

## **INSTITUTIONAL SUPPORT, GREEN INNOVATION, AND FINTECH ADOPTION: SHAPING THE FUTURE OF SUSTAINABLE BANKING IN PAKISTAN**

**Yasir Mubeen**

M.Phil. Business Administration at The Superior University Lahore, Pakistan.

Email: [asirmubeen@gmail.com](mailto:asirmubeen@gmail.com)

**Dr. Muhammad Kashif Majeed**

Assistant professor at The Superior University Lahore, Pakistan.

Email: [kashifmajeed.fsd@superior.edu.pk](mailto:kashifmajeed.fsd@superior.edu.pk)

**Dr. Saba Sabir**

Assistant professor at The Superior University Lahore, Pakistan.

Email: [Sabasabir.fsd@superior.edu.pk](mailto:Sabasabir.fsd@superior.edu.pk)

**Maria Maqsood**

M.Phil. Business Administration at The Superior University Lahore, Pakistan.

Email: [Rafiullahirfan.23@gmail.com](mailto:Rafiullahirfan.23@gmail.com)

### **Abstract**

*The current paper investigates the relationship between the use of FinTech, Green Innovation (GI), and Banking Sustainable Performance (BSP) and their role in the banking industry of Punjab, Pakistan. The main aim is to examine how FinTech adoption affects sustainability in business practices by banks and to explain the mediation effect of Green Innovation and moderating influence of Perceived Institutional Support (PIS). Systematic questionnaire was used to Central 384 employees in the lead privatized banks in Punjab and the hypothesized relationships in the constructs were tested using Partial Least Squares Structural Equation Modeling (PLS-SEM). The empirical results have shown that the effect of FinTech adoption on BSP is either positive or negative, and GI is the mediating variable. In addition, PIS moderate the association between the FinTech adoption and GI, thus highlighting the importance of institutional facilitation of successful digital transformation in the banking industry. These findings indicate that*

*FinTech and sustainability programs need to be combined to improve the overall performance of the bank. This research is relevant to the growing literature on sustainable banking as it presents empirical data of a developing economy; therefore, it has some important implications to policy-makers and financial institutions seeking to use FinTech to attain sustainable development.*

**Keywords:** *Banking Sustainable Performance, FinTech, Green Innovation and Perceived Institutional Support.*

## **INTRODUCTION**

*The swift change in the background of Financial Technology (FinTech) has significantly changed the overall banking system in the world by providing new answers to the operational effectiveness, customer satisfaction as well as financial inclusion. FinTech is a spectrum of digital products and services, including blockchain technology, mobile payments, and robo-advisers, which have the potential to radically transform the traditional banking model (Gomber et al., 2018). FinTech is considered, in particular, to be a key tool in enhancing the effectiveness of banking in the emerging markets (such as in Pakistan), as well as in the wider access to financial services, which is notably high in the areas characterized by a large proportion of unbanked people (such as in Punjab). Nevertheless, the contribution that FinTech makes to the performance of Banking Sustainable (BSP) has not been clearly defined, specifically when it comes to implementing sustainability goals (Chen and Huang, 2020; Kiron et al., 2017).*

*Banking sustainability has shifted its focus to include social and governance aspects together with environmental responsibility as a way of ensuring that the financial performance is aligned to the benefit of the wider society (Fatemi et al., 2018). BSP is the ability of a bank to strike a balance between profitability and environmental, social, and governance (ESG) factors that contribute to the long-term value creation (Eccles et al., 2019). In this scenario, Green Innovation (GI) has become an important element of sustainable banking. GI corresponds to the creation and adoption of environmentally harmless products or procedures, which includes green bonds, environmentally friendly financial instruments, and paper-cutting digital provisions (Schaltegger et al., 2019; Hove et al., 2021). FinTech*

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*contributes to the promotion of GI significantly by offering digital opportunities that enable making the financial system eco-conscious by enabling sustainable financial transactions (Bocken et al., 2019).*

*Modern researchers argue that the implementation of FinTech and GI do not replace each other, but complement one another in the development of BSP. FinTech has the potential to enable banks to optimize their operations, lower costs, and expand their service offerings, which increases their performance in terms of sustainability. As an example, paper waste can be reduced, more transparency is employed, and financial services become more efficient with the help of digital payment systems and blockchain (Chen et al., 2019; Kiron et al., 2017). Moreover, green finance and FinTech can also be used as the synergy to advance environmental sustainability because it makes it easier to invest in green projects, carbon offset programs, and environmentally friendly developments (Gangi et al., 2019).*

*FinTech and GI have a bright future, but their application is fraught with multiple challenges, and especially in developing countries, including Pakistan. The lack of proper Perceived Institutional Support (PIS), which can be said as the perception of employees about the availability of resources, training, and institutional support to introduce new technology, is the most crucial challenge (Eisenberger et al., 2001). PIS is vital to the banking industry since employees are the key to an effective integration of FinTech. It is proven by empirical evidence that the organizations that have a strong institutional support, including training and resources and managerial approval, are more prone to successfully adopt emerging technologies (Jung, 2019). Such support is useful in banking, as the pace of change is high, thus reducing resistance to change, speeding up technology adoption, and improving organizational performance (Yang et al., 2020).*

*The connection between FinTech adoption, GI, and BSP is intrinsically complex since both support of the institution and technological development are a dynamic two-way process. Recent research shows that the presence of strong institutional support does not only help to adopt FinTech, but it also enhances its effects on sustainability outcomes. It is especially relevant in*

*emerging markets where banks also have to face more challenges like regulatory restrictions, the lack of proper technological infrastructure, and resistance to change (Sussman and O'Shaughnessy, 2020). Therefore, the study of the impact of PIS on the adoption of FinTech and its subsequent impact on BSP is a significant line of research, particularly in relation to the case of the private banking industry in Punjab.*

*Besides, the implementation of GI in FinTech has received academic interest as an impetus to sustainable banking practices. Although the concept green finance has been recognized as a critical component of sustainable banking, not many studies have examined how green banking could be implemented through digital innovations that FinTech encourages (Rizos et al., 2016; Bocken et al., 2019). FinTech can support the achievement of sustainable banking goals immediately by facilitating the development of the digital form of financial products, including green investment platforms and environmentally friendly loans (Fatemi et al., 2018; Zhao et al., 2021). Moreover, data analytics and blockchain technology can be used to improve the transparency of environmental impact assessment and make the adoption of FinTech more consistent with the principles of sustainable banking (Schaltegger et al., 2019).*

*The banking sector in Pakistan, specifically in Punjab, is a distinctive ecological niche in which to explore the nexus of using FinTech and a sustainable performance due to the strong pace of growth, the increasing competition, and the increasing demand of digital financial services. Despite the fact that many studies have been conducted to identify the role of FinTech in the banking operations across the world, very little research has focused on the influence of FinTech in the sustainability of emerging economies like Punjab. This paper aims to fill that gap with the help of examining how FinTech adoption, GI and PIS contribute to the sustainable performance of private banks in Punjab. It relies on the experience of the employees working in leading privately owned banks to develop practical recommendations that either help to streamline the successful implementation of FinTech solutions and their related influence on the sustainable operations of banks.*

## **OBJECTIVES OF STUDY**

*The primary aim of this research is to examine the relationship between*

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*FinTech adoption and business sustainability in Pakistan's banking sector, with a focus on the roles of green innovation (mediator) and perceived institutional support (moderator). The specific objectives of the study are:*

- 1. To evaluate the impact of FinTech adoption on business sustainability in the banking sector of Pakistan.*
- 2. To examine the mediating role of green innovation in the relationship between FinTech adoption and business sustainability.*
- 3. To assess how perceived institutional support moderates the relationship between FinTech adoption and business sustainability.*

## **RESEARCH QUESTIONS**

- 1. How does FinTech adoption affect business sustainability in Pakistan's banking sector?*
- 2. What role does green innovation play in mediating the relationship between FinTech adoption and business sustainability?*
- 3. How does perceived institutional support moderate the relationship between FinTech adoption and business sustainability?*

## **LITERATURE REVIEW**

### **FINTECH ADOPTION AND BANKING BUSINESS SUSTAINABILITY**

*Banking sector in Pakistan is changing tremendously with the financial institutions rapidly getting into the use of FinTech to improve their operational efficiency, customer satisfaction, and business sustainability. Green Innovation (GI) and Perceived Institutional Support (PIS) constructs have been critical in explaining how the adoption of FinTech affects the sustainability of banks. With the hypotheses that are outlined below as its basis, this literature review explores the interrelationships between FinTech adoption, GI, BSP, and the moderating effects of PIS.*

**Hypothesis 1:** *There is a Positive Relationship between the FinTech Adoption and the Banking Sustainable Performance.*

### **FINTECH ADOPTION AND GREEN INNOVATION**

*Recent evidence suggests that FinTech is becoming increasingly linked to business sustainability in industries, and the banking industry included. The uptake of FinTech involves the introduction of new digital tools,*

*including mobile banking, blockchain, robo-advisors, and artificial intelligence into the banking process (Gomber et al., 2018). Like in the majority of the emergent markets, Pakistani banks are utilizing FinTech to enhance operational effectiveness, customer experience, and environmental imprints (Khan and Hussain, 2020).*

*Evidence of this relationship can be in terms of operational improvements. When banks adopt FinTech, they make business operations simple, economical, and delivering their services more efficiently, thus making their business practices more sustainable. As the previous research confirms, FinTech can facilitate energy consumption, efficiency of service delivery, and financial inclusion (Lee and Shin, 2020; Arner et al., 2016). In Pakistan, where the banking industry has to deal with high rates of unbanked people and regulatory limitations, FinTech application can provide instruments that can boost the level of sustainability (Sussman and O'Shaughnessy, 2020).*

***Hypothesis 2:** There is a Positive Relationship between the FinTech Adoption and the Green Innovation.*

## **GREEN INNOVATION AND BANKING SUSTAINABLE PERFORMANCE**

*Green Innovation (GI) is the term used to denote those innovations that are designed to reduce the impact on the environment and guarantee sustainability, specifically in the business domain (Chen et al., 2019). The growth of FinTech usage is associated with GI in the banking sector, where banks create and provide green financial instruments, such as digital green bonds, green loans, and green investment platforms. These technologies make financial services less carbon-intensive with paper transactions removed and more efficient digital solutions offered (Rizos et al., 2016).*

*FinTech use in the banking sector of Pakistan, where environmental sustainability is a major priority, is one of the major facilitators of green innovations. It has been shown that FinTech can enable paperless operations, enhance the transparency of sustainability reporting, and create digital channels to fund green projects (Bocken et al., 2019; Schaltegger et al., 2019). Additionally, the use of blockchain and digital currencies made possible by FinTech opens opportunities to green finance, in which banks*

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*have better opportunities to finance sustainable projects and infrastructure, including renewable energy production (Zhao et al., 2021).*

***Hypothesis 3:** There is a Positive Relationship between the Green Innovation and Banking sustainable performance*

### **GREEN INNOVATION AS A MEDIATOR**

*Green Innovation has become an important driver for Banking Sustainable Performance (BSP), particularly in the context of increasing the demand on banks to make operations consistent with the principles of the environment, social, and governance (ESG) (Eccles et al., 2019). GI helps banks to minimize environmental footprints, enhance operational efficiency and provide environmentally friendly financial services. Banks can become leaders in sustainable finance with green products, green bonds, and green investment activities (Gangi et al., 2019).*

*GI contributes to BSP indirectly by increasing business models that are more sustainable. Green products and services appeal to environmentally active consumers and investors, enhance ESG ratings, as well as meet regulatory requirements (Del Rio et al., 2017). As an example, less cost of operation and access to new markets allow banks that apply green financing solutions with the help of FinTech solutions to become more sustainable (Kiron et al., 2017; Gomber et al., 2018). The meaning of green innovation has taken the most vital role in the long-term strategies of banks in Pakistan, where sustainability as a regulation is gaining momentum.*

*The intermediary role played by Green Innovation in the relationship between FinTech adoption and Business Sustainability is noteworthy in the context of understanding how online technologies could lead to sustainable business performance. Even though the use of FinTech could offer the banks efficiency and service improvement tools, Green Innovation ensures that the improvement does not go against the sustainability goals (Bocken et al., 2019). FinTech will contribute to the development of green financial products, and Green Innovation will make sure that the products will become the part of the Banking Sustainable Performance and environmentally friendly practices (Zhao et al., 2021).*

*The utilization of FinTech and BSP is even more correlated in the event that the green innovations are integrated with the digital banking infrastructure. The example is that the environmental impact of financial services can be reduced with the help of FinTech and digital payments, mobile banking, but the green innovation of the bank can be through environmentally friendly financial products, which can even reinforce the sustainability mission. It is a feedback mechanism, where Green Innovation can only take place with the adoption of FinTech, which leads to the occurrence of BSP (Schaltegger et al., 2019; Rizos et al., 2016). The Green Innovation plays a mediating role of gigantic magnitude in the banking sector of Pakistan where the transition to sustainable practices is yet to pick pace. The greater the probability of banks that adopt both FinTechs and Green Innovation to contribute to the sustainability of their operations is to make their business more efficient and reduce their carbon footprints (Fatemi et al., 2018).*

**Hypothesis 4:** *FinTech Adoption is Mediated by Green Innovation in the Sustainability of Business in the Banking Industry.*

#### **PERCEIVED INSTITUTIONAL SUPPORT AS A MODERATOR**

*The Perceived Institutional Support (PIS) is the view that the employees have on the support and resources given by their companies to facilitate the implementation of the new technologies. PIS is among the most significant success factors of the successful implementation of FinTech and promotion of Green Innovation in the banking industry. The applied study has demonstrated that the high levels of institutional support contribute to the increase of employee engagement and desire to utilize new technologies (Eisenberger et al., 2001; Yang et al., 2020).*

*When it is applied to the context of Pakistan, PIS acquires some significance bearing in mind that banks cannot afford to implement new technologies without losing their solvency. Banks that have well-established institutional backing (in terms of voluminous training, supply resources, and leadership encouragement) are in a superior position to embrace FinTech solutions to facilitate green innovation (Jung and Lee, 2019). It is also suggested in the literature that PIS modulates the connection between the use of FinTech and green innovation, which ensures that the employees*

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possess the necessary competencies to embrace sustainable practices (Rhoades and Eisenberger, 2002). It is on this basis that PIS plays a very important role in the transition of Pakistan to a more viable banking paradigm.

**Hypothesis 5:** PIS positively moderates the mediated relationship between fintech adoption and banking sustainable performance via green Innovation.

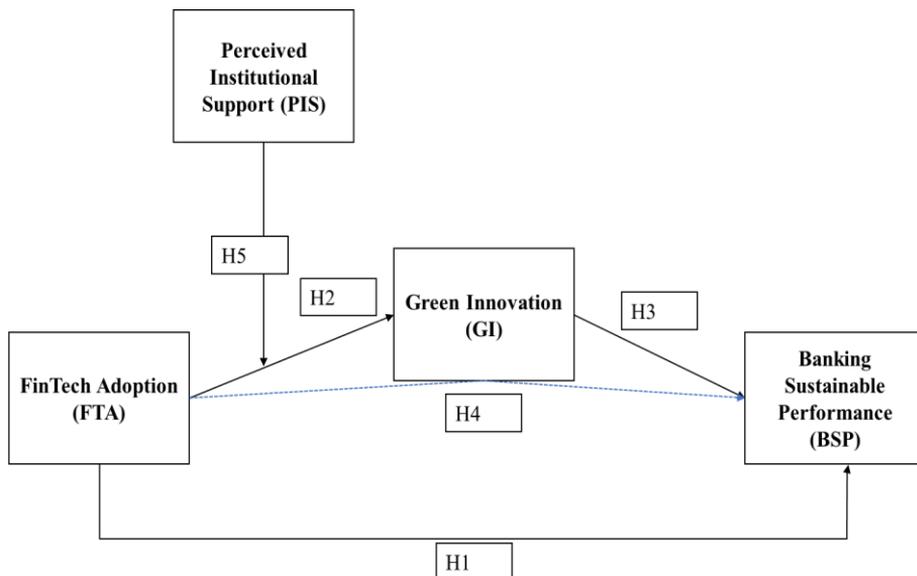


Figure 1 Research Framework

## MATERIALS AND METHODS

### RESEARCH DESIGN

The research design that was used in the present study is the quantitative research design which is premised on the positivist philosophy to objectively test the hypothesis. A cross-section survey enabled the study of the interrelations of FinTech adoption and Green Innovation (GI), Perceived Institutional Support (PIS), and Banking Sustainable Performance (BSP). This research study will be formulated in a manner that it is able to develop causal relationships between the independent variable (FinTech adoption) and dependent variable (BSP) and examine the intermediating nature of GI and moderating nature of PIS.

## **POPULATION AND SAMPLE SIZE**

*The target market would be the staff members of the large private banks in Punjab, Pakistan, and specifically those employees, who are involved in the implementation of FinTech and sustainability programs. A convenience sampling was used to pick 384 banking professionals. This is known as sufficient sample size since it can achieve good statistical analysis with Krejcie and Morgan suggestion of the sample size determination at a 95 per cent confidence level with a margin of error of 5 per cent.*

## **DATA COLLECTION**

*The data were collected with the help of a structured questionnaire in two sections (demographic data and questions concerning the research variables (FinTech adoption, Green Innovation, Perceived Institutional Support, and Banking Sustainable Performance). Each of them was rated using a 5-point Likert scale that includes options 1 (strongly disagree) to 5 (strongly agree), which provided the respondents with the possibility of describing their attitudes and perceptions towards the implementation of FinTech and sustainable practices at their institutions.*

## **DATA ANALYSIS**

*The data was analyzed by using the tool of the Partial Least Squares Structural Equation Modeling (PLS-SEM) which is a potent statistical tool that may be adopted when there is a need to examine complex models that encompass a quantity of mediators and moderators. The SmartPLS 4.0 software was used in the analysis. The measurement of convergent validity was done by extracting Average Variance (AVE) and the discriminant validity was done by Fornell-Larcker criterion. The significance of the path coefficients was determined by bootstrapping based on 5,000 resamples.*

## **RESULT AND ANALYSIS**

*Data collected were processed with the help of Partial Least Squares Structural Equation Modeling (PLS-SEM) by SmartPLS version 4.0 (Hair et al., 2021). PLS-SEM is considered a powerful multivariate statistical method especially in testing complex causal relations between latent constructs. It has become highly popular over the last few years, particularly in exploratory and prediction-oriented studies. Unlike covariance-based structural equation modeling (CB-SEM) that focuses on the primary aim of*

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*the model fit, PLS-SEM focuses on the maximization of the explained variance (R2) and is especially suitable when the model uses both formative and reflective measurement constructs (which is the situation here).*

*The rationale behind the choice of PLS-SEM is that it can be used to produce reliable and accurate estimates of both direct and indirect effects in studying the mediating impact of Green Innovation (GI) between FinTech Adoption (FTA) and Banking Sustainable Performance (BSP). A bootstrapping code of 5,000 resamples was used to estimate the statistical significance to increase the strength and stability of the path coefficient estimates (Hair et al., 2021). Moreover, the structural model assessment was accompanied by the descriptive demographic analysis performed to investigate the gender, age, professional experience, and educational background of the respondents.*

**Table 1: Demographic Profile of the Respondents**

<b>Demographic Variable</b>	<b>Groups</b>	<b>Frequency</b>	<b>%Age</b>
<b>Gender</b>	<i>Male</i>	331	86.0
	<i>Female</i>	54	14.0
<b>Age (Years)</b>	<i>15–25</i>	174	45.2
	<i>26–35</i>	78	20.3
	<i>36–45</i>	64	16.6
	<i>46–55</i>	53	13.8
	<i>Above 55</i>	16	4.1
<b>Education Level</b>	<i>Graduation</i>	162	42.1
	<i>Post-Graduation</i>	98	25.5
	<i>Professional Qualification</i>	125	32.4
<b>Experience</b>	<i>1–5 years</i>	141	36.6
	<i>6–10 years</i>	89	23.1
	<i>11–15 years</i>	73	19.0
	<i>16–20 years</i>	49	12.7
	<i>20 or above</i>	33	8.6

	years		
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**MEASUREMENT MODEL**

*Reliability and validity assessment of the measurement model was done. All constructs reached a value of or above the suggested alpha (0.70) which is strong internal consistency (Hair et al., 2021). The Composite Reliability (CR) values were also above the 0.70 threshold and the AVE of each construct was also above 0.50, which validated that the convergent validity was acceptable. The Fornell-Larcker criterion also served to affirm the existence of discriminant validity since the AVE of each construct was higher as compared to its correlation with other constructs.*

**Table 2 Reliability and Convergent Validity**

<b>Construct</b>	<b>Code</b>	<b>Factor Loading</b>	<b>Cronbach's Alpha</b>	<b>(CR)</b>	<b>(AVE)</b>
<i>FinTech Adoption (FA)</i>	<i>FA1</i>	<i>0.742</i>	<i>0.891</i>	<i>0.913</i>	<i>0.567</i>
	<i>FA2</i>	<i>0.761</i>			
	<i>FA3</i>	<i>0.784</i>			
	<i>FA4</i>	<i>0.729</i>			
	<i>FA5</i>	<i>0.768</i>			
	<i>FA6</i>	<i>0.754</i>			
	<i>FA7</i>	<i>0.781</i>			
	<i>FA8</i>	<i>0.796</i>			
<i>Green Innovation (GI)</i>	<i>GI1</i>	<i>0.812</i>	<i>0.872</i>	<i>0.903</i>	<i>0.651</i>
	<i>GI2</i>	<i>0.834</i>			
	<i>GI3</i>	<i>0.791</i>			
	<i>GI4</i>	<i>0.825</i>			
	<i>GI5</i>	<i>0.809</i>			
<i>Perceived Institutional Support (PIS)</i>	<i>PIS1</i>	<i>0.846</i>	<i>0.846</i>	<i>0.895</i>	<i>0.682</i>
	<i>PIS2</i>	<i>0.821</i>			
	<i>PIS3</i>	<i>0.804</i>			
	<i>PIS4</i>	<i>0.832</i>			
<i>Sustainable Performance (SP)</i>	<i>SP1</i>	<i>0.763</i>	<i>0.918</i>	<i>0.934</i>	<i>0.589</i>
	<i>SP2</i>	<i>0.781</i>			
	<i>SP3</i>	<i>0.798</i>			

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	SP4	0.754			
	SP5	0.812			
	SP6	0.826			
	SP7	0.769			
	SP8	0.784			
	SP9	0.791			
	SP10	0.803			

**DISCRIMINANT VALIDITY: FORNELL–LARCKER CRITERION**

*Table 3 shows that the square root of AVE of all the constructs is greater than the largest inter-construct correlation thus providing support to the claim of discriminant validity of all the constructs measured. In particular, each construct has a higher variance with its indicators compared to other constructs in the model.*

**Table 3 Discriminant Validity – Fornell–Larcker Criterion**

<b>Constructs</b>	<b>FA</b>	<b>GI</b>	<b>PIS</b>	<b>SP</b>
<i>FinTech Adoption (FA)</i>	<b>0.753</b>			
<i>Green Innovation (GI)</i>	0.521	<b>0.807</b>		
<i>Perceived Institutional Support (PIS)</i>	0.498	0.563	<b>0.826</b>	
<i>Sustainable Performance (SP)</i>	0.612	0.587	0.546	<b>0.768</b>

**STRUCTURE MODEL**

*It analyzed the structural model to examine both direct and indirect relationship between the constructs. Path coefficients and statistical significance of each hypothesis are as below:*

**DIRECT**

**H1:** *There is a Positive Relationship between the FinTech Adoption and the Banking Sustainable Performance.*

*The study found a positive and meaningful connection between FTA and BSP ( $\beta = 0.767, t = 16.326, p < 0.05$ ). This means the research has enough real data to back up H1.*

**H2:** *There is a Positive Relationship between the FinTech Adoption and*

The study found a positive and meaningful connection between FTA and BSP ( $\beta = 0.543, t = 16.673, p < 0.05$ ). This means the research has enough real data to back up H2.

**H3:** There is a Positive Relationship between the Green Innovation and Banking sustainable performance

The study found a positive and meaningful connection between FTA and BSP ( $\beta = 0.764, t = 16.434, p < 0.05$ ). This means the research has enough real data to back up H3.

All these results show that the adoption of FinTech has a positive effect on BSP both directly and indirectly through the mediating effect of GI, and PIS plays a significant mediating role in the relationship between FinTech and GI, which also supports the significance of organizational support in supporting sustainable innovation.

**Table 4 Measurement of Direct Relationship**

Hypotheses	Relationship	$\beta$	SE	t-value	Decision
H1	FTA→BSP	0.767	0.04	16.326	Supported
H2	FTA→GI	0.543	0.03	16.673	Supported
H3	GI→BSP	0.764	0.04	16.434	Supported

**TESTING THE MEDIATION EFFECTS**

**H4:** Green innovation mediates the relationship between FinTech adoption and business sustainability in the banking sector of Pakistan.

The analysis using bootstrapping showed a strong indirect effect ( $\beta = 0.379; t = 5.65, p < 0.05$ ). The 95% confidence interval for the indirect effect was [LL = 0.257, UL = 0.472], and it did not include zero. This means the mediation effect of green investment on the link between fintech adoption and banking sustainable performance was confirmed. In other words, hypothesis H4 was supported.

**Table 5 Measurement of Mediating Relationship**

Hypotheses	Relationship	$\beta$	SE	value	95% CI		Decision
					LL	UL	
H4	FTA→GI→BS	0.37	0.05	5.65	0.25	0.47	Supported

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**TESTING OF MODERATING EFFECTS**

*H5: PIS positively moderates the mediated relationship between fintech adoption and banking sustainable performance via green Innovation.*

*PIS was found to have a significant moderating effect on the relationship between FTA and BSP through GF ( $\beta = 0.102, t = 5.982, p < 0.05$ ). Also, the 95% bootstrap confidence interval [LL = 0.165, UL = 0.147] did not include zero, which supports H3.*

**Table 6 Measurement of Moderating Relationship**

Hypotheses	Relationships	$\beta$	SE	t-value	95% CI		Decision
					LL	UL	
H5	CSR Moderates between FTA and BSP via GI	0.102	0.021	5.982	0.165	0.147	Supported

**DISCUSSION**

*Bank FinTech Implementation and Sustainable Performance: The current research shows that there is a strong positive relationship between FinTech adoption and the Banking Sustainable Performance (BSP) in the banking industry in Pakistan. Empirical data is supported by the available literature that highlights the possibility of FinTech to improve the efficiency of the operations, meet customer expectations, and support sustainable operations (Gomber et al., 2018; Arner et al., 2016). Pakistani bankers can simplify business processes, reduce expenses, and introduce the digital transformation that leads to a more sustainable environment, such as green bonds and financial services with a positive impact on the environment by adopting FinTech (Chen and Huang, 2020). The correlation found below supports the hypothesis according to which FinTech adoption is an inevitable element of sustainable banking.*

*Green Innovation as a Moderator: One of the main results of this study*

*is that FinTech adoption seems to have an intermediate impact on BSP through Green Innovation (GI). FinTech application brings a technological platform requirement in the development of environmentally benign financial products and services. GI initiatives like paperless banking and digital green bonds have a direct contribution to BSP because they bring financial processes close to environmental and social sustainability goals (Kiron et al., 2017; Schaltegger et al., 2019). As the GI value shows, to implement BSP, FinTech adoption will not be enough but will have to be paired with green initiatives to ensure overall sustainability.*

*The Perceived Institutional Support Role: The influence of the Perceived Institutional Support (PIS) in the connection between FinTech adoption and GI is reinforced by the fact that the support of the technologies by the organization is of utmost importance to the success of the technology adoption process. Banks with a healthy institutional backing including training, resources, and leadership support tend to adopt FinTech solutions, which could facilitate GI (Eisenberger et al., 2001). Jung and Lee (2019) confirmed this fact and determined organizational support as the key ingredient in combating employee resistance to new technologies. In turn, PIS is a critical factor in the successful implementation of green innovation in the immature FinTech landscape in Pakistan.*

## **CONCLUSION**

*The manuscript provides the empirical data of the positive correlation of high degree between FinTech use and BSP within the banking sector of Pakistan. Results also indicate that this correlation is mediated by Green Innovation, and Perceived Institutional Support mediates the adoption of FinTech and the adoption of green innovations. In line with this, the banks that embrace FinTech will stand to improve their performance in terms of sustainability by cutting down on operational expenses, increased service provision as well as offering sustainable financial services.*

## **IMPLICATIONS FOR PRACTICE**

*The findings support the need to combine FinTech adoption, Green Innovation, and Perceived Institutional Support to achieve the sustainability of performance in the banking industry. Financial institutions in Pakistan are urged to invest in digital literacy programmers and financial inclusion*

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*programs to stimulate the uptake of FinTech. The policymakers are also encouraged to support green innovations through regulation and to ensure that the institutional support mechanisms are not withdrawn thus ensuring that sustainable banking technologies are adopted.*

### FUTURE RESEARCH AND LIMITATIONS

*The current research will be limited by the fact that it examines banks that are privately owned in Punjab, Pakistan, and the use of convenience sample. Future studies can be conducted to assess the relevance of FinTech application and Green Innovation to Islamic banks or government-sponsored banks in Pakistan and other parts of South Asia. More research might also encompass other mediators and moderators which include corporate social responsibility (CSR) practices and regulatory frameworks in order to have a better understanding of sustainability in banking.*



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