The Mediating Role of Green Finance on the Relationship between Fintech Adoption and Banks' Sustainability Performance

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***Abstract*—The relationship between fintech adoption and Sri Lankan banks' sustainability performance is examined in this study, with a focus on the mediating function of green finance. The potential of fintech innovations to advance social and environmental sustainability has drawn more attention as they revolutionize the financial services industry. Simultaneously, green financial tools that assist ecologically conscious projects have become a key tool for sustainable development. Nevertheless, little is known about how fintech and green finance interact to impact banks' sustainability outcomes. This study employs a cross-sectional survey of 228 banking professionals from systemically important banks in Sri Lanka, grounded in the Resource-Based View (RBV) theory. The study demonstrates that fintech adoption significantly improves sustainability performance, with green finance serving as a partial mediator, using SPSS and Hayes' PROCESS macro. These findings suggest that fintech not only increases accessibility and operational efficiency but also helps banks better execute green financial practices. The findings support the strategic importance of green fintech in emerging economies by providing banking management with practical advice on how to match digital transformation with sustainable finance objectives. This study adds to the body of knowledge by evaluating bank performance in a developing nation context by combining environmental and technical factors.**

Keywords*—Fintech adoption, green finance, sustainability performance, banking sector, mediation, resource-based view theory

I. INTRODUCTION

Researchers and industry professionals have paid close attention to recent developments in financial technology, or fintech[1]. Fintech is acknowledged for transforming the financial industry as a leading technology that creates cutting-edge financial goods and services. It is one of the most innovative and disruptive sectors of the contemporary economy[2].Green finance, fintech growth, and sustainability are emerging as key features in Sri Lankan banking. Green finance has nonetheless been viewed as a high-risk sector, and in the absence of a powerful regulatory push, has been discouraged from flight. Fintech, on the other hand, has recorded a remarkable rate of uptake, especially in the post-COVID-19 pandemic era. Mobile banking applications, digital wallets, and cashless payment systems, such as Lanka QR, have been investments worth it to the banks. These technologies not only make banking possible but also make environmental goals possible via the saving of paper and branch visits. Still, there exist drawbacks like deficits in digital literacy and cybersecurity concerns, particularly for rural and isolated locations. When it comes to overall sustainability performance, foreign-linked and larger banks are in the lead, releasing detailed sustainability reports and adopting standards such as the Global Reporting Initiative (GRI).

However, small finance companies and banks are increasingly struggling to keep pace, primarily due to the increased costs and capital requirements. Overall, in the period of assured green finance development, fintech adoption, and sustainability for Sri Lankan banks, progress in all these areas is lagging behind the overall industry and requires sustained support and policy intervention to propel the industry further and continue innovating. Fintech has revolutionized traditional financial services by providing new channels for accessibility, efficiency, and inclusivity through its creative digital solutions[3]. And, by promoting circular economic principles, the incorporation of fintech solutions can improve a company's sustainability performance[4]. At the same time, there is a growing awareness of the need to address pressing social and environmental issues, which has increased interest in sustainability in many industries, including finance. Currently, organizations have more opportunities to incorporate environmental, social, and governance (ESG) factors into their operational frameworks, investment plans, and decision-making procedures, thanks to the convergence of fintech and sustainability[5].Fintech adoption can enhance environmental sustainability by promoting eco-friendly investment practices. It leads to reducing carbon emissions and optimizing the usage of resources[6]. Its convergence with sustainability has enabled greater integration of ESG considerations into financial operations [7]. However, while fintech and green finance have been studied individually, there is

limited research exploring how green finance mediates the link between fintech adoption and sustainability outcomes. Instruments such as green bonds, sustainability linked loans, and carbon trading platforms do more than support environmental projects. They serve as a bridge connecting digital innovation to environmental impact [8], [9]. This study fills this gap by investigating green finance as a mediating mechanism in the fintech–sustainability relationship. The Sri Lankan context, where fintech is growing but green finance remains underdeveloped, makes this inquiry particularly relevant for guiding banking strategies that align digital transformation with the Sustainable Development Goals.

Although Fintech and Green Finance are gaining popularity, there remains a lack of research on their relationship and their impact on organizational performance and sustainability outcomes. Although other studies have examined the effects of these constructions separately, little is known about how they interact and affect one another in the financial industry [10], [11]. This study is motivated by the growing need to align fintech innovations with environmental goals in emerging economies, such as Sri Lanka. It is significant as it provides practical insights for banks and contributes to academic literature by examining how green finance can mediate the fintech–sustainability relationship and connections between fintech adoption and sustainable performance in Sri Lanka's banking industry.

RO1. To investigate the impact of Fintech Adoption on Banks' Sustainability performance.

RO2: To examine the mediating role of green finance on the relationship between fintech adoption and Banks' sustainability performance.

The opening of the article, which outlines the research goals, follows a standard pattern. A literature study provides background information on sustainable performance, green finance, and the acceptance of fintech. Research design, data gathering, and analysis are all thoroughly covered in the methodology. The results demonstrate the relationships between the various constructions. Results are interpreted, and implications are discussed. Key findings are finally summarized in the conclusion

II. REVIEW OF LITERATURE AND HYPOTHESES DEVELOPMENT

A. Literature Review

1) Fintech Adoption

Since digital connectivity is essential for sustainability performance and operational efficiency, fintech is a quickly developing industry and a source of innovation that promises to spur research across several disciplines[6]. According to the literature, fintech, a sector of Industry 4.0, can help SMEs transition to more sustainable business models[12], especially by being essential in granting SMEs financing[7]. Furthermore, by using mobile money services to reach unbanked and underbanked populations, particularly in areas without traditional banking infrastructure, fintech is advancing financial inclusion. The majority of high-growth SMEs mostly use debt-based financing rather than equity capital[13]. By providing financial solutions that include information technology and streamline loan and transaction procedures for SMEs, fintech has accelerated the adoption of supply chain finance [14]. According to empirical data, one of the key factors influencing corporate environmental sustainability is financial availability [15]. However, little is known about how institutional financial support might improve business sustainability performance.

2) Green Finance

Green finance comprises financial products, services, and investments that support ecologically friendly projects and aid in the transition to a low-carbon and more sustainable economy[16]. It comprises incorporating environmental considerations into financial decision-making procedures with the goal of allocating funds to initiatives and endeavors that benefit the environment[17]. One strategic financial method for allocating funds to initiatives that support ecological preservation and sustainable development goals is the use of Green Bonds [18]. Banks and other financial organizations provide loans specifically designed for sustainability-related initiatives, including the installation of renewable energy, energy-efficient structures, sustainable agriculture, and the development of clean technologies[19]. Even as green financing is becoming increasingly crucial in promoting sustainability, little is known about its complex effects on various industries. There is a dearth of research on how well various financial mechanisms support sustainability activities [20].

3) Bank's sustainability performance

Sustainable performance refers to the ability of an organization to achieve long-term success while simultaneously minimizing negative environmental and social impacts[6]. It encompasses the integration of ESG factors into business strategies and operations, to create value not only for shareholders but also for other stakeholders, including employees, customers, communities, and the planet[21]. In the context of the banking sector, sustainable performance involves banks adopting practices and initiatives that align with environmental and social goals, while maintaining financial stability and profitability [22]. Banks can contribute to sustainable performance by adopting environmentally responsible practices. Threats to sustainable development have arisen from the rapid industrialization, population growth, and economic expansion that have increased energy consumption and degraded the environment[23]. The use of primary energy sources increased by 1.3% worldwide in 2022[24]. Environmental deterioration is directly caused by the known relationship between economic growth and energy use, with greenhouse gas emissions from energy use being a key cause of climate change[25]. Banks may improve their sustainable performance to lower GHGs, comply with global

sustainability agendas, and satisfy changing investor, regulatory, and consumer expectations by utilizing Fintech technologies. Fintech enables banks to offer cutting-edge products and services, integrate sustainability into their core business processes, and contribute to a more sustainable banking industry that promotes social progress, economic growth, and environmental preservation. Sri Lankan banks are widely adopting sustainable banking techniques to address both economic and environmental issues. By creating the BASEL Accords, the Bank for International Settlements (BIS) influenced sustainable finance by establishing international banking norms. BASEL II states that banks can use international ratings to assess the risks associated with green investments. In Sri Lanka, the practice of integrating climate-related financial exposure to risk assessments with BASEL III is being progressively implemented. BASEL IV introduced capital frameworks for climate risk stress testing[26]. Climate risk assessments for green loans were employed by Commercial Bank and Sampath Bank[27].

4) Fintech Adoption and Banks' Sustainability Performance

Sustainability performance is significantly impacted by the incorporation of financial technology (Fintech) into conventional financial systems[28]. Digital banking, blockchain, and artificial intelligence (AI)-powered financial services are examples of fintech advancements that enhance operational efficiency and transparency, leading to more sustainable business practices [29]. By maximizing energy use and decreasing waste, these technologies facilitate improved resource management and lessen environmental impacts [29]. Furthermore, by making it simpler for investors to direct funds toward sustainable projects, FinTech solutions promote the development of green financing [30]. By enhancing financial inclusion and underprivileged populations' access to financial services, this shift not only helps environmental sustainability but also social and economic sustainability [31]. Fintech enables individuals and businesses to access financial services without the need for a physical bank, thereby enhancing economic participation, reducing poverty, and promoting sustainable development in communities[32]. Previous research has also suggested that Fintech solutions provide advanced analytics and risk management tools that can assist banks in evaluating and mitigating social and environmental risks associated with their lending and investment portfolios[33]. Adoption of Fintech can also result in improvements in energy efficiency within banks' operations [34]. Banks can lower their energy use and carbon emissions related to operating data centers and IT infrastructure by utilizing cloud-based computing, virtualization, and other technical innovations. As a result, the following is the first hypothesis that has been developed for the study:

H1: There is a significant positive impact of FinTech adoption on banks' sustainability performance.

5) Green Finance as a Mediator between FinTech Adoption and Banks' Sustainability Performance

The integration of Fintech solutions to promote sustainable results is facilitated by green finance, which serves as an intermediary mechanism [8] And it gives banks the financial tools they need to direct resources into sustainable projects and initiatives, such as green bonds or sustainable investment funds[35]. Banks can acquire real-time environmental performance data, automate risk assessments, and enhance their investment processes by implementing fintech solutions. Green finance mediates the link by making it easier for Fintech-driven investment decisions to be in line with sustainable goals [36].This, in turn, leads to better sustainability performance in the banking industry. Current research indicates that green financial practices in Fintech adoption also operate as a mediator for sustainable lending. This also offers recommendations for incorporating environmental factors into loan decisions[17].Banks can enhance their capacity to identify and finance ecologically friendly projects and promote sustainability in their loan portfolios by integrating fintech skills with green finance concepts[37]. Green finance improves banks' sustainability performance by assisting them in identifying and reducing environmental hazards through the use of Fintech adoption [38]. Banks can acquire and analyze ESG-related data through the adoption of financial technology, which lays the groundwork for ESG integration [19]. Banks may efficiently evaluate and integrate ESG considerations into their decision-making processes by fusing Fintech skills with green finance frameworks [19]. This mediation enhances the integration of sustainability factors into banks' operations, enabling them to perform more effectively overall. Therefore, the following statement is the hypothesis of this investigation.

H2: Green finance mediates the relationship between FinTech adoption and Banks' sustainability performance.

B. Conceptual Framework

The Resource-Based View (RBV) theory serves as the foundation for this research. In 1991, Barney created this theory[39]. Resources that are rare, valuable, unique, and non-substitutable (VRIN) are considered sources of competitive advantage according to the RBV[40]. To gain a sustained competitive edge, one must establish unique values, which include creating a strategy that no other current or potential competitor can simultaneously copy or propose, and, finally, making sure that the strategy cannot be replicated for a long time [40], [41].A resource-based strategy aligns a company's vision, purpose, goals, and objectives with its internal analysis to obtain a competitive edge.[42]. Organizations must stay informed about changes in the resources available to them to maintain a competitive edge in a rapidly evolving environment[40], [43].

Intangible assets comprise non-physical resources, such as copyrights, trademarks, goodwill, and intellectual property, whereas tangible assets include physical items, such as machinery and goods [40]. Theory offers valuable insights into how formal and informal institutions, as well as internal resources, influence environmental and sustainability projects across various fields, including green finance.

Green funds should be distributed efficiently, sectors with the greatest sustainable performance gains should be prioritized using RBV, industrial sustainability should be promoted, and the 2030 Sustainable Development Agenda should be supported[41]. RBV is the best strategy for gaining a competitive advantage by giving green resources priority[39]. Based on past empirical studies and the hypothesis, the theoretical framework of the study is as follows:

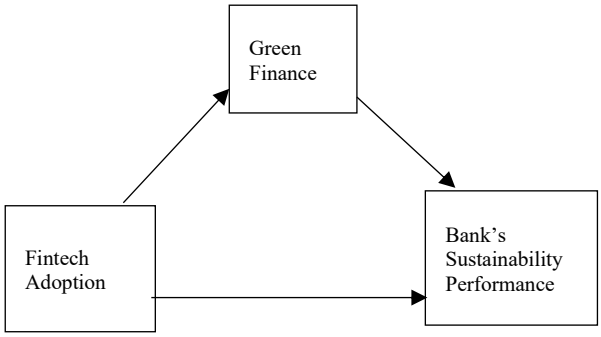


Fig. 1 Conceptual Framework

B. Methodology

Positivism is an appropriate research philosophy for this study because it enables the testing of hypotheses on how the adoption of green finance and fintech affects the sustainability performance of Sri Lankan banks. The deductive method was selected as the research approach, and the choice is a monomethod.

To investigate the connections between fintech adoption, green finance, and banks' sustainable performance, a cross-sectional research approach was used. Seven items were specifically modified [44] to highlight various aspects of the adoption process and perspectives on fintech in the banking industry. The five items used to evaluate green finance [39]. Nine criteria are used to evaluate the bank's sustainability performance [39], [45]. These questions were selected because they were pertinent and aligned with the study's goals and theoretical framework. Every item was evaluated using Chen et al.'s "5-point Likert scale," where 01 denotes "strongly disagree" and 05 represents "strongly agree" based on the existing Literature [39] Before finalizing the questionnaire for the survey, the authors discussed it with the head of sustainable managers in both banks to assess the content validity of the survey instrument.

Table 1: Structured Questionnaire

VARIABLES/DIMENSIONS/INDICATORS	
Banks' Sustainability Performance (BSP)	
BSP1	My bank improves banks' compliance with environmental standards
BSP2	My bank reduces energy consumption in our bank
BSP3	My bank reduces paper usage and other materials
BSP4	My bank improves the revenue and market share of our bank
BSP5	My bank decreases the operational expenditure of our bank
BSP6	My bank improves resource management efficiency in our bank
BSP7	My bank has a positive effect on the image of our bank
BSP8	My bank maintains a better relationship between the community and stakeholders
BSP9	My bank increased compliance with applicable social laws and regulations
Fintech Adoption (FA)	
FA1	My bank uses fintech regularly at our organization
FA2	My bank is using fintech for merchant services payments
FA3	My bank is using fintech for salary payments of employees
FA4	My bank is using fintech for government payments
FA5	My bank uses fintech for microfinance and crowdfunding
FA6	My bank is using fintech for loan payments
FA7	My bank is using fintech for insurance payments
Green Finance (GF)	
GF1	My bank tries to increase its investment in sustainable industrial growth
GF2	My bank has increased its investment in recyclable resources
GF3	My bank is actively working to increase its investment in waste management
GF4	My bank raises its investment in advancing the green industry
GF5	My bank is expanding its investment in alternative energy resources

III. RESULTS AND DISCUSSION

C. Sample Collection

Out of five systematically important banks, one state-owned and one private bank were chosen for the sample due to the banks' internal policies related to the data restriction. Our considered banks are the Bank of Ceylon (BOC) and Hatton National Bank (HNB).

D. Sampling

A thorough understanding of the dynamics at work in financial institutions is also ensured by incorporating participants from various managerial hierarchy levels (junior level management, Mid-level management, senior level management, top-level management), which adds depth and richness to the study. Due to its accessibility and practicality, convenience sampling was selected as the sampling method, resulting in a sample size of 228 individuals out of a total population of 807.

Data is gathered using a cross-sectional time frame, and it examines data on a single movement rather than a longer time frame[46]. Because it provides a comprehensive view of Sri Lanka's current green initiatives and fintech adoption scenarios, a cross-sectional analysis was the most appropriate temporal

horizon for this study. From February to April of 2025, an online survey form was used to collect data. Online surveys are a practical and effective way to gather data, as they allow respondents to respond at their convenience and facilitate the quick collection of a sizable and varied dataset.

E. Sample Analysis

According to our selected sample, 47% of female and 53% of male employees are represented in our sample. Considering their education level, 68.7% represent those with a bachelor's or master's degree. Most of the responding managerial employees have more than five years of working experience in the industry.

F. Data Analysis

In this study, we analyzed 228 valid responses from bank managerial employees using SPSS software to conduct a comprehensive analysis. Before testing the hypothesis, we conduct several statistical tests to ensure the validity and reliability of the dataset. First, Missing values were examined and ensure the completeness of the dataset. Outlier analysis was used box plot, and some adjustments were made to avoid it.

Table 2: Model Summary [*Source: SPSS Result Output*]

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	33.460	1	33.460	146.093	.000[b]
	Residual	51.762	226	.229		
	Total	85.222	227			

a. Dependent Variable: SBP_Fin

b. Predictors: (Constant), FA_Fin

Table 3: ANOVA Table [*Source: SPSS Result Output*]

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.627[a]	.393	.390	.47858

a. Predictors: (Constant), FA_Fin

Normality was assessed through skewness and kurtosis values, all of which fell within acceptable thresholds, indicating a normal distribution. Multicollinearity was tested using the Variance Inflation Factor (VIF) values, which confirmed the absence of multicollinearity. Linearity and homoscedasticity were examined through residual plots, which demonstrated linear relationships and constant variance, respectively, across all constructs. Next, test Harman's single-factor test, and a value below 50% indicates no significant common method[47]. KMO and Bartlett test confirm that this data set indicates adequate sampling and sufficient variable correlation. Furthermore, internal consistency reliability was assessed using Cronbach's Alpha among all key factors. All three key constructs demonstrated high reliability, with Cronbach's Alpha values as follows: Green Finance (GF) = 0.865, Banks' Sustainability Performance = 0.906, and Fintech Adoption = 0.888. Those factors confirmed strong reliability with an exceeding 0.7 threshold[48].

Table 4: Coefficient Table [*Source: SPSS Result Output]*

Coefficients[a]

Model		Unstandardized Coef.		Standardized Coef.	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	Constant	1.167	.195		8.591	.000		
	FA_Fin	.608	.050	.627	12.087	.000	1.000	1.000

a. Dependent Variable: SBP_Fin

This SPSS result represents the positive direct relationship between fintech adoption and banks' sustainability performance. To test the first hypothesis, we conducted a simple linear regression analysis. When analyzing this SPSS result, the regression model demonstrated a moderately strong relationship, with an R value of 0.627. It reflects a substantial correlation between independent and dependent variables. The R^2 value is 0.393. It indicates that approximately 39.3% of the variance in Sustainability Bank Performance (SBP_Fin) can be explained by Fintech Adoption (FA_Fin) [49].The model's F-statistic was 146.093 with a significance level of $p < 0.001$. This confirms that the model is statistically significant, and that FA_Fin is a meaningful predictor of SBP_Fin. The unstandardized regression coefficient (B) for FA_Fin was 0.608, with a standard error of 0.050 and a t-value of 12.087 ($p < 0.001$). The corresponding standardized beta coefficient was 0.627. This SPSS result reflects that Fintech Adoption (FA_Fin) has a significant and strong positive effect on Sustainability Bank Performances (SBP_Fin). This represents that banks are more adept at advanced fintech tools, such as digital banking, AI-powered services, and blockchain applications. And Sustainability Banking Performance improves considerably. Further, multicollinearity diagnostics showed a Tolerance value of 1.000 and a VIF of 1.000. It confirms that no multicollinearity was present in the model [50]. These results provide strong empirical support for H1, validating that fintech adoption leads to improved environmental, social, and economic performance in banking institutions. Using Hayes' PROCESS macro (Model 4) with 5,000 bootstrap samples and 95% confidence intervals, and evaluate the mediating role of green finance (GF_Fin) and its relationship with fintech adoption (FA_Fin) and banks' sustainability performance (BSP_Fin). First, the effect of fintech adoption on green finance was tested.

It is a significant regression coefficient of 0.5867 ($p < 0.001$), indicating that fintech adoption positively affects green finance practices.

Next, the model examined the mediating effect of fintech adoption and green finance on sustainability performance. Both variables significantly predict the sustainability performance of Banks, with the direct effect of fintech adoption reduced to 0.2968 ($p < 0.001$). It reflects that green finance reflects a partial mediation between independent and dependent variables. Green finance had a strong, significant effect (coefficient = 0.5308, $p < 0.001$). It highlights the key role in linking fintech to banks' sustainable outcomes. The indirect effect is 0.3114, with a bootstrap confidence interval of 0.2360 to 0.3906 [51]. These values confirm the mediation effect as statistically significant and support Hypothesis 2.

In conclusion, this section provides strong statistical support for the proposed framework, reflecting that fintech adoption improves banks' sustainability performance both directly and indirectly through green finance.

G. Discussion

The purpose of this study is to investigate the relationship between Fintech Adoption and Bank Sustainability Performance, with Green Finance as a mediating variable. The model was developed using the Resource-Based View (RBV) theory, confirming both Hypotheses 1 and 2 from the SPSS result analysis.

The first hypothesis (H1) proposed that fintech adoption has a positive impact on sustainability performance. Regression results confirmed this with a standardized beta coefficient and an R^2 value indicating that Fintech Adaptation explains 39.3% of the variance in Bank Sustainability performance. This confirms that digital innovations such as mobile banking and AI tools improve operational efficiency and reduce environmental impact. Significant empirical evidence supported Hypothesis H1, which proposed that FA has a favorable effect on banks' sustainable performance (SP), which is consistent with earlier studies[52]. These results are also consistent with further research[4], [38], [53], which emphasizes the critical role that FA plays in boosting banks' sustainability. According to RBV theory, these technological capabilities are value created for bank customers, and those rare resources provide a competitive advantage when strategically utilized. In the Sri Lankan context, banks such as HNB and BOC have adopted digital solutions, including HNB SOLO, BOC Smart Pay, and online and mobile banking services (e-banking statements). Those practices promote paperless banking, digital onboarding, and environmentally friendly financial services. These innovations not only reduce resource use but also enhance customer access and financial inclusion, and fintech enhances sustainability through greater efficiency and reduced emissions.

The second hypothesis (H2) suggested that Green Finance mediates the relationship between Fintech Adoption and Bank Sustainability Performance. This was tested using Hayes' PROCESS macro, and these results confirmed a significant indirect effect of 0.3114, with a bootstrapped confidence interval that did not include zero. Fintech Adoption was a significant predictor of Green Finance (B = 0.5867), and both Fintech Adoption (B = 0.2968) and Green Finance (B = 0.5308) significantly influenced Bank Sustainability Performance. It means that Green Finance partially mediates the relationship [6]. Theoretically, this supports RBV's assertion that when internal capabilities, such as fintech, are linked with strategic mechanisms like green finance, overall organizational performance improves. In Sri Lanka, banks such as HNB and BOC have integrated fintech tools into their sustainable lending practices, including green bonds, green savings, and renewable energy financing programs, demonstrating how technology facilitates environmental accountability.

1) Managerial implications

These findings provide valuable insight for banking managers in Sri Lanka. First, it provides fintech adoption as a strategic enabler of sustainability and should not be treated as a digital transformation tool [31],[54]. Managers should expand digital banking platforms and AI-powered services, while promoting environmental efficiency and social inclusivity. Second, fintech adoption should not be an isolated effort; it should be aligned with the green finance strategies of banks. Banks should develop green financial products such as sustainability-linked loans, ESG-based investments like renewable energy projects, and green bonds. These offerings can be enhanced through the use of fintech tools. Fintech tools can be used for crowdfunding green projects, enabling real-time risk assessments and data analytics. Furthermore, managers must align their green fintech strategies with national policies, such as the Central Bank of Sri Lanka's Sustainable Finance Roadmap. This alignment will not only ensure compliance but can unlock incentives and funding opportunities. Finally, banks should establish cross-functional teams that integrate sustainability, digital innovation, and credit operations. When banks implement an integrated strategic approach, they can position their brand in the industry, gain a competitive advantage through operational efficiency, and enhance their reputation.

In summary, fintech adoption directly affects improving banks' sustainability performance and does indirectly through the adoption of green finance practices. Overall, these capabilities provide a strong foundation for banks to advance their environmental and social agendas, particularly within emerging markets like Sri Lanka.

2) Theoretical Implications

This study contributes to the theoretical conversation by extending the Resource-Based View (RBV) framework to the intersection of sustainability performance, green finance, and financial technology (fintech) in the banking industry. Internal resources that

are valuable, rare, unique, and non-substitutable (VRIN) are the source of competitive advantage for businesses, according to the RBV. According to this study, in the context of contemporary banking, fintech capabilities—such as mobile applications, digital payment systems, and analytics driven by artificial intelligence—are strategic assets that meet these requirements. The results show that allowing banks to reduce paper use, boost energy efficiency, and expand financial inclusion directly improves sustainability performance through fintech adoption. Furthermore, through strategic financial tools such as green bonds, sustainable loans, and ESG-aligned investments, green finance's mediating role demonstrates how these technological advancements can align with sustainability objectives.

By demonstrating how integrating digital and green capabilities generates synergistic value, this mediating impact supports the RBV viewpoint. By combining environmental and technological resources into a single theoretical framework that explains sustainable performance, the study contributes to the existing body of knowledge. This study also helps to contextualize RBV theory in Sri Lanka, an emerging market with different regulatory demands and resource constraints compared to industrialized nations. It demonstrates how banks in these settings can utilize fintech and green financing to meet sustainability standards while also becoming more resilient and differentiating themselves in a competitive market. As a result, the study provides a nuanced perspective on the application of RBV in the digital transformation of financial institutions.

III. CONCLUSION

The purpose of this study is to analyze the mediating role of green finance in the relationship between fintech adoption and sustainability performance in Sri Lankan banks. The Resource-Based View (RBV) is used as the theoretical foundation for this study. The findings acknowledge that fintech adoption significantly enhances banks' economic, social, and environmental performance. Green finance partially mediates this relationship between both independent and dependent variables. It reflects the value of integrating digital innovation with sustainable finance. Theoretically, the study extends RBV by positioning fintech and green finance as strategic internal resources that contribute to long-term competitive advantage. Practically, the study offers guidance and suggestions for banking leaders to focus on fintech as a driver of sustainability through coordinated green finance strategies, rather than merely as a digital tool. These insights are particularly valuable for developing economies like Sri Lanka, due to these Banks are facing operational and regulatory challenges. Overall, this study emphasizes the importance of "green fintech" in shaping sustainable banking practices.

A. Future Direction

Future studies suggest expanding this model by incorporating Financial Literacy and Regulatory Support as moderating variables and examining how those variables influence the effectiveness of fintech adoption on sustainability outcomes in the Sri Lankan context. Our model may have overlooked additional factors that could have an impact on these relationships by focusing only on the direct and indirect effects of FA on BSP. To enhance the comprehensiveness of the model, future studies should incorporate additional variables, including financial resources (FR), technological infrastructure (TI), and regulatory frameworks (RF). The methodology used in this study was quantitative. Future research may employ a mixed-methods approach, integrating quantitative and qualitative methods, to better understand the complexities of the relationships under study.

B. Limitation

This study is limited to the banking industry in Sri Lanka and does not consider other financial institutions. And data was collected from only two systemically important banks in Sri Lanka, as other key banks declined participation due to internal data confidentiality policies. Those conditions may limit the generalizability of the findings. Our ability to conclusively prove our reliance on cross-sectional data limits our ability to establish causation. Conducting longitudinal research would provide a deeper understanding of the temporal dynamics at play and more fundamental insights into how the variables' associations change over time.

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