COVID-19 directly influenced the financial performance of commercial banks in Sri Lanka.

Fees and commission income denote the revenue generated by financial institutions, encompassing fees and commissions charged for various customer services, particularly those associated with specific digital transactions. The analysis of how substantial amounts of fees and commission income impact the financial performance of banks spans the years 2017 to 2019, regarded as the period preceding COVID-19, and 2020

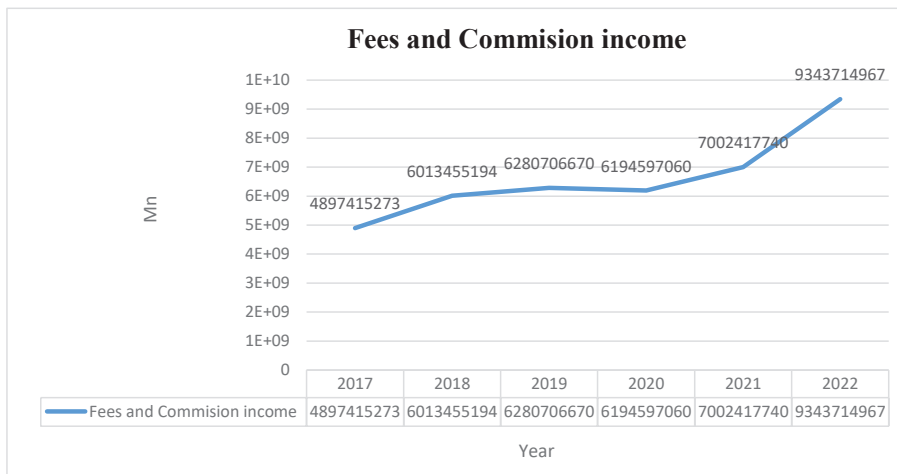


Figure 4: Fees and Commission Income

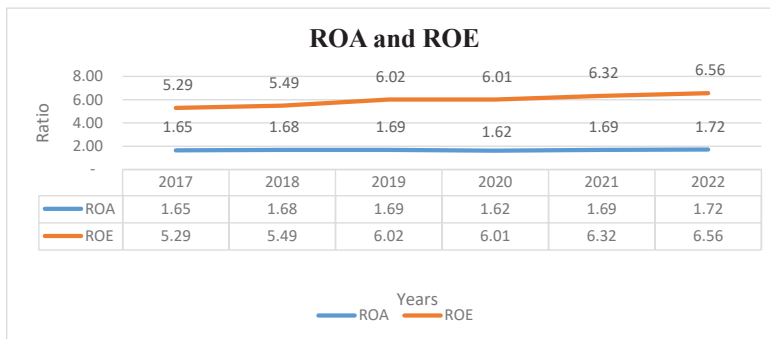


Figure 5: ROA and ROE

to 2022, designated as the era during the pandemic. Figure 4, along with an accompanying table and graph, illustrates the fees and commission income during this timeframe. The graph reveals a gradual increase in the years 2017 and 2018, a trend that persisted in 2019 with a similar incremental rise. Notably, in 2019, the fees and commission income amounted to 6,280,706,670 million. After the onset of COVID-19 in 2020, there was a decrease in the fees and commission income. However, a noteworthy rebound occurred in 2021, reaching a substantial 7,002,417,740 million, and achieving the highest recorded amount in 2022 at 9,343,714,9967 million. The peak in fees and commission income in 2022 signifies a notable impact of COVID-19 on these financial indicators. It is important to highlight that while the global emergence of COVID-19 transpired in December 2019, its direct influence on Sri Lanka was observed in April 2020. Thus, the observed fluctuations in fees and commission income align with the period when

COVID-19 directly affected the financial performance of commercial banks in Sri Lanka.

ROA (Return on Assets) and ROE (Return on Equity) are pivotal financial ratios employed to assess a company’s profitability relative to its total assets and shareholders’ equity, respectively. Figure 4.2.4 delineates the ROA and ROE dynamics before and after the COVID-19 period. The graph and table distinctly portray the average ROA and ROE ratios. The period spanning 2017 to 2019 is deemed as the antecedent to the COVID-19 era, while 2020 to 2022 represents the aftermath of the pandemic. The observed behavior of ROA and ROE ratios is elucidated in the graph and table for this timeframe. The graph indicates that the ROE ratio in 2017 was 5.29, followed by a slight increase to 5.49 in 2018, indicating a relatively similar change. However, in 2019, a more substantial increase was evident. In 2020, the ROE ratio exhibited a minor increment, reaching 6.01. Subsequently,

Table 1: Descriptive analysis

| | Before COVID -19 | | | | |
|----------------------------|------------------|------------|------------|------------|----------------|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| Digital Transaction | 30 | 132.45 | 137.73 | 134.76 | 2.69 |
| Number of ATMs/CDMs | 30 | 372.40 | 454.30 | 426.03 | 46.47 |
| Fees and Commission income | 30 | 4897415273 | 6280706670 | 5730525712 | 733764670 |
| ROA | 30 | 1.65 | 1.69 | 1.67 | .02 |
| ROE | 30 | 5.29 | 6.02 | 5.60 | .37 |

| | After the COVID 19 | | | | |
|----------------------------|--------------------|------------|------------|------------|----------------|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| Digital Transactions | 30 | 139.67 | 154.70 | 147.32 | 7.51 |
| Number of ATMs/CDMs | 30 | 457.80 | 511.50 | 487.83 | 27.41 |
| Fees and Commission income | 30 | 6194597060 | 9343714967 | 7513576589 | 1635603382 |
| ROA | 30 | 1.62 | 1.72 | 1.67 | .05 |
| ROE | 30 | 6.01 | 6.56 | 6.29 | .27 |

a noteworthy surge transpired in 2021 with an ROE ratio of 6.32, culminating in the maximum recorded amount of 6.52 in 2022. Conversely, the ROA ratio in 2017 was 1.65, incrementally increasing to 1.68 in 2018, and further to 1.69 in 2019. However, 2020 witnessed a slight decrease to 1.62. Subsequently, a pronounced uptick occurred in 2021, reaching 1.72 in 2022—the highest recorded ROA ratio during this period. This data analysis underscores the impact of COVID-19 on ROA and ROE ratios, with global ramifications beginning in December 2019 but directly affecting Sri Lanka in April 2020. The intricate interplay between digital transactions, the number of ATM/CDMs, fees and commission income, and their influence on the financial performance of commercial banks is discerned through this comprehensive analysis. The study encompasses data from 10 commercial banks over a 6-year span, elucidating the nuanced behavior of ROA and ROE ratios both pre- and post-COVID-19.

The provided information indicates that COVID-19 impacted both ROA (Return on Assets) and ROE (Return on Equity) ratios. Although the global impact of the COVID-19 virus began in December 2019, Sri Lanka experienced its direct effects in April 2020. During this period, the pandemic had a direct influence on the financial performance of commercial banks. The analysis presented in the graph helps discern the impact on digital transactions, the number of ATM/CDMs, and fees and commission income on the financial performance of commercial banks. In this analysis, data

from 10 commercial banks over a 6-year period was utilized. Additionally, the behavioral patterns of ROA and ROE ratios before and after the COVID-19 period were examined.

Descriptive statistics

Descriptive analysis serves to provide a statistical overview of both dependent and independent variables utilized in the study, offering broad observations on the acquired data through various descriptive statistics such as mean, maximum, minimum, and standard deviation values. The descriptive statistics for the variables used in the analysis, both before and after the COVID-19 pandemic, are presented in Table 4.3, computed from the annual reports of a sample of selected commercial banks in Sri Lanka.

The descriptive analysis was conducted using a total of 60 samples—30 samples each for the periods before and after COVID-19. In the table, before COVID-19, the mean value of digital transactions was 134.7650 (Million) with a standard deviation of 2.69667. After COVID-19, the mean value increased to 147.3287 (Million) with a standard deviation of 7.51818. The minimum and maximum values of digital transactions also reflect changes before and after COVID-19. For the independent variable representing the number of ATMs/CDMs, the mean value before COVID-19 was 426.0333, with a standard deviation of 46.47046. After COVID-19,

the mean value increased to 487.8333, with a standard deviation of 27.41028. The minimum and maximum values for both periods are presented in the table. Fees and commission income, another independent variable, displayed changes in mean, minimum, and maximum values before and after COVID-19. Before COVID-19, the mean value was 5730525712.333, with a standard deviation of 7337646670.00713. After COVID-19, the mean value increased to 7513576589.000, with a standard deviation of 1635603382.46470. The minimum and maximum values also experienced fluctuations between the two periods. Regarding dependent variables, Return on Assets (ROA) and Return on Equity (ROE), descriptive statistics show variations before and after COVID-19. Before COVID-19, the mean value for ROA was 1.6753, with a standard deviation of 0.02082. After COVID-19, the mean value changed slightly to 1.6767, with a standard deviation of 0.5132. For ROE, before COVID-19, the mean value was 5.6000, with a standard deviation of 0.37723. After COVID-19, the mean value increased to 6.2967, with a standard deviation of 0.27574. Minimum and maximum values for both ROA and ROE

exhibit variations between the two periods, reflecting changes in financial performance. Finally, the descriptive analysis provided a comprehensive statistical overview of the variables, offering insights into the changes and trends before and after the COVID-19 pandemic in the context of selected commercial banks in Sri Lanka.

Correlation analysis

Correlation analysis, a statistical method employed to examine the relationship between variables, aids in understanding how changes in one variable correspond to changes in another. It quantifies the strength and direction of the linear relationship between variables. Table 2 illustrates the correlation of digital transaction amount, number of ATMs/CDMs, fees and commission income, and return on equity/return on assets before and after the COVID-19 pandemic. Before COVID-19, the correlation values for digital transaction amount and return on assets, and return on equity were 0.012 and 0.029, respectively. Both values are less than 0.05, signifying significance. Another independent variable, the number of ATMs/CDMs, showed correlation values with

Table – 2: Correlation analysis (before COVID - 19)

| | Before Covid 19 | | | |
|---------|-----------------|------|-------|-------|
| | ATMs/CDMs | FC | ROA | ROE |
| DT | .764 | .853 | .882 | .999* |
| | .447 | .350 | .012 | .029 |
| | 30 | 30 | 30 | 30 |
| ATM/CDM | 1 | .988 | .978 | .733 |
| | | .097 | .235 | .476 |
| | | 30 | 30 | 30 |
| FC | | 1 | .998* | .828 |
| | | | .038 | .029 |
| | | | 30 | 30 |

Table 3: Correlation analysis (after the COVID - 19)

| | After covid 19 | | | |
|---------|----------------|------|--------|-------|
| | ATM/CDM | FC | ROA | ROE |
| DT | .986 | .953 | .981 | .999* |
| | .108 | .196 | .023 | .025 |
| | 30 | 30 | 30 | 30 |
| ATM/CDM | 1 | .889 | 1.000* | .992 |
| | | .303 | .316 | .732 |
| | | 30 | 30 | 30 |
| FC | | 1 | .877 | .940 |
| | | | .019 | .021 |
| | | | 30 | 30 |

return on assets and return on equity (0.235 and 0.476) that were higher than 0.05, indicating insignificance. Fees and commission income exhibited significant correlation values with return on assets and return on equity before COVID-19, with values of 0.038 and 0.029, respectively. In Table 3, representing the period after the COVID-19 pandemic, the correlation values between digital transaction amount and return on assets, and return on equity were 0.023 and 0.025, respectively. Other variables, such as the number of ATMs/CDMs, showed significant values of 0.316 and 0.732 for return on assets and return on equity, respectively, which were higher than 0.05 and thus deemed insignificant. After the COVID-19 pandemic, fees and commission income displayed significant correlation values of 0.019 and 0.021 with return on assets and return on equity, respectively, both less than 0.05. Finally, the correlation analysis provided insights into the relationships between the studied variables, both before and after the COVID-19 pandemic, shedding light on their significance and implications for the financial performance of the selected commercial banks in Sri Lanka.

T – Test analysis

A t-test analysis is a statistical method employed to assess whether there exists a significant difference between the means of two groups or conditions. It aids researchers in determining whether the observed difference between two sample means is likely due to chance or if it represents a genuine distinction in the populations from which the samples were drawn.

The first three pairs in the table represent the mean values of digital transactions, number of ATMs/CDMs, and fees and commission income before the COVID-19 period and their significant differences in the mean value of the ROA ratio. The t-values for these pairs are -16.069, -15.824, and 13.527, with corresponding significant values of 0.000, 0.004, and 0.005, all of which are less than 0.05, signifying statistical significance. Pairs 4, 5, and 6 in the table represent the mean values of digital transactions, number of ATMs/CDMs, and fees and commission income after the COVID-19 period, examining their significant differences in the mean value of the ROA ratio. The t-values for these pairs are -33.782, -30.778, and -7.975, with corresponding significant values of 0.001, 0.001, and 0.015, all indicating statistical significance. Moving on to the next three pairs (7, 8, 9), they represent the mean values of digital transactions, ATMs/CDMs, and fees and commission income before the COVID-19 period, assessing their significant differences in the mean value of the ROE ratio. The t-values for these pairs are -16.435, -15.764, and -13.527, and their corresponding significant values are 0.000,

0.004, and 0.005, all below 0.05, indicating statistical significance. Finally, pairs 10, 11, and 12 represent the mean values of digital transactions, ATMs/CDMs, and fees and commission income after the COVID-19 period, exploring their significant differences in the mean value of the ROE ratio. The t-values for these pairs are -33.727, -30.735, and -7.957, and their corresponding significant values are 0.001, 0.001, and 0.015, again demonstrating statistical significance.

Hypotheses testing

By interpreting results derived from the data analysis through the secondary data collected from the audited financial statements of the prescribed licensed commercial banks in Sri Lanka, Table 6 shows the testing of each hypothesis formulated through the literature review.

Firstly, Hypothesis H_{a1} was accepted, signifying a significant impact of the number of digital transactions on the Return on Assets (ROA) of licensed commercial banks in Sri Lanka before the COVID-19 pandemic, at a 5% significance level. Secondly, Hypothesis H_{c1} asserted a significant impact of fees and commission income on the ROA of licensed commercial banks in Sri Lanka before the COVID-19 pandemic, also accepted at a 5% significance level. Thirdly, Hypothesis H_{d1} was accepted, indicating an impact of the number of digital transaction systems on the Return on Equity (ROE) of licensed commercial banks in Sri Lanka before the COVID-19 pandemic, at a 5% significance level. Fourthly, Hypothesis H_{f1} was accepted, demonstrating an impact of fees and commission income on the ROE of licensed commercial banks in Sri Lanka before the COVID-19 pandemic, at a 5% significance level.

Moving forward, Hypothesis H_{a2} was accepted, suggesting a significant impact of the number of digital transactions on the ROA of licensed commercial banks in Sri Lanka after the COVID-19 pandemic, at a 5% significance level. Similarly, Hypothesis H_{c2} indicated a significant impact of fees and commission income on the ROA of licensed commercial banks in Sri Lanka after the COVID-19 pandemic and was accepted at a 5% significance level. Furthermore, Hypothesis H_{d2} was accepted, signifying an impact of the number of digital transaction systems on the ROE of licensed commercial banks in Sri Lanka after the COVID-19 pandemic, at a 5% significance level. Lastly, Hypothesis H_{f2} was accepted, demonstrating an impact of fees and commission income on the ROE of licensed commercial banks in Sri Lanka after the COVID-19 pandemic, at a 5% significance level.

Contrarily, Hypotheses H_{b1} , H_{c1} , H_{b2} , and H_{c2} were rejected based on their non-significant p-values at the

Table 5: T-test analysis

| | | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | t | Sig |
|---------|-------------|----------------|----------------|--------------------|---|----------------|--------|------|
| | | | | | Lower | Upper | | |
| Pair 1 | ROA-DT | -133.09 | 2.67 | 1.54 | -139.74 | -126.43 | -16.06 | .000 |
| Pair 2 | ROA-ATM/CDM | -424.36 | 46.45 | 26.81 | -539.74 | -308.97 | -15.82 | .004 |
| Pair 3 | ROA-FC | -5730525710.66 | 733764669.98 | 423639229.73 | -7553298198.92 | -3907753222.39 | -13.52 | .005 |
| Pair 4 | ROA-DT | -145.65 | 7.46 | 4.31 | -164.20 | -127.10 | -33.78 | .001 |
| Pair 5 | ROA-ATM/CDM | -486.15 | 27.35 | 15.79 | -554.12 | -418.19 | -30.77 | .001 |
| Pair 6 | ROA-FC | -7513576587.32 | 1635603382.41 | 944316053.12 | -11576640631.05 | -3450512543.58 | -7.95 | .015 |
| Pair 7 | ROE-DT | -129.16500 | 2.319 | 1.33 | -134.92799 | -123.40201 | -16.43 | .000 |
| Pair 8 | ROE-ATM/CDM | -420.43333 | 46.19 | 26.67 | -535.18699 | -305.67968 | -15.76 | .004 |
| Pair 9 | ROE-FC | -5730525706.73 | 733764669.69 | 423639229.57 | -7553298194.27 | -3907753219.19 | -13.52 | .005 |
| Pair 10 | ROE-DT | -141.03200 | 7.24 | 4.181 | -159.02378 | -123.04022 | -33.72 | .001 |
| Pair 11 | ROE-ATM/CDM | -481.53667 | 27.13 | 15.66 | -548.94836 | -414.12498 | -30.73 | .001 |
| Pair 12 | ROE-FC | -7513576582.70 | 1635603382.20 | 944316053.00 | -11576640625.90 | -3450512559.50 | -7.95 | .015 |

5% significance level. While existing literature indirectly supports these findings to a certain extent, the empirical results highlight the severe impact of the pandemic on all business sectors, including banking. Researchers adjusted for both favorable and adverse effects to interpret the results comprehensively. Consequently, the results align conceptually with the impact of digital transformation on the financial performance of commercial banks in SRI LANKA before and after the COVID-19 pandemic. In this study, ten commercial banks were analyzed, with digital transactions, the number of ATM/CDM, and fees and commission income as independent variables, and Return on Asset ratio (ROA) and Return on Equity (ROE) as dependent variables.

The graphical analysis illustrates notable shifts in the behaviors of both dependent and independent variables before and after the COVID-19 period. These variables were evidently impacted by the pandemic, and the graphical representation encapsulates the comprehensive details. Descriptive analysis and value assessments discerned changes in variables before and after COVID-19. The mean values of independent variables noticeably increased after the onset of the pandemic, while dependent variables displayed an increase before COVID-19, albeit with a lesser magnitude in 2020 due to the direct impact of COVID-19 on Sri Lanka in April 2020. It's noteworthy that the 2020 annual report was prepared, covering the period from April 1st of the prior year to March 31st, 2021.

Correlation analysis indicates that digital transactions and fees and commission income significantly impact both Return on Assets (ROA) and Return on Equity (ROE) before and after the COVID-19 pandemic, as evidenced by their significance values being less than 0.05. On the other hand, the number of ATM/CDM insignificantly impacts both ROA and ROE before and after the COVID-19 pandemic.

In a study by Karimzadeh & Sasouli (2013), Return on Assets was the chosen dependent variable. Similarly, the present study adopts Return on Assets as the financial performance indicator. To account for tax effects, ROA was calculated considering profits before taxes. Furthermore, findings from Sufian & Habibullah's (2009) investigation, covering the performance of 37 Bangladeshi commercial banks from 1997 to 2004, revealed that digital transformation had a positive and significant impact on bank performance. Subsequent research explored the relationship between selected internal and external corporate governance mechanisms and bank performance, measured by ROE and ROA, spanning the period from 2005 to 2011. Notably, there was a positive and significant impact of total assets on

the profitability indicator ROA in Nepalese finance companies.

CONCLUSION AND RECOMMENDATIONS

Conclusion

This study examines the impact of digital transactions on the financial performance of licensed commercial banks in Sri Lanka before and after the COVID-19 pandemic. The research uses secondary data from 2017 to 2022, using twotime periods before and after the pandemic. There are 24 licensed commercial banks in Sri Lanka, and a random sample method was used to select 10 banks for the study. The relationship between digital transformation (digital transactions amount, number of ATMs/CDMs, fees, and commission income) and financial performance (return on assets and return on equity) is explained by this study. Digital transaction measures the number of digital transactions, number of ATMs/CDMs, and fees and commission income. Using correlation analysis, there is convincing evidence that the financial performance and digital transaction amount have a significantly positive relationship before and after the COVID-19 period. The number of ATMs/CDMs has a negative relationship, while fees and commission income have a positive relationship. The other objective is to determine the impact of digital transformation on the return on equity of licensed commercial banks before and after the COVID-19 pandemic. The results show a positive significant relationship between the digital transaction amount and return on equity both before and after the COVID-19.

Implications

The results of this study elucidate the influence of digital transformation on the financial performance of licensed commercial banks both before and after the onset of the COVID-19 pandemic in Sri Lanka. The study's findings underscore the significant impact of digital transactions on financial performance, emphasizing the imperative for banks to focus on enhancing their digital transformations. Recognizing the direct influence of digital transformations on financial performance, banks are urged to prioritize improvements in this domain. Specifically, recommendations for banks include embracing mobile banking and expanding online banking services. Developing user-friendly mobile banking applications that facilitate a variety of financial transactions, such as fund transfers, bill payments, account management, and loan applications, is crucial. The provision of these services through intuitive interfaces not only enhances operational efficiency but also reduces costs associated with manual processes. Considering the diverse demographic landscape in

Sri Lanka, characterized by middle and low-income populations, some of whom lack basic knowledge of digital transformations, collaboration between the government and banks becomes pivotal. Efforts should be directed towards educating people about the benefits and security features of digital transactions. Workshops, webinars, and informative content dissemination can play a key role in building awareness and fostering the adoption of digital banking practices. Before the COVID-19 pandemic, traditional banking methods, such as using passbooks and in-person visits to fulfil banking requirements, were prevalent. However, the current analysis confirms a shift towards increased usage of mobile banking and cashless payments. Recognizing that many individuals lack technical knowledge of digital transactions, it is recommended that banks enhance customer support services to facilitate smoother transitions to digital banking. Addressing concerns related to security is paramount in overcoming customer reluctance towards digital transformation. Banks should invest in robust security measures to safeguard customer information and transactions. Strengthening the security infrastructure not only instils confidence in customers but also catalyses increased engagement with digital transactions, ultimately contributing to the enhanced financial performance of commercial banks.

Suggestion for the future research.

The examination of the correlation between digital transformation and the financial performance of licensed commercial banks in Sri Lanka, both before and after the COVID-19 outbreak, constitutes only a fraction of the hypotheses outlined in this study. Consequently, the following recommendations are crucial for guiding future research endeavors:

1. **Diversify financial markets:** Expand the scope of the study beyond Sri Lankan licensed commercial banks. Future researchers should explore additional financial markets to attain a broader understanding of the impact of digital transformation on financial performance.
2. **Extend temporal analysis:** This study encompassed a six-year time-frame, focusing on three years before and three years after the onset of COVID-19. To garner a more comprehensive perspective, future researchers are encouraged to extend the temporal analysis, considering periods longer than three years before COVID-19, to provide more nuanced insights.
3. **Increase sample size:** The study examined a sample size of 10 licensed commercial banks, whereas Sri Lanka boasts a total of 24 licensed commercial banks. The current sample size is notably limited. Therefore, it is recommended that future researchers expand their scope to include all banks in Sri Lanka, and potentially consider a larger sample size including institutions from other developed or developing banking and financial markets.
4. **Consider financial measurement Tools:** Future researchers delving into this topic should pay particular attention to the selection of appropriate financial measurement tools. The intricacies of this study underscore the challenges associated with connecting measurement tools to other variables. Addressing this consideration will enhance the precision and reliability of future research findings.

Therefore, these suggestions encourage a more expansive, temporally nuanced, and methodologically rigorous approach in future research endeavors exploring the intricate relationship between digital transformation and financial performance in the banking sector.

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