The influence of awareness, social influence, and environmental factors on green banking services adoption among university students in Tanzania

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ABSTRACT

The banking sector has increasingly integrated environmental sustainability into its operations through green banking. Green banking aims to reduce the carbon footprint of banking activities, promote sustainable development, and encourage customers to adopt environmentally friendly financial practices. Despite its benefits, individuals' adoption of green banking remains varied. Thus, this study aimed to assess the direct impact of awareness, social influence, and environmental factors on the adoption of green banking among university students in Tanzania, using the Theory of Planned Behavior and the Unified Theory of Acceptance and Use of Technology as the guiding theoretical frameworks. The targeted population of the study was university students in the Morogoro Region. A cross-sectional design was applied in collecting data through structured questionnaires from 287 students across four higher education institutions in the Morogoro Region. Data were analyzed using Partial Least Squares Structural Equation Modelling. The structural model demonstrated strong explanatory ($R^2 = 0.597$ for Perception; $R^2 = 0.411$ for Green Banking Services Adoption) and predictive power ($Q^2 = 0.584$ for Perception; $Q^2 = 0.372$ for GBSA), with satisfactory model fit (SRMR = 0.069). The findings show that while awareness significantly influenced perceived effectiveness ($\beta = 0.047$, $t = 6.555$, $p < 0.05$), it did not directly predict adoption. Instead, environmental attitudes ($\beta = 0.080$, $t = 1.965$, $p < 0.05$) and perceived effectiveness ($\beta = 0.068$, $t = 3.102$, $p < 0.05$) emerged as strong predictors of adoption behavior. Social influence, though unrelated to perceived effectiveness, had a direct and significant impact on adoption ($\beta = 0.064$, $t = 5.210$, $p < 0.05$), emphasizing the role of normative pressures in shaping behavioral intentions. The study concludes that awareness alone is insufficient; adoption is more effectively driven by environmental values, belief in the benefits of sustainable banking, and social influence. The study recommends that awareness initiatives strengthen environmental attitudes and highlight practical benefits, while universities and financial institutions leverage these efforts, peer influence, and student networks to normalize sustainable banking adoption. These results can be extended to any developing country.

Keywords: Awareness, Environmental Factors, Green Banking Adoption, Social Influence, Tanzania, University Students

I. INTRODUCTION

The adoption of green banking practices has become increasingly popular worldwide due to its focus on environmentally sustainable and ethical banking. As a result, bankers are introducing various green products and services such as online banking and mobile banking (Chandran et al., 2024). For instance, according to Abdinoor and Mbamba (2017), many individuals opt for mobile banking as a means of making their daily transactions, though it (mobile banking) has been adopted at a slower rate in the developing countries than has been the case in developed countries. Accordingly, in Tanzania, the level of adoption of mobile financial services is still low despite various initiatives, which are taken by the public and private sectors (United Republic of Tanzania [URT], 2024), towards attaining that goal. This paradox raises important questions about the behavioural and technological factors influencing adoption (Kanchanapibul et al., 2014; Aboelmaged & Gebba, 2013).

Despite growing global interest in green finance, there remains a significant research gap, particularly in developing economies, including Tanzania, where most of the existing studies (i.e., Bouteraa et al., 2023; Mmari, 2023; Siyal et al., 2021)have concentrated on indirect determinants of consumer behaviour . Thus, limited empirical attention has been given to the direct influence of individual-level factors, such as awareness, social influence, environmental conditions, and perception, on the adoption of green banking among university students (Anjalidevi et al., 2024; Bailey, 2005). This demographic, often seen as both environmentally conscious and digitally adept, presents a unique opportunity for understanding the behavioural and technological drivers of green finance adoption (Kumari & Kumar, 2024; Bouteraa et al., 2023). Therefore, to address this gap, the present study integrates insights from both

the Theory of Planned Behaviour (TPB) and the Unified Theory of Acceptance and Use of Technology (UTAUT) to examine psychological and contextual factors that shape students' intention to adopt green banking.

Moreover, within the TPB framework, awareness is a key antecedent of attitude, as students who understand ethical and environmental benefits of green finance are more likely to develop favourable evaluations toward its adoption (Kanchanapibul et al., 2014). While Social influence, as conceptualized in both TPB (subjective norms) and UTAUT, reflects the pressure or encouragement from peers or institutions that guide behavioural conformity (Ajzen, 2020).

Therefore, while the adoption of green banking has gained attention in recent years, there are several research gaps that need to be addressed to understand the factors influencing its adoption. Although the Unified Theory of Acceptance and Use of Technology (UTAUT) model has been extensively used to study the adoption of various technologies, its application in green banking is still limited. Most of the existing studies focus on general technology adoption without considering unique aspects of green banking. Previous research on technology adoption has often overlooked the role of environmental factors. Most of the studies on green banking adoption are conducted in specific geographic regions, primarily in developed countries. There is a lack of research in developing countries and across different cultural contexts. Understanding regional and cultural variations can provide a more global perspective on adopting green banking.

Therefore, integrating environmental concern and trust in green initiatives into the UTAUT model provides a comprehensive understanding of green banking adoption. By integrating TPB and UTAUT, this study, therefore, aims to assess behavioural and technological determinants (awareness, social influence, and environmental factors) that are directly influencing perception of green banking adoption among university students in Tanzania.

1.1 Study Hypotheses

This study proposed the following study hypotheses:

H_{01}: Awareness has a significant positive effect on students' attitudes toward green banking.

H_{02}: Social influence significantly affects students' subjective norms regarding green banking adoption.

H_{03}: Environmental factors significantly affect students' perceived behavioural control toward green banking.

II. LITERATURE REVIEW

2.1 Theoretical Review

Green banking, also known as environmentally friendly banking, promotes sustainable growth for both financial institutions and the country as a whole. By adopting green banking practices, the banks can provide high-quality banking services while also promoting environmental sustainability. The adoption of green banking should be based on the concept of human ecology, which recognizes the interconnectedness and interdependence of variables that contribute to environmental sustainability. Factors that influence green banking practices should prioritize the conservation of the natural environment. It is important to ensure that the adoption of green banking is beneficial to stakeholders and implemented step-by-step in parallel with the banks (Ahuja, 2015).

Green practices in banking include green communication, marketing, and investments, as well as the use of mobile banking, internet banking, paperless banking, branchless banking, green ATMs, green marketing, and green buildings that utilize renewable energy sources. These strategies can help reduce the bank's in-house environmental impact and improve its environmental performance, thereby mitigating environmental damage and pollution. The adoption of green banking practices is influenced by customers, communities, and bank management (Chang & Fong, 2010; Chowdhury et al., 2013).

2.1.1 The Unified Theory of Acceptance and Use of Technology (UTAUT)

Several theories have guided research studies on green banking adoption. One of these theories is the Unified Theory of Acceptance and Use of Technology (UTAUT) theory, which views key factors that influence individual intention and behaviour in adopting new technology (Venkatesh et al., 2003). The theory provides a very effective model for understanding how technology is accepted, both by individuals and organizations, thus becoming a widely used theoretical framework (Williams et al., 2015). When encountering new technology, various factors influence their decision on how and when to use it. Davis (1989) identifies factors such as age, gender, experience, and voluntariness as paramount in influencing decisions on the adoption among individuals. In this study, factors such as ownership of mobile phone, bank account and internet access can be implied to impact users' perceptions of the convenience and usefulness of mobile money services.

In this study, the UTAUT framework is expanded by adding additional variables such as awareness, social influence, perception, and environmental factors. In the context of this study, awareness can be linked to performance

and effort expectancy. Students are more likely to adopt green banking services if they perceive them as useful (performance expectancy) and easy to use (effort expectancy). Greater awareness enhances understanding of these benefits, thereby positively influencing their intention to adopt.

Social influence, a direct component of UTAUT, is especially significant in university environments where peer behaviour and opinions often shape individual choices (Williams et al., 2015). If students observe that their peers, lecturers, or public figures endorse green banking, they may be more inclined to adopt it themselves. This reflects how perceived social pressure or encouragement can increase acceptance of new technologies, including sustainable financial practices such as green banking.

Environmental factors in this study align with UTAUT's concept of facilitating conditions, which refers to the degree to which individuals believe that organizational and technical infrastructure exists to support the use of a system (Williams et al., 2015). Supportive environmental factors such as institutional policies, accessibility of green banking platforms, and environmental campaigns can significantly enhance adoption. Thus, UTAUT helps to frame how internal beliefs and external conditions jointly influence students' behavioural intentions and the actual use of green banking services.

Thus, the UTAUT framework effectively supports this study by explaining how awareness, social influence, and environmental factors shape students' adoption of green banking through perceived usefulness and enabling conditions. By extending UTAUT with context-specific variables, this study offers deeper insight into the behavioural drivers of sustainable technology adoption among university students in Tanzania.

2.1.2 The Theory of Planned Behaviour (TPB)

Green banking, which integrates environmental, social, and governance (ESG) principles into financial services, offers an ethical approach to aligning financial decisions with green goals. While globally gaining traction, its adoption among Tanzanian youth remains limited due to low awareness, minimal social pressure, and structural barriers. This study applies Ajzen's Theory of Planned Behaviour (1991) to examine how awareness, social influence, and environmental conditions shape students' attitudes, subjective norms, and perceived behavioural control, which in turn influence their intention and the adoption of green banking services.

According to the theory, for instance, awareness directly informs attitudes; students who are knowledgeable about green finance are more likely to develop positive attitudes toward its adoption (Kanchanapibul et al., 2014). However, a lack of exposure to green-focused financial education in Tanzania leads to weak engagement with green banking (Mmari, 2023). Social influence, aligned with subjective norms, reflects the pressure or encouragement from peers, family, or institutions. When green behaviour is modelled by trusted figures, students are more inclined to adopt it (Ahmad et al., 2024). Tanzanian students, in particular, are influenced by peer norms due to the collectivist nature of their social environment.

Environmental conditions, such as access to digital banking infrastructure, regulatory support, and financial inclusion policies, affect perceived behavioural control, how capable students feel about adopting green banking. Limited infrastructure and service availability reduce this sense of control (Bukhari et al., 2019; Kumari & Kumar, 2024). Although prior models emphasized perception as a separate mediator, TPB integrates perception within attitude and control components. Negative perceptions regarding trust, convenience, or value can weaken behavioural intention, even when awareness and social support exist (Bang et al., 2023). Overall, the TPB framework provides actionable insight for institutions to design strategies that target the psychological and contextual barriers limiting green banking adoption among Tanzanian students.

2.2 Empirical Review

Empirical studies consistently demonstrate the influence of awareness, social factors, and environmental conditions on the adoption of green banking services among university students in Tanzania. In the service sector, awareness plays a particularly significant role in encouraging the adoption of green banking, especially among university students, who are often early adopters of sustainable innovations. Research has shown that when students are informed about the environmental impact of traditional banking compared to green alternatives, they are more likely to opt for eco-friendly banking options (Anjalidevi et al., 2024; Chandran et al., 2024). Bailey (2005) reported that students with greater exposure to environmental campaigns and information about green products—especially via social media were more inclined to utilise digital banking tools such as paperless statements and electronic transfers. Similarly, Bailey (2005) found that awareness raised through university-led sustainability initiatives significantly enhanced students' attitudes towards green banking. Thus, increased awareness on green banking services for both formal and informal remains a key driver of adoption.

Social influence also plays a crucial role in shaping students' behaviours regarding green banking. According to Hasan et al. (2022), peer norms and family influence significantly affect banking choices, particularly in cultures

where collective decision-making is prevalent. As observed by Adhikari et al. (2025), university students often emulate environmentally responsible behaviours when such practices are normalized within their peer groups or promoted by campus influencers. Furthermore, Abuatwan (2023) found that social media trends advocating sustainable finance among youth contributed to broader adoption within university environments. These findings indicate that students are influenced not only by information but also by the behaviours and attitudes of those around them, making social influence a critical factor in both behavioural intention and usage.

Environmental factors including institutional support, infrastructure, and policy frameworks, also significantly influence the adoption of green banking services. Bamberg and Moser (2007) found that students at universities with active environmental policies and collaborations with eco-conscious banks reported higher rates of green banking usage. Similarly, Chandran and Sathiyabama (2022) noted that reliable digital infrastructure, such as consistent internet access and mobile banking platforms, facilitated adoption among university students. In a related study, Hartmann and Apaolaza (2012) discovered that institutional incentives such as discounts or rewards for using green services increased student motivation to adopt them. However, barriers such as inadequate ICT infrastructure and a lack of institutional commitment to sustainability remain significant, particularly within public universities.

III. METHODOLOGY

3.1. Research Design and Context

Area of the study refers to a specific geographic location, context, or scope within which the research is conducted (Saunders et al., 2023). This study was carried out in Tanzania, especially in Morogoro Region, which is a major academic hub hosting several higher learning institutions. Its diverse and tech-aware student population provides an ideal context for examining the adoption of green banking services.

A cross-sectional research design was employed to capture data at a single point in time, allowing for the examination of the relationships among key constructs: Awareness**,** perception**,** environmental factors**,** social influence, and the adoption of green banking services (Kothari, 2004). This design was chosen primarily for its ability to elicit enormous amounts of data from samples located in dispersed places. Furthermore, the study involves gathering data simultaneously to analyse the relationships between variables (Saunders et al., 2023).

3.2. Sampling

The target population included students from Mzumbe University**,** Sokoine University of Agriculture (SUA)**,** Jordan University College**,** and the Muslim University of Morogoro, reflecting a broad representation of young, educated individuals likely to engage with green-oriented financial services. Students' sample was used based on two main reasons: First, according to Kumar (2012), students are future consumers whose habits can influence long-term consumption patterns. Second, their education level provides students with a basic understanding of sustainability, making them better equipped to respond to questions related to the use of green technology.

Therefore, a sample size of 287 students was selected for this study using guidelines for Partial Least Squares Structural Equation Modelling (PLS-SEM)**.** Considering 25 observable items of the model**,** this sample size falls within the recommended 250–300 range for reliable estimation (Hair et al., 2017), thus, satisfies the "10-times rule" (Barclay et al., 1995), and meets the threshold for 0.80 statistical power at a 0.05 significance level (Cohen, 1992).

The convenience sampling technique was used to ensure representation across different demographics such as age, gender, and education level; and due to logistical constraints, which, despite limiting generalizability, is suitable for exploratory research (Creswell, 2009). Respondents were chosen based on their accessibility and willingness to participate, ensuring efficient data collection within the constraints of time and resources (Makorere, 2025).

3.3 Data Collection and Analysis

Data for this study were collected using structured, self-administered questionnaires targeting students from selected higher learning institutions in Morogoro Region. To ensure effective coordination, the researcher appointed a focal person who is an academic staff from each of the four selected universities. These were responsible for organizing, distributing, and collecting completed questionnaires within their respective campuses. This collaborative approach facilitated a smooth and timely data collection process, enabling the researcher to gather responses from all four institutions efficiently. It also helped to ensure wider participation, minimized logistical challenges, and maintained consistency in the administration of the research instrument.

The collected data were analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM) through SmartPLS version 4.0. This analytical method was chosen for its suitability in handling complex models with multiple latent constructs and its robustness in exploratory research (Hair et al., 2022; Bentler & Bonett, 1980). Additionally, descriptive statistics were also performed to analyse the profile of the respondents.

3.4 Ethical approval

The ethical approval for this study was obtained from the Directorate of Research and Postgraduate Studies at Mzumbe University.

IV. FINDINGS & DISCUSSION

4.1 Descriptive Statistics

The descriptive statistics (Table 1) provided insight into the influence of awareness, social influence, and environmental factors on the adoption of green banking services among university students in Tanzania.

Table 1

Descriptive Statistics (n=287)

Variable	Mean	Std. Dev.	Min	Max
Age	24.6655	3.69364	19	56
Gender	1.4390	.49713	1	2
Education Level	1.0592	.23647	1	2
Occupation Status	1.2404	.73478	1	5
Bank Account Ownership	1.1010	.30192	1	2
Awareness	1.5192	.57221	1	3

Results in Table 1 show that, the mean age of respondents is 24.67 with a standard deviation of 3.69, which signifies that large group of the sample constitute the youth reflecting typical university student demographic. The relatively small standard deviation suggests that most participants fall within a narrow age range, which supports targeting this age group for green banking initiatives, as they are more likely to adopt new technologies when socially influenced. The gender mean of 1.439, implies a fairly balanced distribution between male and female respondents, with a slight female majority. Additionally, this balance allows for gender-sensitive analysis of social influences on green banking adoption, as both male and female perspectives are well represented. The education level mean is 1.059, indicating that the majority of the respondents are at or near the same educational level, undergraduate students. The low variation reflects a relatively homogenous academic population, which is ideal for studying peer and institutional influences on sustainable financial behaviour. The occupation status mean is 1.240, thus, suggesting that most of the respondents are unemployed or students, with limited income, making them contingent on digital and low-cost banking solutions. Bank account ownership mean is 1.101, which is slightly on the lower side. The implication is that many students do not have a bank account. This highlights a potential barrier to green banking adoption, as having a bank account is a basic requirement for such services. Finally, the awareness mean is 1.519, reflecting moderate levels of awareness regarding financial or green banking services, thus, suggesting that targeted awareness campaigns could significantly influence adoption levels.

4.1.1 Measurement Model

The assessment of the reliability and validity of our measurement model for quality guarantee was first conducted. In particular, the reliability the of indicators was observed, whereby the outer loadings surpassed the minimum threshold of 0.708 (see Table 2). Complying with the required minimum threshold of above 0.708 revealed that in composite reliability (Rho a) values and Cronbach's alpha results (Hair et al., 2019) (see Table 3) confirms the internal consistency of our model. The Average Variance Extracted (AVE) was observed to assess convergent validity (Hair et al., 2019). The AVE results ranged from 0.588 to 0.660, hence meeting the accepted threshold of above 0.500 (see Table 2).

Table 2

Validity and Reliability

Construct Items	Loadings
Awareness (AW): (Cronbach Alpha= 0.777 , CR (rho-a)= 0.777 , and AVE= 0.600)	
I know about eco-friendly banking products.	0.751
I know about digital banking options that help the environment.	0.792
I know how banks are trying to be more sustainable.	0.805
I know that some banks offer eco-friendly investment options.	0.748
Social Influence (SI): (Cronbach Alpha= 0.651 , CR (rho-a)= 0.652 , and AVE= 0.588)	
My family encourages me to live sustainably.	0.760
I follow what society does when it comes to sustainability.	0.794
The sustainability culture at my university influences how I act environmentally.	0.746
Perception (PE): (Cronbach Alpha= 0.790 , CR (rho-a)= 0.793 , and AVE= 0.615)	
I think sustainable banking helps the environment.	0.744
I believe banks should be responsible and support the environment.	0.842
I trust banks that make efforts to be more sustainable.	0.802
I believe banks that focus on sustainability are more ethical.	0.746
Environmental (EF): (Cronbach Alpha= 0.871 , CR (rho-a)=0.874 , and AVE= 0.660)	
I care about the environment.	0.831
I feel responsible for helping protect the environment.	0.848
I support green values and environmental causes.	0.768
I try to be sustainable in my daily life.	0.810
I believe my actions can make a positive difference for the environment.	0.803
Green Banking Services Adoption (GBSA): (Cronbach Alpha=0.771 , CR (rho-a)=0.775 , and AVE= 0.593)	
I prefer using paperless banking options to help the environment.	0.739
I choose to bank with companies that focus on sustainability.	0.811
I would consider changing banks if a different bank is more sustainable.	0.797
I make banking decisions based on how eco-friendly the bank is.	0.729

Further, this study assessed the Heterotrait-Monotrait ratio (HTMT) to ascertain discriminant validity (Hair et al., 2019). HTMT values were found to range from 0.514 to 0.859 complying with the maximum acceptable value of HTMT 0.900. Hence, verifying constructs' distinctiveness from one other (see Table 3). This study did not consider observing the Fornell-Larcker criterion for evaluating discriminant validity due to the effectiveness of HTMT compared to the Fornell-Larcker criterion especially when evaluating complex models (Hair et al., 2022).

Table 3

HTMT Values

	AW	EA	PE	GBSA	SI
AW					
EA	0.525				
PE	0.723	0.859			
GBSA	0.540	0.607	0.667		
SI	0.514	0.591	0.574	0.733	

4.1.2 Structural Model Results

Model explanation power **(**R^2**)** indicated that the studied model explains a substantial variance in key constructs, with Perception (R^2 = 0.597) and Green Banking Services Adoption (GBSA) (R^2 = 0.411)**,** suggesting a strong explanatory power for both mediating and outcome variables (see Table 5). The model's predictive relevance (Q^2) was also confirmed, with values of 0.584 for Perception and 0.372 for GBSA, where all values were above 0 (see Table 4), which supports the model's capability to predict endogenous constructs effectively. Further, a standardized root mean square residual (GRMR) value was obtained. The SRMR value was 0.069 lower than the threshold value of 0.080. This indicates that the difference between the observed and predicted association patterns is insignificant; thus, the model satisfactorily represents the data (see Table 4). Together, these indicators suggest that the structural model not only has substantial explanatory power (Bagozzi & Yi, 1988) but also possesses strong predictive accuracy and acceptable overall model fit. This supports the robustness of the theoretical framework based on the Theory of Planned Behaviour in explaining green banking adoption among university students in Tanzania.

Table 4

Hypotheses Testing for Direct Effect Relationships Using the Bootstrap Method

The Relationship between Constructs (Hypothesis)	Coefficient	t-Statistics	P values	Decision
H1: AW -> PE	0.047	6.555	0.000	Supported
H2: AW -> GBSA	0.060	1.853	0.064	Rejected
H3: EA -> PE	0.046	12.162	0.000	Supported
H4: EA -> GBSA	0.080	1.965	0.049	Supported
H5: PE -> GBSA	0.068	3.102	0.002	Supported
H6: SI -> PE	0.047	1.050	0.294	Rejected
H7: SI -> GBSA	0.064	5.210	0.000	Supported

Relationships are significant at $p < .05$, β: Beta Coefficient; Q^2: PE (0.584); GBSA (0.372), R^2: PE (0.597); GBSA (0.411). Model fit: SRMR = 0.069.

The study tested hypotheses using 10,000 subsamples with a 0.05 significance level. Table 4 details the direct relationships influencing green banking adoption among Tanzanian higher learning students. In this context, awareness positively and significantly influenced perceived effectiveness ($\beta = 0.047$, $t = 6.555$, $p < .05$), supporting H1. However, awareness did not significantly affect adoption directly ($\beta = 0.060$, $t = 1.853$, $p = .064$), rejecting H2. Environmental attitude positively influenced perceived effectiveness ($\beta = 0.046$, $t = 12.162$, $p < .05$), supporting H3. It also directly influenced adoption ($\beta = 0.080$, $t = 1.965$, $p < .05$), supporting H4. Perceived effectiveness positively impacted adoption ($\beta = 0.068$, $t = 3.102$, $p < .05$), supporting H5. Social influence did not significantly affect perceived effectiveness ($\beta = 0.047$, $t = 1.050$, $p = .294$), rejecting H6. However, it directly influenced adoption ($\beta = 0.064$, $t = 5.210$, $p < .05$), supporting H7.

4.2 Discussion

The findings offer valuable insights into the behavioural drivers behind the adoption of green banking services among higher education students in Tanzania, with implications grounded in both the Theory of Planned Behaviour (TPB) and the Unified Theory of Acceptance and Use of Technology (UTAUT). Consistent with the TPB, awareness positively and significantly influenced perceived effectiveness. This finding implies that exposure to green banking information stimulates internal cognitive evaluations. However, awareness did not directly affect adoption behaviour. This finding aligns with TPB's proposition that behavioural intention is shaped not solely by knowledge but by attitudes, subjective norms, and perceived behavioural control (Ajzen, 1991; Yadav & Pathak, 2017), and corresponds with UTAUT's view that performance expectancy must be accompanied by effort expectancy, social influence, and facilitating conditions to drive actual use. Without translating awareness into positive attitudes or control perceptions, behaviour remains unchanged. The existing studies show that information alone is insufficient to change behaviour unless coupled with positive beliefs and motivational factors (Anjalidevi et al., 2024; Bukhari et al., 2019; Bailey, 2005; Bandura, 1991; Bandura et al., 1977)

Environmental attitude emerged as a robust predictor of both perceived effectiveness and adoption behaviour. This finding supports TPB's emphasis on attitude toward the behaviour as a critical determinant of intention (Ajzen, 2020). Students with strong environmental concerns view green banking as effective and are more inclined to adopt it. These findings support findings in a study by Kumari and Kumar, (2024), that individuals with higher levels of environmental concern are more inclined to adopt green banking. This highlights the importance of environmental awareness and the role of personal values in driving sustainable behaviour: Individuals with higher environmental concerns are more inclined to adopt green banking. This mirrors findings by Bang et al., (2023), who showed that environmental attitudes are central to eco-conscious financial choices. Perceived effectiveness, acting as a cognitive mediator, significantly influenced adoption. This reinforces TPB's construct of perceived behavioural control, where individuals are more likely to act when they believe the behaviour yields beneficial outcomes. This also aligns with research suggesting that perceived value and efficacy mediate the awareness-behaviour link in green contexts (Bhardwaj & Malhotra, 2013; Bihari & Pandey, 2015)

Interestingly, social influence had no significant effect on perceived effectiveness but directly influenced adoption. This finding is in contrast with findings in a study by Kumari and Kumar (2024), which found that social norms and the influence of peers, family, and societal expectations have a significant impact on the decision to adopt green banking. The growing societal emphasis on environmental responsibility further motivates individuals to engage in green banking practices. Social norms and peer influence have a significant impact on adoption decisions. This climaxes the TPB construct of subjective norms, where behaviour is shaped by perceived social pressure rather than belief in outcome effectiveness (Bamberg & Moser, 2007). Similarly, UTAUT emphasizes social influence as a direct determinant of behavioural intention, regardless of individual performance beliefs. The result suggests that, students

may adopt green banking to align with peers or social expectations, even if not fully convinced of its benefits. The findings validate TPB's three core determinants (attitude, subjective norms, and perceived behavioural control) in predicting green banking adoption. While awareness primes cognitive evaluation, actual adoption depends more heavily on attitudes, perceived effectiveness, and social pressures.

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusions

The adoption of green banking is influenced by a multifaceted interplay of factors, including awareness and knowledge, social influence, environmental concern, and perceived financial benefits. By addressing these factors, the banks can effectively promote green banking and contribute to environmental sustainability. The study findings offer valuable insights for both researchers and practitioners, thus, helping to shape future strategies for a widespread adoption of green banking practices. Social norms and the influence of peers, family, and societal expectations have a significant impact on the decision to adopt green banking. The growing societal emphasis on environmental responsibility further motivates individuals to engage in green banking practices. Social norms and peer influence also have a significant impact on the adoption decisions. These findings highlight the importance of environmental awareness and the role of personal values in driving sustainable behaviour: Individuals with higher levels of environmental concern are more inclined to adopt green banking. Also, the findings highlight that while awareness is crucial for shaping perceptions, it is insufficient on its own to influence behaviour. These results validate the integrated use of the Theory of Planned Behaviour (TPB) and the Unified Theory of Acceptance and Use of Technology (UTAUT) as complementary lenses for understanding green-related decision-making. Practically, this suggests that interventions in promoting green banking should not only raise awareness but also enhance perceived effectiveness and leverage peer influence to drive behavioural change. Future research could explore longitudinal models and incorporate other contextual variables to further refine these behavioural insights.

5.2 Recommendations

Based on the finding that awareness does not directly influence adoption, this study recommends that awareness campaigns move beyond basic information dissemination and instead focus on fostering strong environmental values. Integrating sustainability themes into academic curricula, workshops, and campus activities can help instil long-term pro-environmental attitudes that support adoption behaviour. Furthermore, since social influence directly affects adoption behaviour, the study recommends leveraging peer networks, student leaders, and social marketing to position green banking as a socially normative practice. Utilizing student ambassadors and real-life testimonials can foster peer approval and motivate behaviour change. If implemented effectively by financial institutions, universities, and policy-makers, these strategies can significantly enhance the adoption of green banking among students in Tanzanian higher education institutions.

Disclosure statement

No potential conflict of interest.

Declaration of AI Usage

The author acknowledged that the AI tool for academic (Trinka) was used only for grammar checking, and not for generating research findings. The author would like to take full responsibility for the content, analysis, and conclusions presented in this paper.

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