Journal of Development Policy, Research & Practice

ISSN (P): 2522-3410
ISSN (E): 2663-3698

Volume 9, 2025

Article History
Submitted:
April 06, 2025
Last Revised:
August 04, 2025
Accepted:
September 01, 2025

Funding
No

Determinants of Green Banking Adoption in Pakistan: A Stakeholder Approach

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Article Link:
https://journals.sdpipk.org/index.php/JoDPRP/article/view/165/version/165

DOI: https://doi.org/10.59926/jodprp.vol09/05

Citation:

Bukhari, S. A. A., Bukhari, S. N. Z. Hashim, F., and Amran, A. 2025. 'Determinants of Green Banking Adoption in Pakistan: A Stakeholder Approach', *Journal of Development Policy, Research & Practice,* vol. 9, pp. 77-94.

Conflict of Interest: Authors declared no Conflict of Interest

Acknowledgement: We gratefully acknowledge the support of Dr. Rab Nawaz Lohdi, whose trust and guidance were instrumental in the successful completion of this publication.

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An official Publication of the Sustainable Development Policy Institute, Islamabad, Pakistan

Journal of Development Policy, Research & Practice

Vol. 9 (January – December 2025)

Determinants of Green Banking Adoption in Pakistan: A Stakeholder Approach

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ABSTRACT

This study investigates the antecedents of Green Banking Adoption (GBA) by examining various stakeholder pressures within the framework of Institutional Theory. It hypothesised that Top Management Pressure (TMP), Customer Pressure (CUSTP), Competitor Pressure (COMP), and Community Pressure (COMUP) positively influence GBA. Quantitative research was conducted, employing survey method with self-administered questionnaires. Data was collected from 419 branch managers and analysed using SMART PLS. The results demonstrate that TMP, CUSTP and COMP exert a statistically significant positive influence on GBA, whereas COMUP does not show a significant effect. These findings highlight the critical role of internal and competitive drivers over community-based pressures in facilitating the adoption of green banking practices. The insights generated from this research can assist the banking industry and regulatory bodies in designing strategies and policy frameworks aimed at accelerating green banking in Pakistan.

Keywords: Green Banking Adoption, Stakeholder Pressure, Institutional Theory, Second-Order Analysis.

JEL Classification Codes: M1

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1. INTRODUCTION

A country's banking industry holds a unique position in the economy, possessing a broad knowledge base encompassing all economic sectors. The banking industry has one of the largest branch networks, client bases and can shift customer behaviour towards eco-friendly investment and products (Park and Kim 2020). With time, the banking industry started to realise and consider the adverse environmental impacts arising from its business operations. Various stakeholders started putting pressure on the industry to adopt more eco-friendly business activities (Bukhari et al., 2020a). The global realisation of banks' potential impact on the natural environment led to an increase in the adoption of environmentally friendly banking policies and practices. The growing influence of stakeholders' pressures, coupled with the emergence of international regulatory frameworks, catalysed the development of the Green Banking concept (Rehman et al., 2021).

The primary objective of this study is to empirically examine the relationship between stakeholders' pressures and Green Banking Adoption (GBA). GBA is operationalised as a first-order construct comprising four second-order dimensions. By identifying the key determinants of GBA, the study provides insights that can facilitate its effective implementation within Pakistan's banking sector. GBA can enable banks to tap approximately USD 96.2 green investment potential through projects like alternate energy generation, clean water, and sanitation facilities (Sheikh 2021). Improved financial outcomes can also be attained by investing in various green industries, including green vehicle manufacturing, green construction, water conservation projects and eco-tourism. The green transformation of Pakistan's industrial sector through GBA will, in turn, positively enhance financial outcomes (Afridi et al., 2021; Ghumman 2021; Khan 2019).

2. LITERATURE REVIEW

Green Banking is an evolving concept that integrates environmental sustainability with banking activities (Malsha et al., 2020; Sarma and Roy 2021). It aims to reduce a bank's direct and indirect carbon footprint through the sustainable use of various resources, such as paper and electricity, and expanding its green financing portfolio. The banking industry is transitioning towards an ecologically and socially responsible approach globally (Amir 2021; Bukhari and Bukhari 2025).

2.1.Green Banking

Under the Green Banking framework, banks finance environmentally friendly projects to help reduce indirect carbon emissions (Al-Sheryani and Nobanee 2020; Akomea-Frimpong et al., 2022). It enables the banking industry to mobilise finances for eco-friendly investments without damaging the natural environment and living standards of the surrounding community (Shafique and Khan 2020). Simultaneously, the direct carbon

footprint of banking operations is decreased through reduced resource utilisation and adoption of eco-friendly banking practices such as green buildings, green information technology, paperless transactions etc. (Shailaja 2021).

According to the State Bank of Pakistan (SBP), adoption of green banking involves integration of environmental awareness into organisational culture, along with restructuring banking products, services, and operations, aiming to minimise the environmental footprint of both banks and the broader economy (SBP 2017). It is based on reducing multiple environmentally harmful impacts arising from banking operations. First, it focuses on the conversion of a bank's day-to-day operations into eco-friendly business processes to minimise the carbon footprint (Gulzar et al., 2024; Kumar et al., 2024). This can be attained through greater reliance on eco-friendly energy sources, automation of banking operations and other pollution prevention measures (Bukhari et al., 2020c). In addition to direct impact reduction, GBA also requires banks to increase their eco-friendly financing portfolio and reduce financing of projects or industries that may harm the natural environment (Amir 2021; Azhgaliyeva and Liddle 2020; Iqbal et al., 2024).

Once implemented, it can improve a bank's environmental performance, increase financial returns, enhance its green brand image, improve operational efficiency and cost-effectiveness. Several countries have adopted this approach to mitigate adverse environmental impacts. However, its implementation requires specific regulations (Iqbal et al., 2021).

2.2.Determinants of Green Banking

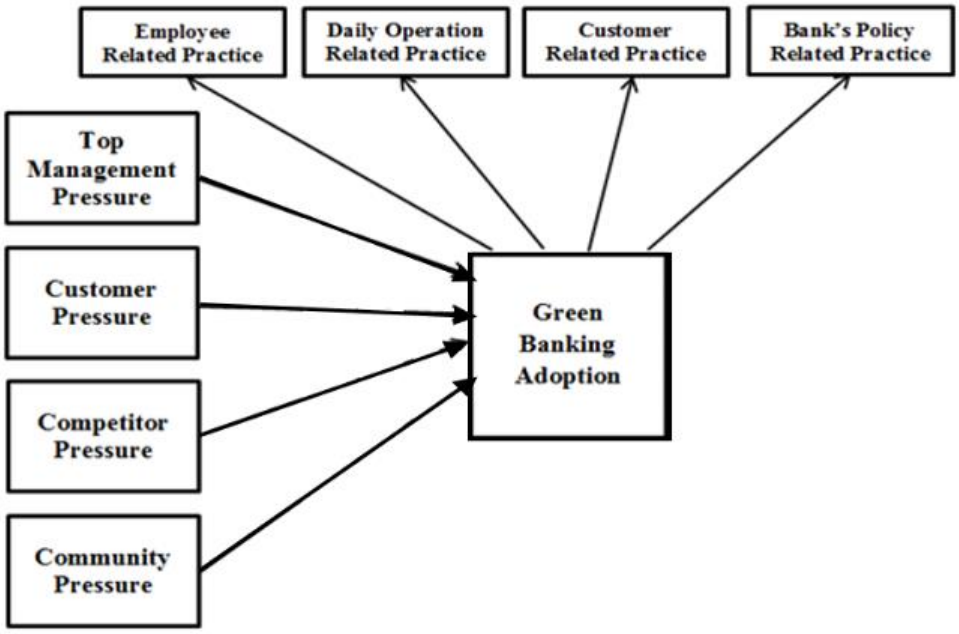
An organisation's stakeholders are the determinants who have the ability or potential to influence its strategic decision-making process or goal achievement. They also include those individuals or groups of individuals that may, in turn, be affected by organisational actions or decisions (Freeman 2010). Over time, these stakeholders are gradually becoming more aware that stewardship of natural resources is becoming increasingly important for the survival of mankind (Bukhari et al., 2023; Cherrafi et al., 2017; Chithambo et al., 2020). Hence, focus on GBA has been increasing gradually (Sarma and Roy 2021).

Stakeholders are increasingly concerned about business activities that have adverse impacts on society and the natural environment. Banks are, therefore, expected to incorporate these concerns when implementing GBA (Kurniadi et al., 2024). Given the global relevance of GBA, its importance for stakeholders is expected to increase in the coming years (Muchiri et al., 2025; Zabawa and Kozyra 2020). Thankachan (2021) highlights the need to engage stakeholders and raise awareness about this banking approach. In this context, the study investigated the relationship between stakeholder pressures and GBA.

3. THEORETICAL FRAMEWORK

Institutional Theory underpins the theoretical foundation of this research. This theory has been applied to study organisational adoption behaviours across various industries, including eco-friendly management practices (Baah et al., 2021; Raj et al., 2020). The theory builds on the stakeholder theory by identifying three environmental pressures that influence an institution: Coercive, Mimetic, and Normative.

Figure 1: Research Framework



Source: Authors' own.

Each of these pressures drives isomorphism within the respective industry or institution. *Coercive Pressure* is created through either or both formal and informal pressures emerging from stakeholders on which a company is dependent. The second is called *Mimetic Pressure* which stems environmental uncertainty, lack of clear course of action, or when several companies within an industry pursue the same goals. The third is *Normative Pressure* caused by a high degree of socialisation between organisations (Chithambo et al., 2020; Hofman et al., 2020).

4. HYPOTHESIS DEVELOPMENT

4.1. TMP and GBA

Previous research shows a notable influence of TMP or Top Management Pressure on green adoption practices such as green purchasing and green supply chain management (Bukhari

et al., 2022). Although supportive of staff involvement in eco-friendly initiatives and business practices, the top management is primarily concerned about the adoption process (Burki et al., 2019; Ilyas et al., 2020). GBA requires commitment from the top management, which helps in embracing green practices in daily operations. The SBP's 'Green Banking Guidelines' (SBP 2017) also stress the importance of top management support and concern for GBA and how insufficient focus might lead to lack of momentum.

H_1: Top Management Pressure has a Positive Influence on Green Banking Adoption.

4.2. CUSTP and GBA

During business operations, an organisation produces externalities that may affect its stakeholders. These externalities, if negative, may lead the stakeholders to exert pressure on the firm to mitigate the potential harmful impacts and promote beneficial outcomes. With growing environmental awareness among consumers, such externalities have become a major concern. Customers may seek to influence organisational policies and practices they perceive as environmentally harmful.

According to Institutional Theory, Customer Pressure (CUSTP) stems from evolving expectations that firms reduce adverse environmental impacts and enhance sustainability performance. This form of normative pressure can drive organisations to adopt green management practices (DiMaggio and Powell 2020). In the context of the banking industry, customers can positively influence GBA by demanding banks to adopt various green initiatives like green products and services, green financing, green marketing and corporate environmental responsibility initiatives (Rehman et al., 2021). Over the past few decades, there has been growing recognition among customers that banks can contribute meaningfully to mitigating climate change and natural resource degradation (Shailaja 2021).

H_2: Customer Pressure has a Positive Influence on Green Banking Adoption.

4.3. COMP and GBA

In the literature, Competitive Pressure (COMP) has been reported to influence green management initiatives, including certifications, innovation, and supply chain management. Research shows that a positive influence exists, in terms of green management adoption, emanating from mimetic pressure created by competitors or industry leaders adopting practices like green disclosure (Chithambo et al., 2020). Cao and Chen (2019) reveal a positive influence of COMP on the adoption of eco-friendly business practices businesses. If peer-competitors can gain advantages by adopting green management practices, companies will also be inclined to adopt similar eco-friendly practices to strive for market share (Saeed et al., 2019). Significant pressure rises from an organisation's market position relative to competitors that have gained greater market share

by adopting green management practices, such as green disclosure. In the context of GBA, competitors play an important and influential role, given the novelty of the concept and growing expectations of consumers (Chithambo et al., 2020).

H_3: Competitor Pressure has a Positive Influence on Green Banking Adoption.

4.4. COMUP and GBA

Communities have become a significant organisational stakeholder in recent years (Hoque et al., 2019). The need to gain social legitimacy from a variety of stakeholders that go beyond organisational boundaries has a substantial impact on the adoption of green practices. Firms' adoption of ethical business practices is positively impacted by institutional pressures at the community level, which frequently result in community-driven isomorphism. Organisations are under pressure to adhere to sustainable management principles as communities gain more knowledge (Bukhari et al., 2020b). Businesses have also been forced to show their dedication to sustainable practices due to growing public concern about climate change, natural resource conservation, and environmentally responsible operations. Research shows that organisations in developing nations, like Pakistan, are facing more community pressure (COMUP) to implement sustainable business practices. Within this context, the global banking industry, in particular, is facing mounting pressure from communities to integrate environmentally friendly practices into their operations (Redwanuzzaman 2020).

H_4: Community Pressure has a Positive Influence on Green Banking Adoption.

5. METHODOLOGY

A cross-sectional, quantitative research design was used in this investigation. With a final sample size of 419 branches, the population included all bank branches that were open in Pakistan. Since the SBP's 'Green Banking Guidelines' are consistent for all bank types (SBP 2017), the banking sector as a whole was chosen for analysis. Branch managers answered the self-administered questionnaire, and the bank branch was the unit of analysis. Given their thorough understanding of branch-level operations and their duty to address environmental impacts through daily operations and financing portfolios, branch managers were deemed the most appropriate informants (Graham and McAdam 2016; Ullah and Mia 2020).

Data collection was conducted under probability sampling using a simple random sampling technique. This approach was chosen to minimise sampling bias and to enhance the representativeness and generalisability of the findings.

The dependent variable, i.e., GBA, was operationalised as a reflective-reflective higher-order construct consisting of four lower-order constructs: Employee-Related Practice (ERP), Daily Operation-Related Practice (DORP), Customer-Related Practice (CRP), and Bank Policy-Related Practice (BPRP) (Bukhari et al., 2022; Shaumya and Arulrajah 2016). Together, these constructs were measured using 16 reflective items. Independent variables: Top Management Pressure (TMP), Customer Pressure (CUSTP), Competitor Pressure (COMP), and Community Pressure (COMUP), were also operationalised as reflective constructs, with measurement items adapted from previous studies.

6. DATA ANALYSIS

This study employed Structured Equation Modeling (SEM) to examine the relationship between the stakeholder pressures and GBA. The dependent variable, GBA, was operationalised as a second-order reflective-reflective construct, developed from four lower-order constructs. This study adopted the disjoint two-stage approach, which allowed for a more in-depth analysis of the higher-order construct by running the measurement model analysis in two stages (Sarstedt et al., 2019).

The measurement model analysis for both stages is presented in Figures 2 and 3. Once the measurement model analysis was completed, the structural model analysis was conducted to assess the associations between the latent variables in the structural, or inner, model.

Table 1 shows the data analysis conducted on the structural model:

Table 1: Heterotrait-Monotrait Ratio (HTMT)

	COMP	COMUP	CUSTP	TMP
COMP				
COMUP	0.038			
CUSTP	0.238	0.261		
TMP	0.805	0.073	0.166	

Source: Authors' own.

The results of the statistical analysis for hypothesis testing are shown in Table 2:

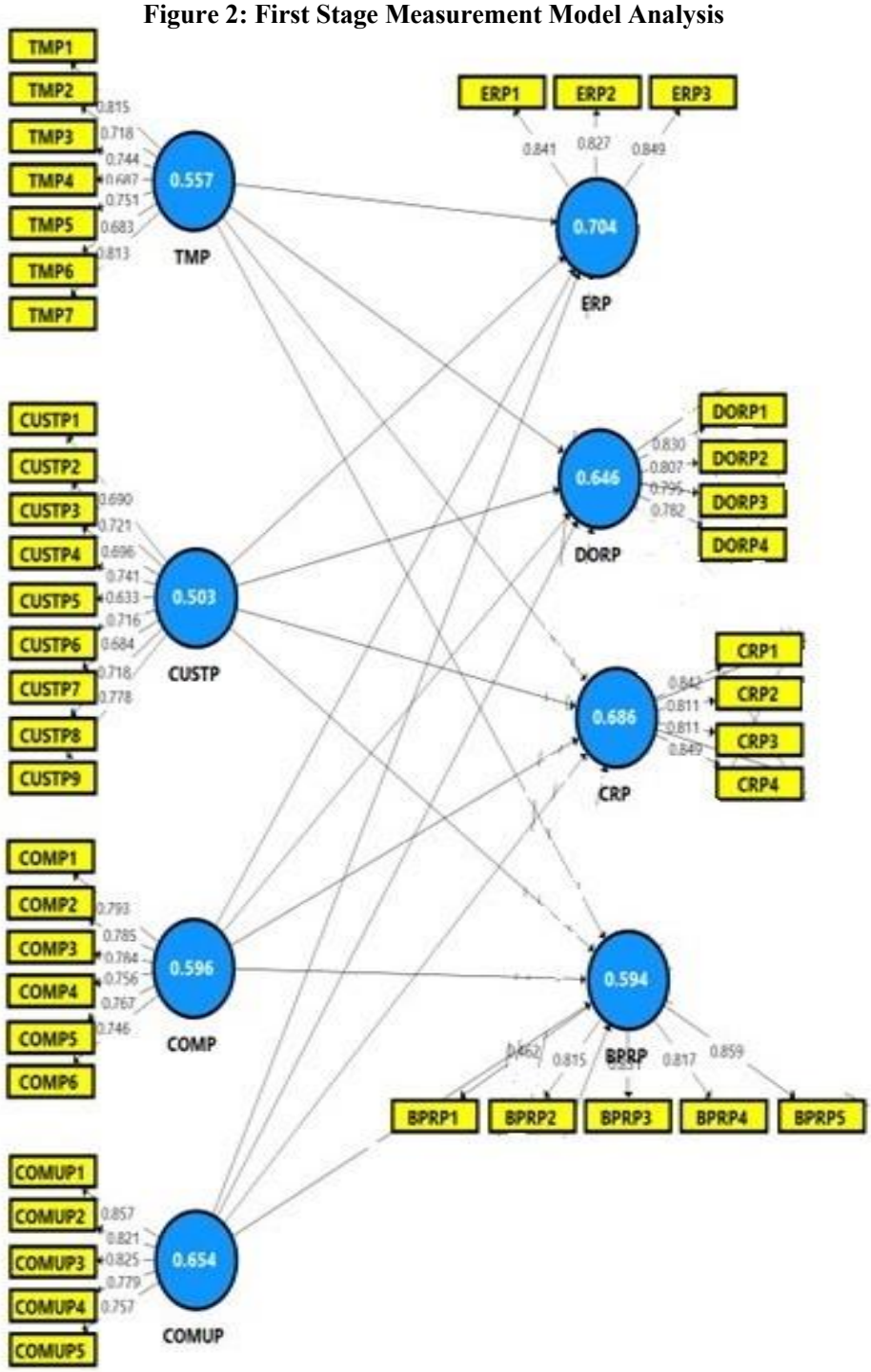
Table 2: Hypotheses Testing

Hypotheses	Relationships	Std Beta (β)	Std Error	t-value	p-value	Confidence Interval Lower Limit	Confidence Interval Upper Limit	Decision
H1	TMP → GBA	0.264	0.064	3.934	0.000*	0.173	0.386	***Supported***
H2	CUSTP→GBA	0.128	0.032	4.190	0.000*	0.066	0.171	***Supported***
H3	COMP→GBA	0.296	0.087	3.582	0.000*	0.202	0.490	***Supported***
H4	COMUP→GBA	0.060	0.045	1.330	0.114	-0.068	0.098	***Not Supported***

Source: Authors' own.

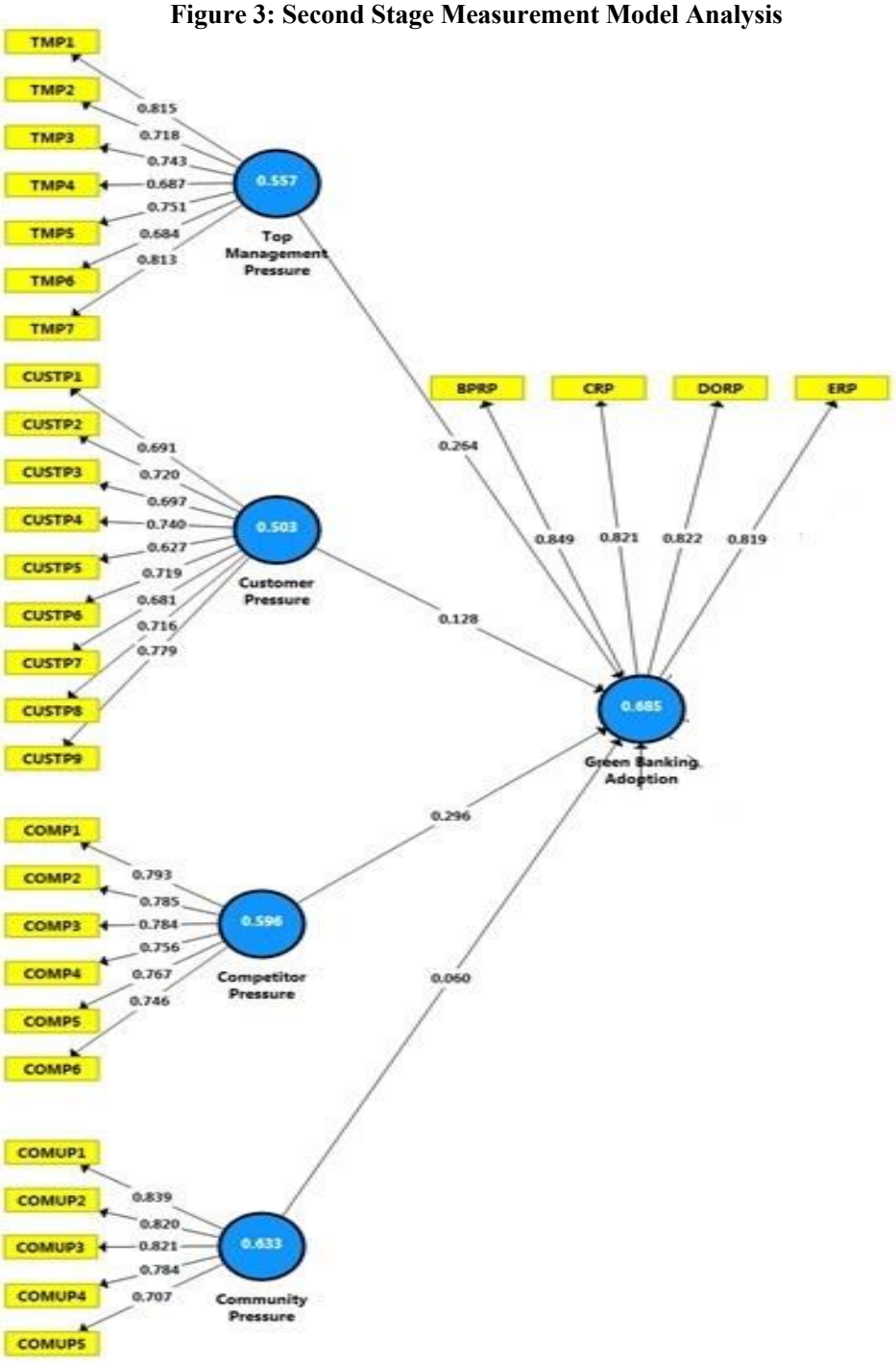
The results of the data analysis reveal that three hypothesised relationships were statistically supported, while Hypothesis H4 was not supported. The R^2 value of 0.605 shows that 60.5% of the variance in GBA among bank branches in Pakistan can be explained by stakeholder pressure. These findings demonstrate a substantial influence of stakeholder pressure on GBA. Further analysis of the f2 effect size shows that, among the three exogenous constructs, COMP exerts the strongest influence on GBA, followed by TMP and CUSTP.

Figure 2: First Stage Measurement Model Analysis



Source: Authors' own.

Figure 3: Second Stage Measurement Model Analysis



Source: Authors' own.

7. FINDINGS AND DISCUSSION

The results of this study are consistent with theoretical foundations and prior literature, which demonstrate a positive influence of top management on organisational adoption of new business practices. (Burki et al., 2019). Research conducted in developing nations like Pakistan has demonstrated that TMP is an important factor in favourably impacting the adoption of green management practices, from the procurement of environmentally friendly resources to the creation of green products. The results of this study are also in line with previous research that shows a favourable correlation between green management practices and customer pressure. Previous studies conducted in Pakistan have shown that consumers are becoming more conscious of the issue, and that businesses are facing more pressure to adopt environmentally friendly practices. It has been discovered that CUSTP also serves as a stimulant for the adoption of green management in a variety of industrial sectors. (Ahmed et al., 2020; Khan et al., 2021). The strongest influence on GBA among all stakeholder pressure types is competitor pressure.

The data analysis also showed that GBA in Pakistani bank branches was not significantly impacted by community pressure (COMUP). According to research on developing nations, a lack of community awareness and understanding of environmental issues reduces pressure on firms, which in turn limits the adoption of green management practices (Miah et al., 2021). The adoption of corporate environmental practices in Pakistan is still hampered by the lack of active community involvement and low level of community awareness of green banking (Wu et al., 2020).

8. POLICY RECOMMENDATIONS

This study carries important policy implications for the banking industry, particularly in Pakistan. According to the findings, the main forces behind the adoption of green banking are pressure from top management, customers, and competitors. These pressures can be used by banks and regulatory agencies to speed up adoption of sustainable practices. By integrating eco-friendly practices into organisational commitments and spreading them throughout all levels of management, improved oversight by top management can improve environmental performance. The demand for green practices can also be strengthened by raising customer awareness as a key driver of change. Lastly, by releasing explicit guidelines and policy frameworks that motivate banks to pursue green initiatives, regulatory bodies can utilise competitive dynamics and promote a sustainable culture across the industry.

9. CONCLUSION

Pakistan is facing unprecedented levels of climate change (Fatima 2022). Green banking adoption is crucial for Pakistan's future generations' sustainable development and environmental preservation. By incorporating eco-friendly banking solutions into its operations, the banking sector can help address environmental issues. The variables identified in this study provide a foundation for enabling Pakistan's banking sector to advance this agenda. By focusing on these determinants, banks can implement green banking practices by concentrating on determinants, which will not only enhance their own sustainability profile but also spur a more extensive green transformation in other economic sectors.

Allocation of funds is a crucial precondition for an economy's green transformation, and regulatory agencies can be extremely helpful in promoting the adoption of green banking. Because they have the power to mold and control the dynamics of the banking sector, central banks in particular have a great deal of sway. Research indicates that in order to promote GBA, the majority of developing nations have turned to mandatory or regulatory measures, indicative of how highly regulated the banking industry is. Developing nations, like Pakistan, must set up comprehensive green banking policies and processes that guarantee constant oversight and implementation of sustainable practices if they are to make progress on the climate change and sustainability agendas.

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