

Fear of COVID-19 and green bank service purchase intention: the mediating effect of customer empowerment and customers' perceived value of digital service transactions

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Abstract

Purpose – The paper intends to show the role of fear of COVID-19 and the relevance of customer empowerment (CU_EMP) and customers' perceived value of digital service transactions (CU_PV_DST) in promoting green bank service purchase intention (GBS_PI), despite the antagonistic impacts brought in other sectors and the relevance of customer empowerment (CU_EMP) and customers' perceived value of digital service transactions (CU_PV_DST) as important mediating variables of the relation.

Design/methodology/approach – The structured questionnaire helped collect survey data from 323 small business people. The model relationship was assessed through EFA, CFA by SPSS-AMOS and SEM using bootstrapping procedures in Smart-PLS.

Findings – The findings of this study show that there is a significant effect of fear of COVID-19 pandemic (F_COVID-19P) on CU_EMP and GBS_PI. CU_EMP influences GBS_PI, whereas F_COVID-19P influences GBS_PI indirectly via CU_EMP. Furthermore, there is a substantial effect of F_COVID-19P on CU_PV_DST and GBS_PI. Thus, F_COVID-19P significantly influences GBS_PI indirectly via CU_PV_DST.

Practical implications – Capitalizing on the COVID-19 wave by empowering customers technologically, improving the legal framework and increasing the perceived value of green service by using an innovative mechanism. In addition, fostering cultural change and emphasizing altruistic values through green advertisements have been explored in this study.

Social implications – Green services are healthier for smart/green economy and are health-protective for coping with health risks.

Originality/value – This study helps in understanding the theories used in this context by linking them to F_COVID-19P with CU_EMP, CU_PV_DST and GBS_PI and contributes to the literature of both. Furthermore, this is the only study that has used SEM to study this kind of interrelation.

Keywords Customer empowerment, Perceived value, Digital service transactions, Green bank services, Purchasing intention, Fear of COVID-19

Paper type Research paper



The motivation for the current study

The need to have socially accountable customers is growing, and customers can manage this by being empowered technologically and through the legal framework to purchase services and products that have minimal upshot in the environment (Ahmad & Zhang, 2020). Technological changes in the banking industry, particularly in FinTech, and environmental concerns have made digital transactions an inevitable move toward green bank services (Alt, Beck, & Smits, 2018). In the age of the customers, innovative ways of serving customers must be in place, and customers still need to be reminded to make eco-friendly purchasing decisions (Chaudhary & Bisai, 2018; Mir & Bhat, 2022). Ahmad and Zhang (2020) emphasize the need to promote green purchasing behavior because customers are not well acquainted with digital service transactions through mobile and Internet banking services. Diener and Špaček (2021) say traditional service providers in financial service have not embraced the concept of digitalization which in turn co-disrupt the true meaning and value of green bank services (Echeverri & Skålén, 2021).

The hit of the COVID-19 created severe disruption to most economic activities all over the world. Still, on the other side, it allowed for the growth of digital services, particularly in digital transactions. It altered customers' behavior from traditional means of transactions to unusual digital transactions. It forced banks to change their normal traditional operations into digital operations to accommodate behavior change as customers had to be in isolation and could not visit service centers physically (Laato, Islam, Farooq, & Dhir, 2020; Punatar & Yaworsky, 2021). It is at this point, people started to recognize the value of digital service transactions. Perceived value is the benefit the customer expects to derive compared to the cost of an offer (Feng, Chen, & Lai, 2020). Perceived value is idiosyncratic, evolves and varies between cultures and consumers (Putra, Setiawan, Hussein, & Yuniarinto, 2022). Banks can only enhance purchasing intention by increasing customers' perceived product or service value in terms of functionality, emotional and social value (Ahmad & Zhang, 2020) as derived from the user experience (Peng, Zhang, Wang, & Liang, 2019).

The problem of not using green bank services, particularly in Tanzania, is the low level of the perceived value of digital service transactions, low customer empowerment (CU_EMP), and lack of sensitivity to eco-friendly bank products and services because such behavior does not yield immediate personal benefits. According to Chaudhary and Bisai (2018), Indian customers engage in green purchase behavior due to health and environmental benefits. Contrary to Tanzania, customers have received green bank services as a current trending fashion because they have not been made aware of why they should embrace such a practice. Moreover, the emphasis on the use of digital services has not been well addressed.

CU_EMP and perceived value derived from digital service transactions to enhance green purchasing intention are not well addressed. Customers need to be given power in terms of knowledge and technical know-how to control some of the organization's activities, like the information on products and services (Ürgüplü & Hüseyinoğlu, 2021). CU_EMP is an evolution of customer engagement made possible by developing apps and better digital devices to assist them in conducting digital transactions (Yuksel, Milne, & Labrecque, 2019) accompanied by a good legal framework for protecting customers (Kato, 2019). As Berraies, Yahia, and Hannachi (2017) say that banks must leverage innovative technologies to help customers accomplish their needs and want. Thus, CU_EMP is said to be a collaborative process to enhance control of financial business between the service provider and customers (Ürgüplü & Hüseyinoğlu, 2021).

Substantial problems exist as commercial banks demand that customers use papers to fill up their particulars for issues like loan applications, deposit and withdrawal services and so on. On the other side, commercial banks' internal processing has not been that well equipped to empower customers for green services like green deposits. Furthermore, issues related to the upkeep of the green environment have been heavily directed to banks only and it has been the only focus of many studies and ignoring the role of customers and the perceived value of digital service

transactions in enhancing green bank services. On the other side, customers tend to consider only direct costs and forget the indirect cost incurred by moving to and from a bank branch and time wastage due to queuing. Also, the effort to align customers' mindset with green services in Tanzania is not promising, and commercial banks have not capitalized well on green bank services as a mega strategic movement for survival. Apart from that the issue of how COVID-19 is linked to CU_EMP and the customers' perceived value of digital service transactions (CU_PV_DST) to influence green bank service purchase intention (GBS_PI) has not been addressed in the Tanzanian context and other parts of the world as well (Sharma & Choubey, 2022).

Commercial banks have tried to promote online bank services; however, the sound of online banking service promotion is not considered an eco-friendly initiative due to some customers' lack of understanding. Research has shown that most customers have no prior understanding of green bank services and the intentions served by green bank services (Sharma & Choubey, 2022). One study in Spain propounded that demographic features are the main determinants of GBS_PI (Parra Sánchez, 2017). Others found that customer engagement with green purchases is associated with the firm service quality and psychological factors and also attitude (Nguyen *et al.*, 2019; Ahmad & Zhang, 2020). However, Burhanudin, Ronny, and Sihotang (2020) said that some of the studies have failed to show why positive consumer attitudes did not result in green purchasing intention.

Investment in research on green bank services in Tanzania is still in its infant stage though banks are straggling to acquire innovative technologies to foster the use of green bank services. Some researchers have advocated that most developing countries have not given attention to the investment of green banking services, while in developed countries like France, Japan, Sweden, the United Kingdom, Australia, Belgium and Dubai research in this area has attracted great attention due to its implication to consumer behavior and mother earth (Miah, Rahman, & Mamoon, 2021; Sharma & Choubey, 2022). Thus, the motive behind this study is to provide highlight to commercial banks the current ways of sustaining green behavior and to examine if fear of tragedies/traumas like COVID-19 might sustain or determine green service behavior that is linked to sustainable development goals for conserving nature and empowering people technologically by 2030 (UN SDGs, 2015).

This study plans to answer explicitly five research questions.

RQ1. Does fear of COVID-19 significantly influence GBS_PI?

RQ2. Does fear of COVID-19 influence CU_EMP?

RQ3. Does fear of COVID-19 have a significant influence on CU_PV_DST?

RQ4. Does CU_EMP have any significant association with GBS_PI?

RQ5. Does CU_PV_DST significantly influence GBS_PI?

Expectations of the study

Based on the theories used, this study not only intends to expand understanding of the fear of COVID-19, CU_PV_DST and the CU_EMP as indispensable predictors of GBS_PI, but also to help customers understand the consequences of their purchasing behavior in the ecosystem, and that environmental problems are the consequences of their deeds (Wang, Ma, & Bai, 2019). To see banks leveraging digital service experience through CU_EMP and generating more CU_PV_DST (Ahmad & Zhang, 2020). Last but not least is to see that banks promote digital/online bank services with the pronunciation of environmental concern apart from the immediate personal benefit the customer can derive from the service.

Literature review and philosophies supporting the study

Fear of COVID-19 pandemic in relation to CU_PV_DST and GBS_PI

Throughout the time of COVID-19, customers were nervous and developed feelings of fear due to health risks and the uncertainty of doing safe financial transactions. To survive the tremors of the pandemic, people had to develop an emotional attachment to green bank services. So, what banks can do to increase purchasing intention of green services is to sustain the emotional tendency of customers (Pollack, 2021; Hang, Aroean, & Chen, 2020). Customers, specifically in Tanzania, regard digital service transactions as luxurious services mainly used by educated, high- and middle-income earners and involve double cost. To some Tanzanians, specifically the low-income earners, green services were not of necessity as they were used to the traditional way of transacting due to price sensitivity but were also not empowered. The hit of COVID-19 sped up customers' engagement with green bank services in some places as they could not access traditional services (Baicu, Gârdan, Gârdan, & Epuran, 2020). Astonishingly, despite the health risks caused by COVID-19 the experience was quite different as some customers still demanded traditional bank services. Of course, Tanzanians are so obsessed with the human interaction kind of service contrary to Indians, who favor digital bank services compared to traditional ways (Thatte & Kulkarni, 2019).

When there are terrifying situations, people always tend to develop fear due to survival uncertainties and other risks associated with the situation. The COVID-19 situation was terrible as many people lost their lives. Due to this, people had to find an alternative way to survive as the interaction rate was minimal and the ability to make a financial transaction to facilitate basic needs was limited as people were not used to green bank services. Shopping behaviors and the normal purchasing decision-making process were highly affected by fear (Eger, Komárková, Egerová, & Míčík, 2021). Fear has two important sides, one being fear control and the other is danger control. According to Eger *et al.* (2021), fear control appeal is based on emotional responses to the risk, while danger control is all about how one is read to acclimatize behaviors to do away from the danger. Eger *et al.* (2021) say fear appeal has an association with online purchase intention. But the strange thing is that most people in underdeveloped countries have gone back to old ways of doing things post-COVID-19 due to cost implications and the lack of significant impact of technology in their lives (Sheth, 2020). Thus, the proposed study model uses the fear appeal theory as the base for its development. The aim is to examine how fear of COVID-19 impacts CU_EMP and CU_PV_DST and ultimately leads to GBS_PI.

Given the above discussion and theoretical framework of fear appeal theory, the following hypotheses are developed.

- H1. Fear of COVID-19 significantly influences GBS_PI.
- H2. Fear of COVID-19 significantly influences CU_EMP for green bank services.
- H3. Fear of COVID-19 significantly influences CU_PV_DST

The open innovation and integrated empowerment theories in relation to CU_EMP and GBS_PI

From a CU_EMP point of view, introducing various softy technologies (applications) installed in digital devices and assisting in digital transactions accelerates the intention to use green bank services. Empowering customers technologically means helping them learn to serve themselves and co-creation value easily as the moment of truth/service encounter has also been transformed greatly into online means to accommodate customers' desires (Barile, Bassano, Piciocchi, Saviano, & Spohrer, 2021). Nowadays, value co-creation takes place much better when customers are in contact with a machine. So, it is inevitable today to speak of green bank services without considering the issue of artificial intelligence (AI) as one of the CU_EMP strategies to impact their behavior and assist in decision-making during hard times like of

COVID-19 pandemic. According to Barile *et al.* (2021), AI has a major impact on customers' emotional intelligence as it has the power to integrate inputs derived from AI in their problem-solving processes. The human-machine interaction helps in attaining the capabilities to communicate with a machine to enhance green bank services. Empowering customers technologically will pave the way to the adoption of "Untact" services as propounded by (Lee & Lee, 2020) to make customers more attracted to green services like the use of Internet banking and cutting down service delivery costs as well as do away with the embarrassment caused by a human being (Lee & Lee, 2020). "Untact" services are swift, do not require a customer to go into several outlets to be served, keep privacy and are very customized (Lee & Lee, 2020). Empowering customers digitally makes them feel accountable to manage and control every important action in the pre, during and post-purchase decision process, and assisting in value co-creation remotely. In this way, customers will perceive green bank service as of value to them and will increase their purchasing intent and more contact with banks (Goraya *et al.*, 2020).

Furthermore, digital transformation in the banking industry has necessitated the need to empower customers to efficiently conduct digital transactions through collaborative innovation between customers and organizations (Berraies & Hamouda, 2018). The theory of open innovation put forward by Chesbrough (2003) supports the concept of CU_EMP, and it says that the organization could foster innovation by establishing teamwork with stakeholders. So, empowering customers through innovative technologies is inevitable but will also enable banks to create a promising avenue for engaging with their customers (Le & Nguyen-Le, 2021). Besides, innovative technologies for empowering customers are advancing digital strategies for value creation, enhancing business and technical processes and introducing digital products and innovative digital services (Werth, Schwarzbach, Cardona, Breitner, & von der Schulenburg, 2020).

Likewise, the theory of integrated empowerment can assist in explaining the concept of CU_EMP. According to Mandlik and Kadirov (2020), empowerment as a phenomenon has two etymological meanings: the process of becoming empowered, and the outcome of such processes or the state of being empowered. Banks must assess the process undertaken to empower customers and the outcome of the behavior elicited by empowered customers toward green bank services. From the above arguments of the theoretical frameworks, the following hypothesis is developed.

H4. CU_EMP significantly influences GBS_PI.

The perceived value of digital service transactions in relation to GBS_PI

The perceived value of digital service transactions from customers' perspectives involves benefits thoughts, performance risks, social risks, financial risks, convenience in terms of time and place, psychological factors, legal factors and security (Barretti Mascarenhas, Koda Perpétuo, Borgonovo Barrote, & Perides, 2020). Customers tend to act in a way that produces positive outcomes, and others will evaluate them positively. This is how customers think or assess the value of digital service transactions that ultimately influence the purchase of green bank services. NET valence model is used to elucidate consumer behavior in the context of risks and benefits of a product or service that determines its preference and acceptability to customers. For example, customers' decision to use or purchase green bank services results from the perceived value of digital transactions built up from customers' emotional states and beliefs that ultimately lead to purchase behavior intention (Barretti Mascarenhas *et al.*, 2020).

Consumption value theory also assists in explaining consumer behavior related to perceived value as to why customers may decide to use or not use a particular service or product. Purchasing decision for green bank service is attached to the perceived value the customer expects to derive. The value could be in terms of functional value, hedonic/emotional value, social value, conditional value, monetary value, epistemic value,

convenience value, time convenience value and transactional value (Putra *et al.*, 2022; Zailani, Iranmanesh, Sean Hyun, & Ali, 2019). Putral *et al.* (2022) say it is essential to comprehensively consider the concept of value because customers tend to weigh out the value of anything before making a purchase decision. As for the case of green bank services, the persistent intent to use the service will depend much on the value derived from the service. Care is much emphasized for green service value to customers as green services are digital services and according to Putral *et al.* (2022), digital services have varied perceived value from the customer's point of view compared to tangible products. The reason behind this is the disappearance of the sensory dimension, thus impacting consumer emotion over the service.

Additionally, the theory of equity supports the concept of CU_PV_DST by linking it to GBS_PI and its outcome to customers' desires or expectations. According to Adams (1963), equity theory is a social comparison theory that claims that, for a reasonable exchange relationship to suffice, involved parties must attain the same proportion of the perceived value of investments. Riva, Magrizos, Rubel, and Rizomyliotis (2022) define perceived value in digital services as the customers' assessment of overall gains realized from green products and services compared to the cost of receiving them; that is the cost factor. If customers are sure of realizing more value from green services, their purchasing intention will increase. From the three theoretical bases discussed above, the following hypothesis is developed.

H5. CU_PV_DST significantly influences GBS_PI.

Socially responsible investment theory (SRI) in relation to green bank services

Organizations must be the best avenue for conserving the ecosystem (Ibe-enwo, Igbudu, Garanti, & Popoola, 2019). Socially responsible investment theory by Oehmke and Opp (2020) holds that firm's sole responsibility is to its shareholders. This theory assists in building the base to support the idea of investing in green bank services. Moreover, the theory has three main areas: firstly, social concern means using money to accomplish social values and beliefs. Secondly, environmental concern means harnessing financial benefits by engaging in eco-friendly investments; thirdly, sustainability concern means engaging in commercial investments with positive social, environmental and financial value (Ibe-enwo *et al.*, 2019; Oehmke and Opp, 2020). The two giant local banks CRDB and NMB have taken this direction and are leading in financing green projects in Tanzania. The interrelation between COVID-19, CU_EMP, CU_PV_DS, and GBS_PI has not been considered in many studies (see Table 1).

The mediating role of CU_EMP and CU_PV_DST

H6. CU_PV_DST mediates the relationship between fear of COVID-19 and GBS_PI.

H7. CU_EMP mediates the relationship between fear of COVID-19 and GBS_PI.

The theory of fear appeal is used as a base for establishing the proposed model and using the independent variable to understand customers' behavior toward green bank service purchasing intention. Moreover, some other theories have been used to support the proposed model variables as indicated in the literature part (see Figure 1).

Research methods

Population, sample size and sampling methods

Small businesses around the Mbeya district council that are in the informal sector and have not registered their businesses were involved in this survey as customers of commercial banks. According to the national bureau of statistics [NBS] (2019; Mweya & EPHARD, 2022), 43.4% of

Article name	Author(s)	Journal	Year
Prerequisites and Conceptual Directions for the Development of Legal Regulation of “Green Banking” in the Legislation of the Russian Federation	Kokoreva, T. V.	<i>In New Technology for Inclusive and Sustainable Growth</i>	2022
Green banking and sustainability – a review	Mir, Ajaz Akbar, and Aijaz Ahmad Bhat.	<i>Arab Gulf Journal of Scientific Research</i>	2022
Green Banking—Can Financial Institutions support green recovery?	Chen, Z., Mirza, N., Huang, L. and Umar, M.	<i>Economic Analysis and Policy</i>	2022
Pathways towards green banking adoption: the moderating role of top management commitment	Bukhari, S. A. A., Hashim, F. and Amran, A.	<i>International Journal of Ethics and Systems</i>	2022
How do customers change their purchasing behaviors during the COVID-19 pandemic?	Truong, D. and Truong, M. D.	<i>Journal of Retailing and Consumer Services</i>	2022
The linkage between green banking practices and green loyalty: A customer perspective	Pawar, D. S. and Munuswamy, J.	<i>Banks and Bank Systems</i>	2022
Green banking initiatives: a qualitative study on Indian banking sector	Sharma, M. and Choubey, A.	<i>Environment, Development, and Sustainability</i>	2022
Green banking adoption practices: improving environmental, financial, and operational performance	Wajeeha Aslam and Syed Tehseen Jawaid.	<i>International Journal of Ethics and Systems</i>	2022
The Green Incentives and Green Bonds Financing under the Belt and Road Initiative	Jian, J., Fan, X. and Zhao, S.	<i>Emerging Markets Finance and Trade</i>	2022
Green banking: the case of the commercial banking sector in Delhi NCR	Choubey, A. and Sharma, M.	<i>Journal of Environmental Planning and Management</i>	2022
A systematic review of green banking adoption: following PRISMA protocols	Aslam, W. and Jawaid, T.	<i>IIM Kozhikode Society and Management Review</i>	2022
Challenges affecting bank consumers’ intention to adopt green banking technology in the UAE: a UTAUT-based mixed-methods approach	Bouteraa, M., Hisham, R. R. I. R. and Zainol, Z.	<i>Journal of Islamic Marketing</i>	2022
Personality matters: does an individual’s personality affect the adoption and continued use of green banking channels?	Malik, G., and Singh, D.	<i>International Journal of Bank Marketing</i>	2022
Exploring sustainability and green banking disclosures: a study of the banking sector	Gunawan, J., Permatasari, P., and Sharma, U.	<i>Environment, Development and Sustainability</i>	2022
Customer awareness of green banking practices	Ellahi, A., Jillani, H. and Zahid, H.	<i>Journal of Sustainable Finance and Investment</i>	2021
Green banking practices -A review in select banks of India Turkish	Ajaz and Aijaz	<i>Online Journal of Qualitative Inquiry</i>	2021

Table 1.
Recent scholarly publications on the area of green service but not covering the subject matter under discussion

(continued)

Article name	Author(s)	Journal	Year
Effects of perceived value on green consumption intention based on double-entry mental accounting: taking energy-efficient appliance purchase as an example	Yue, T., Liu, J., Long, R., Chen, H., Li, Q., Liu, H. and Gu, Y.	<i>Environmental Science and Pollution Research</i>	2021
Adoption of green banking practices and environmental performance in Pakistan: a demonstration of a structural equation modeling	Rehman, A., Ullah, I., Afridi, F. E. A., Ullah, Z., Zeeshan, M., Hussain, A. and Rahman, H. U.	<i>Environment, Development, and Sustainability</i>	2021
Customer awareness of green banking practices	Ellahi, A., Jillani, H. and Zahid, H.	<i>Journal of Sustainable Finance and Investment</i>	2021
The mediating effect of consumer empowerment in omni-channel retailing	Ürgüplü, Ö., and Hüseyinoğlu, I. Ö. Y.	<i>International Journal of Retail and Distribution Management</i>	2021
Green banking: the case of the commercial banking sector in Oman	Miah, M. D., Rahman, S. M. and Mamoon, M.	<i>Environment, Development, and Sustainability</i>	2021
Green service attributes and amplifiers of the warm emotions evoked by them	Pollack, B. L.	<i>Journal of Service Theory and Practice</i>	2021
Sustainable banking: A literature review and integrative framework	Aracil, E., Nájera-Sánchez, J. J. and Forcadell, F. J.	<i>Finance Research Letters</i>	2021
Consumer guilt and green banking services	Burhanudin B, Ronny R and Sihotang ET.	<i>International Journal of Consumer Studies.</i>	2021
Evaluating the relevance of green banking practices on Saudi Banks' green image: The mediating effect of employees' green behavior	Alshebami, A. S.	<i>journal of Banking Regulation</i>	2021
Green Bank Lending in the System of Green Financing	Korobov, Y. I., Bogomolov, S. M., Iliyina, L. V. and Plotnikova, M. V.	<i>In Industry 4.0</i>	2021
Does green banking performance pay off? Evidence from a unique regulatory setting in Bangladesh	Bose, S., Khan, H. Z. and Monem, R. M.	<i>Corporate Governance: An International Review</i>	2021
The intention of banks to adopt green banking in an emerging market: the employees' perspective	Okyere-Kwakye, E. and Md Nor, K.	<i>Economic and Political Studies</i>	2021
Green banking disclosure, firm value and the moderating role of a contextual factor: Evidence from a distinctive regulatory setting.	Khan, H. Z., Bose, S., Sheehy, B. and Quazi, A	<i>Business Strategy and the Environment</i>	2021
Implementation of green banking and financial performance on commercial banks in Indonesia	Ratnasari, T., Surwanti, A. and Pribadi, F.	<i>In Recent Developments in Asian Economics International Symposia in Economic Theory and Econometrics</i>	2021
Green Banking: An Environmental Shield for Sustainable Growth in India	Roy, S. and Savarimuthu, X.	<i>In Go Green for Environmental Sustainability</i>	2021
Customer awareness of green banking practices	Ellahi, A., Jillani, H. and Zahid, H.	<i>Journal of Sustainable Finance and Investment</i>	2021
Green banking: A road map for adoption	Bukhari, S. A., Hashim, F. and Amran, A	<i>International Journal of Ethics and Systems</i>	2020

(continued)

Table 1.

Article name	Author(s)	Journal	Year
The transition towards green banking: Role of financial regulators and financial institutions	Park, H. and Kim, J. D.	<i>Asian Journal of Sustainability and Social Responsibility</i>	2020
A Scientometric analysis of literature on Green Banking (1995-March 2019)	Prerana Sarma and Arup Roy	<i>Journal of Sustainable Finance and Investment</i>	2020
Exploring green banking performance of Islamic banks vs. conventional banks in Bangladesh based on Maqasid Shariah framework	Julia, T. and Kassim, S.	<i>Journal of Islamic Marketing</i>	2020
The journey of Pakistan's banking industry toward green banking adoption	Bukhari, S. A. A., Hashim, F. and Amran, A.	<i>South Asian Journal of Business and Management Cases</i>	2020a
Green Banking: a road map for adoption	Bukhari, S. A. A., Hashim, F. and Amran, A.	<i>International Journal of Ethics and Systems</i>	2020b
Impact of Covid-19 on consumer behavior: Will the old habits return or die?	Sheth, J.	<i>Journal of Business Research</i>	2020
A study on the impact of green banking practices on bank's environmental performance with special reference to Coimbatore city	Vidyakala, K.	<i>African Journal of Business and Economic Research</i>	2020
Impact of CSR and environmental triggers on employee green behavior: The mediating effect of employee well-being	Ahmed, M., Zehou, S., Raza, S. A., Qureshi, M. A. and Yousufi, S. Q.	<i>Corporate Social Responsibility and Environmental Management</i>	2020
Green Banking in Italy: Current and Future Challenges	Procopio, G., Trotta, A., Strano, E. and Iannuzzi, A. P.	<i>In Contemporary Issues in Sustainable Finance</i>	2020
The price of going green: the role of greenness in green bond markets	Hyun, S., Park, D. and Tian, S.	<i>Accounting and Finance (Parkville)</i>	2020
Green Banking and Islam: two sides of the same coin	Bukhari, S. A. A., Hashim, F., Amran, A. B. and Hyder, K.	<i>Journal of Islamic Marketing</i>	2019
Importance of green finance for achieving sustainable development goals and energy security	Sachs, J. D., Woo, W. T., Yoshino, N. and Taghizadeh-Hesary, F.	<i>In Handbook of Green Finance</i>	2019
Sustainable Development Versus Green Banking: Where Is the Link? In: Ziolo, M., Sergi, B. (eds)	Ziolo, M., Pawlaczyk, M., Sawicki, P.	<i>Financing Sustainable Development</i>	2019
Eco-innovation and firm growth in the circular economy: Evidence from European small-and medium-sized enterprises	Demirel, P. and Danisman, G. O.	<i>Business Strategy and the Environment</i>	2019
The green bond market: a potential source of climate finance for developing countries	Banga, J.	<i>Journal of Sustainable Finance and Investment</i>	2019
Connecting intention to use online banking, commitment to environmental sustainability, and happiness: the role of nature relatedness	Burhanudin, B., Ronny, R. and Sihotang, E. T.	<i>Procedia Computer Science</i>	2019

Table 1.

the population is involved in informal petty trades in Mbeya District Council. Based on the nature of the study, scientific procedures to establish the proposed variable relationship are in place (Lohr, 2021).

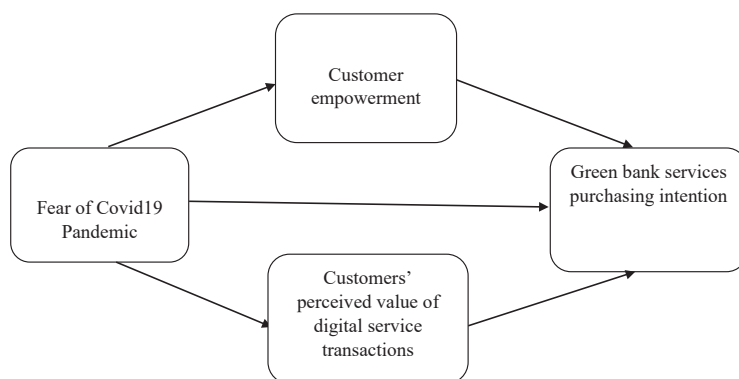


Figure 1.
Proposed model

The motive to engage small business people is to have views of their behavior sensitivity to the value of digital services in doing green financial transactions (Ahmad & Zhang, 2020). Thus, respondents were responsible for rating their views on the value of digital service transactions, the need to be empowered technologically and the effects of COVID-19 on GBS_PI. These people perform multiple transactions on regular bases. However, they also have mobile phones, which assist them in making digital bank transactions. In addition, they have bank accounts connected to mobile and Internet banking and mobile money such as Airtel Money, Tigo Pesa, M-Pesa and T-Pesa.

Judgmental sampling helped decide the study population; after that, the snowball strategy assisted in selecting 364 respondents with bank accounts from any bank branch using the Cochran formula of 1977. Finally, the drop-of-pick-up strategy helped in the distribution of survey questionnaires. After examining the collected questionnaires, 41 were not considered for analysis from the total of 364 due to abnormalities. Therefore, only 323 questionnaires became useable.

Questionnaire design

It consisted of an introduction, demographic profile and four parts covering CU_PV_DST with four questions, CU_EMP with three questions, GBS_PI with four questions and the fear of COVID-19 pandemic with four questions. The developed structured questionnaire adapted a five-point Likert scale, whereby one (1) stands for 'strongly disagree' and five (5) stands for 'strongly agree.' Kiswahili and English were used in questionnaire development as not all people can understand the subject matter in English, especially those with standard seven levels of education.

Measures

Four items measure the perceived value of digital service transactions; three were from Mohammed and Al-Swidi (2019) and one was from Woo and Kim (2019). Four items were modified from Pollack (2021) and used as measures of green bank service purchasing intention. CU_EMP was measured using three items adapted from Ürgüplü and Hüseyinoğlu (2021). Finally, the measures of fear of COVID-19 pandemic construct were four items, three adapted from (Ahorsu *et al.* 2020) and one from Satish, Venkatesh, and Manivannan (2021). The dropped indicator was not involved in the analysis.

Table 2 provides demographic information of the respondents, whereby mostly were youths (18–25) and not married, and those of middle age (34–41). Male customers account for 41.8% of the population, while female customers account for a large percentage. A good portion of respondents has been to school.

Table 2.
Demographic
information of the
respondents

Variable name	Category	Percent
Age	18–25	24.1
	26–33	16.1
	34–41	21.1
	42–49	19.5
	50+	19.2
Marital Status	Single	49.5
	Married	40.2
	Separated	4.6
	Widowed	1.9
	Gender	Males
Education Level	Females	58.2
	Primary	13
	Secondary	11.8
	Completed High School	21.7
	Some Additional Training	25.1
	Completed Undergraduate Studies	28.5

Analysis and results

This study used Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) with the help of SPSS-AMOS V.23 and Smart-PLS 3.2.8 to assess the study's construct reliability with the “Master validity tool” and “Model fit measures” as given by AMOS plugins. Examination of data took place after working on missing data and outliers.

Structure of the questionnaire and measurement of the model

EFA is employed to extract the variables' alignment, and indicators with cross-loadings and those loaded below 0.5 were not involved in the analysis. Validation of the study model and hypotheses was through the structural equation modeling (SEM) by following the model fit recommendations indices (Hair, Hult, Ringle, & Sarstedt, 2022) as seen in Tables 3–5. The CFA technique assessed the four-factor model fit, although the model did not fit the data in the first instance, as seen in Table 5 in the first-order estimate. After running the CFA for the second time, one item, CU_EMP3, was dropped. As a result, the covariance of some items was necessary to establish model validity and reliability, as seen in Figure 2, and fit indices, as seen in Table 5, in the second-order estimate (see Figure 3).

Examination of convergent validity was made possible by observing each item's factor loading together with average variance extracted (AVE) and composite reliability (CR), as in Tables 3 and 6 (Hair *et al.*, 2022).

The mean values of the study's variables are higher than the critical value of 2.99, signifying the correlation is upright (Bougie & Sekaran, 2019). Therefore, assessment of data was essential to find if they fit with the character of normal distribution and use skewness and kurtosis for testing. The skewness values for all variables were less than 3.00 within the range of (–1 to +1) (Hair, Black, Babin, & Anderson, 2019), and kurtosis values are between –10 to +10, which is suitable for studies using SEM (Watkinsin, 2018) see Table 3. Examination of common method bias (CBM) was done by following the procedures recommended by Jordan and Troth (2020), to use different scales to measure the proposed variables of the study. Harman's test of a single factor is also used and one factor explains 49% of the discrepancy (Dash & Paul, 2021).

Construct	Indicators	λ	α	rho_A	R^2	Q^2
Fear of Covid-19_pandemic	F_COVID-19P1	0.869	0.974	0.977		
	F_COVID-19P2	0.867				
	F_COVID-19P3	0.852				
	F_COVID-19P4	0.842				
Customer empowerment	CU_EMP1	0.885	0.999	0.999	0.475	0.458
	CU_EMP2	0.886				
	CU_EMP3	0.843				
Green bank services purchase intention	GBS_PI1	0.668	0.883	0.890	0.508	0.319
	GBS_PI2	0.782				
	GBS_PI3	0.851				
	GBS_PI4	0.832				
Customers' perceived value of digital service transactions	CU_PV_DST1	0.846	0.880	0.882	0.129	0.079
	CU_PV_DST2	0.810				
	CU_PV_DST3	0.874				
	CU_PV_DST4	0.813				

Note(s): λ = Factor loading; α = Cronbach's alpha; Q^2 = Predictive relevance; R^2 = Predictive capability; rho_A = construct reliability measure

Table 3. Reliability fit indices for assessing the inner model

	GBS_PI	CU_EMP	CU_PV_DST	F_COVID-19P
Mean	16.8204	7.0186	14.678	13.808
Std. Deviation	3.87522	1.67359	2.02968	3.27995
Skewness	-1.264	-0.313	-1.686	-0.511
Std. Error of Skewness	0.136	0.136	0.136	0.136
Kurtosis	0.853	0.374	3.335	0.915
Std. Error of Kurtosis	0.271	0.271	0.271	0.271

Table 4. Descriptive statistics

Measure	First order estimate	Second order estimate revised	Threshold
CMIN	628.329	198.923	-
DF	84	67	-
CMIN/DF	7.48	2.969	Between 1 and 3
SRMR	0.060	0.074	<0.08
RMSEA	0.142	0.078	<0.06
PClose	0.000	0.000	>0.05
NFI	0.916	0.970	>0.90
TLI	0.907	0.973	>0.90
CFI	0.926	0.980	>0.95
IFI	0.926	0.980	>0.90
GFI	0.830	0.922	>0.90
AGFI	0.757	0.878	>0.90

Table 5. Model fit indices

Model fit summary indices

The structural model's goodness-of-fit was evaluated through several indices, as seen in Table 5. Fit indices' thresholds for covariance structure were as per Dash and Paul (2021) and Alamer and Marsh (2022), and some fit indices were extracted directly from Amos model fit

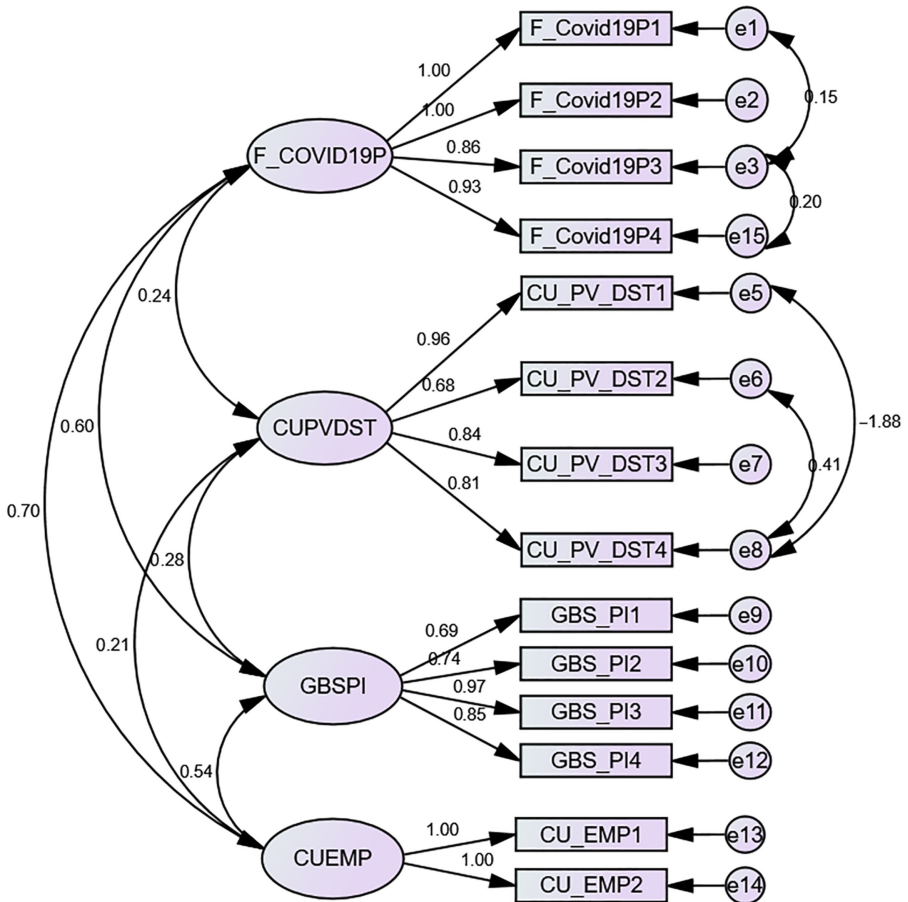


Figure 2.
Modified CFA
model ($N = 323$)

like NFI, TLI, CFI, IFI, GFI and AGFI. Others were extracted from the model fit measures tool as AMOS plugins gave (Gaskin & Lim, 2016a, b).

The study employed discriminant validity to show how one variable measurement differs from the other variable, and each study's construct assessment is through AVE, maximum shared squared variance (MSV) and maximum reliability (MaxR(H)). Tables 6 and 7 provides values of discriminant validity. The AVE square roots for every highlighted construct were higher than the correlation coefficients between the construct, which is an indicator of discriminant validity. Therefore, the study attained convergent validity as (1) AVE is > 0.50 and (2) CR is higher than AVE (Hair et al., 2022). Alternatively, to attain discriminant validity, the MSV for each study construct must be smaller than the AVE (Hair et al., 2022). In addition, the study also attained MaxR(H) as all values are above > 0.70 cut point (Gaskin, James, & Lim, 2019; Sharif Nia et al., 2019; Yasin, Kehyayan, Khraim, & Al-Lenjawi, 2022).

The thresholds for the significance of correlations are as per Hair et al. (2022). Hair et al. (2022) suggested that to achieve discriminant validity, the threshold values for Heterotrait-Monotrait ratio (HTMT) must be less or equivalent to 0.90. Table 7 provide values for the

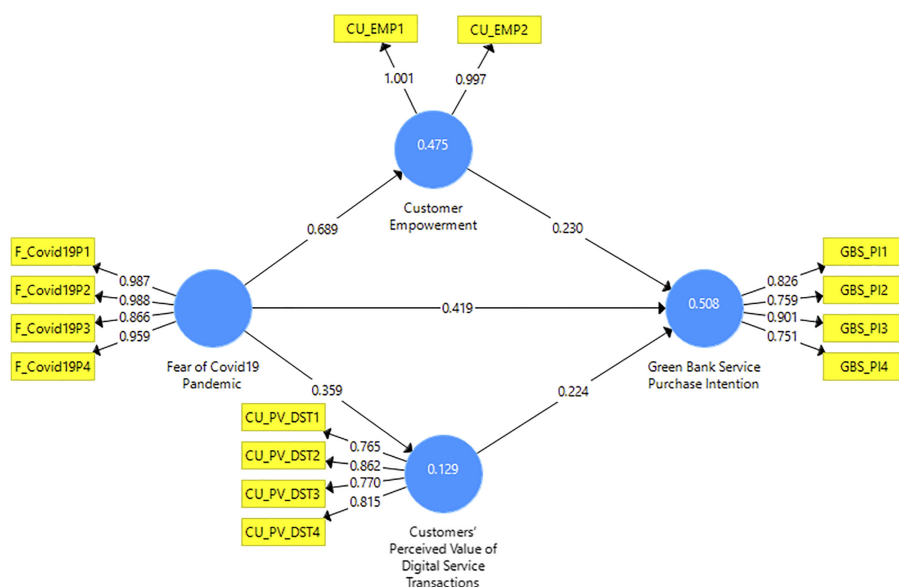


Figure 3. Measurement model

	CR	AVE	MSV	MaxR(H)	F_Covid-19P	CU_PV_DST	GBS_PI	CU_EMP
F_Covid-19P	0.97	0.9	0.49	0.999	<i>0.949</i>			
CU_PV_DST	0.88	0.65	0.16	0.9	0.303***	<i>0.803</i>		
GBS_PI	0.89	0.67	0.36	0.954	0.603***	0.405***	<i>0.819</i>	
CU_EMP	0.98	0.94	0.49	0.999	0.698***	0.271***	0.545***	<i>0.968</i>

Note(s): The sloping italicized values are the square roots of AVE (average variance extracted) and the correlations among constructs are indicated by off-diagonal elements. Significance of correlations: [†] $p < 0.100$, * $p < 0.050$, ** $p < 0.010$ and *** $p < 0.001$

Table 6. Model validity measures

Variables	CU_EMP	CU_PV_DST	F_COVID-19_P	GBS_PI
CU_EMP				
CU_PV_DST	0.285			
F_COVID-19_P	0.688	0.359		
GBS_PI	0.583	0.439	0.659	

Table 7. Discriminant validity (Heterotrait-Monotrait ratio (HTMT))

HTMT ratio, and all the values are below the threshold point of 0.90 (Hair et al., 2022). Therefore, discriminant validity is justifiable.

Structural model and test of hypotheses

The study variables met the validity and reliability criterion, which offers room for examination of the proposed model through the SEM. Furthermore, the examination of the collected data showed a good fit for the proposed framework of the study as all the fit indexes,

as seen in Table 5 met the demanded thresholds, and the complete structural model is as seen in Figure 4.

Examining hypotheses was intentionally done to see if a significant relationship exists for each path. The bootstrapping technique assisted in estimating the significance level of each path (Hair et al., 2022). Table 8 results show that H1 examined whether fear of COVID-19 Pandemic (F_COVID-19P) has a significant outcome (total effect) on GBS_PI ($\beta = 0.419$, $t = 7.074$, $p = 0.000$). Hence, H1 was supported. H2 examined whether F_COVID-19P has a significant outcome on CU_PV_DST ($\beta = 0.359$, $t = 4.165$, $p = 0.000$). Hence, H2 was supported. H3 examined whether CU_PV_DST significantly impacted GBS_PI ($\beta = 0.224$, $t = 4.060$, $p = 0.000$). Hence, H3 was supported. H4 examined whether F_COVID-19P significantly impacted CU_EMP ($\beta = 0.689$, $t = 20.333$, $p = 0.000$). Hence, H4 was supported. Finally, H5 examined whether CU_EMP significantly impacted GBS_PI ($\beta = 0.230$, $t = 3.787$, $p = 0.000$). Hence, H5 was supported see also Figure 3.

Multiple mediation analysis

The analysis for mediation followed stages previously used by other researchers who judged mediation by looking at the indirect relation of independent and dependent variables

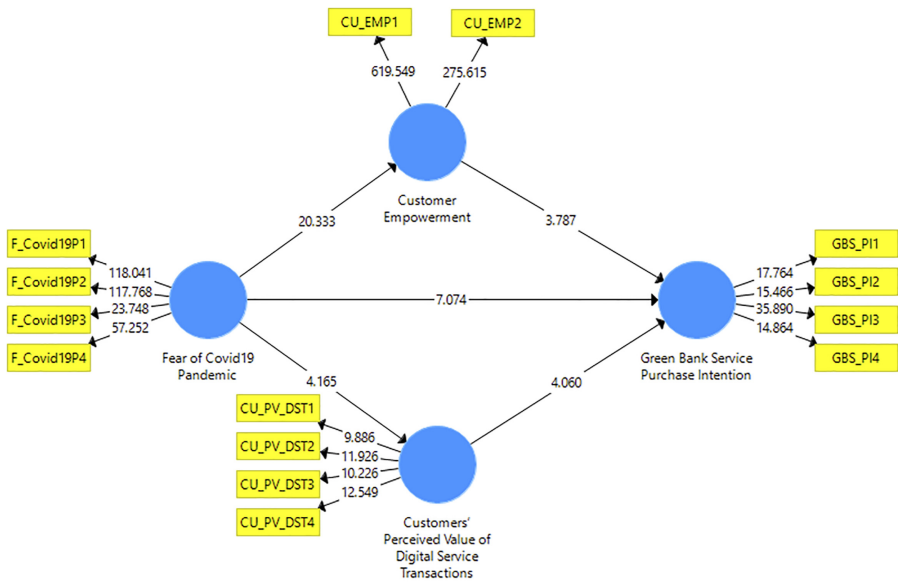


Figure 4. Structural model

H	Path	β	(M)	STDEV	t-values	p-values	f^2	Inner VIF values	Decision
H1	F_COVID-19P→GBS_PI	0.419	0.42	0.059	7.074	0.000	0.18	2.013	Accepted
H2	F_COVID-19P→CU_PV_DST	0.359	0.36	0.086	4.165	0.000	0.15	1.000	Accepted
H3	CU_PV_DST→GBS_PI	0.224	0.23	0.055	4.06	0.000	0.09	1.151	Accepted
H4	F_COVID-19P→CU_EMP	0.689	0.69	0.034	20.333	0.000	0.90	1.000	Accepted
H5	CU_EMP→GBSPI	0.23	0.23	0.061	3.787	0.000	0.06	1.909	Accepted

Table 8. Hypothesis H1–H5 test results

Note(s): *** Significant at $p < 0.001$; β = Original sample (O); (M) = Sample mean; (STDEV) = Standard deviation; t-value = T-statistics ($|O/STDEV|$); p-values = Level of significance; H = hypothesis

(Sarstedt, Hair, Nitzl, Ringle, & Howard, 2020; Hair *et al.*, 2022). Mediation analysis examines the role of CU_PV_DST and CU_EMP toward green bank service purchasing intention. The mediation effect of customers' perceived value of digital transactions examines the effect between customers' perceived value of digital transactions and green bank service purchasing intention. The weight of the standardized regression (total effect) for path F_COVID-19P→GBS_PI ($\beta = 0.658, t = 15.786, p = 0.000$) was reduced to ($\beta = 0.419, t = 7.074, p = 0.000$) after the introduction of the mediator. So, the direct relation was significant. The coefficient for indirect path F_COVID-19P→CU_PV_DST→GBS_PI is ($\beta = 0.080, t = 2.474, p = 0.014$), indicating that CU_PV_DST partly mediates the relationship between F_COVID-19P and GBS_PI. Thus, H6 is supported. In examining the mediation effect of CU_EMP concerning fear of the COVID-19 pandemic and green bank service purchasing intention, the standardized regression weight changed from ($\beta = 0.419, t = 7.074, p = 0.000$) to ($\beta = 0.238, t = 4.965, p = 0.000$). The coefficient for indirect path F_COVID-19P→CU_EMP→GBS_PI is ($\beta = 0.158, t = 3.805, p = 0.000$). It indicates that the relation between fear of the COVID-19 pandemic and green bank service purchasing intention also is partly mediated by CU_EMP. So, H7 affirms a partial mediation relationship between F_COVID-19P and GBS_PI see Table 9.

Discussion

This study shows the association between fear of COVID-19, CU_EMP, CU_PV_DST and GBS_PI. Findings indicate that fear of COVID-19 has a significant positive outcome on CU_EMP and CU_PV_DST. Generally, fear of the COVID-19 pandemic and CU_EMP positively influence GBS_PI. Hence, CU_EMP significantly mediates the relationship between fear of the COVID-19 pandemic and GBS_PI. The findings are supported by (Chaudhary & Bisai, 2018; Laato *et al.*, 2020). On the other side, fear of the COVID-19 pandemic significantly affects CU_PV_DST (Putra *et al.*, 2022).

Furthermore, both fear of COVID-19 pandemic and CU_PV_DST significantly influence GBS_PI (Baicu *et al.*, 2020; Satish *et al.*, 2021; Putra *et al.*, 2022; Truong & Truong, 2022). So, CU_PV_DST significantly mediates the relationship between fear of the COVID-19 pandemic and GBS_PI. Considering the nature of pandemics, COVID-19 was a temporary event that influenced customers to react unusually. However, it is unknown how long the fear of COVID-19 will sustain green behavior (Laato *et al.*, 2020; Pennesi, 2021).

Both CU_EMP and CU_PV_DST have triggering cues (Ahmed, Zehou, Raza, Qureshi, & Yousufi, 2020) that can activate and evoke customers to buy and sustain green purchasing intentions. Hence, this study's results offer potential addition to the existing literature on the indirect effect of fear of COVID-19 on GBS_PI over the mediation of CU_EMP and CU_PV_DST.

Conclusion

The study intends to examine the proposed model by relating COVID-19 and green bank service purchasing intention through the mediating role of the CU_PV_DST and CU_EMP. Existing literature lacks the proposed modal idea that the CU_PV_DST and CU_EMP

Paths	Total effects		Direct effects		Indirect effects			
	β	<i>p</i> -values	β	<i>p</i> -values	β	(M)	<i>t</i> -values	<i>p</i> -values
F_COVID-19P→CU_PV_DST→GBS_PI	0.658	***	0.419	***	0.080	0.083	0.032	0.014
F_COVID-19P→CU_EMP→GBS_PI	0.419	***	0.238	***	0.158	0.156	3.805	***

Table 9.
Results of mediation effects

determine successful GBS_PI. This study contributes to the existing literature on COVID-19 and the CU_PV_DST and CU_EMP by showing that fear of COVID-19 significantly influences GBS_PI. Hence, this study confirms CU_PV_DST and the CU_EMP as mediators of the relationship between fear of COVID-19 and GBS_PI in this context. Therefore, all the five questions mentioned in the introduction part have positive answerers. So, there is a need to put more emphasis on the role of customers in enhancing green bank services as it has been neglected, as well as help them understand the value of digital service transactions and other intentions served by green bank services.

Theoretical implications

Studies allied to green bank services have not examined the role of fear of COVID-19, CU_EMP and CU_PV_DST in enhancing green services. The proposed relationship informs on the role of fear of COVID-19 to CU_PV_DST and CU_EMP in enhancing GBS_PI. This study adds value to studies that relate fear of COVID-19, CU_PV_DST, CU_EMP and GBS_PI in building a base for the relationship that shows fear of COVID-19 lead to GBS_PI. So, the body of knowledge has added more factors that determine purchasing intention of green bank services. The results of this study help to show the relevance of the CU_PV_DST and CU_EMP in facilitating the process of customers embarking on green banks. Justification of the proposed model highlights to bank managers that they have to find the means to increase CU_PV_DST and find a better mechanism to empower their customers to turn to green bank services. Moreover, it is necessary to emphasize cultural change to foster altruist values among natives.

Practical implications

This study will help banks understand the outcome of CU_EMP, perceived value and the value of capitalizing on the tragedies.

Banks should pay attention to the use of AI and intelligence augmentation (IA) as an empowerment strategy because intelligent machines help in the process of value co-creation due to their increased ability to interact with humans, sense their needs, and impact their emotions. It not only helps customers develop soft skills essential for effective human-machine interaction to empower their proficiencies to make smart decisions, but also do away with unneeded customer embarrassment (Barile *et al.*, 2021). According to Barile *et al.* (2021), the IA effect is a new way of valorizing human-AI interactions and service innovation. Therefore, the integration of AI in the back office will help in the bank's operational excellence to augment green services.

To enhance green services, commercial banks have to change their service models from direct contacts to innovative remote service-based models by moving to "Untact" service systems and smart services enabled by AI, machine learning and the Internet of Things to change consumer behavior. Nevertheless, instead of operating for extra hours and days like Sundays, banks can go for a pure Internet-based bank that enables users to perform all bank-related tasks remotely but it is an operational strategy that is eco-friendly (Lee & Lee, 2020; Payne, Dahl, & Peltier, 2021). Otherwise, banks can keep high charges for any service related to conventional bank services.

Commercial banks, telecommunication companies and the government through its regulatory authorities can come together and throw an eye on the possible ways to work out the Internet costs and charges related to digital transactions, and also coin out policies and laws that will be in favor of customers in dealing with green bank services. So, good policies and a good legal framework will be a kind of CU_EMP and will increase customers' perceived value of green services.

Social implications

This study will help customers understand their role in the environment and also show the role of fear as a motivational factor for accepting technological changes in the service sector. Likewise, promotion campaigns on digital bank services should go in hand with pronouncing environmental concerns as promotions have been very silent on this.

Research limitations and upcoming research directions

The study opted for a quantitative approach. Future research can opt for a mixed approach and compare the online transaction trends during and after the pandemic. The study did not test for significant differences in demographic characteristics in relation to the study's constructs. Moreover, there were no views from bank managers on the initiatives taken to implement green banking services. In the future, one can assess how the lack of digital skills and over-reliance on cash business limits the adoption of green bank services in developing countries. It is also essential to examine how emerging digital technology empowers customers to adopt green bank services. There is also a need to determine the contribution of broadband services in enhancing the perceived value of green bank services in developing countries. Explore how green bank services impact customer satisfaction, retention and loyalty. Others can study the influence of green bank services on the performance of financial institutions in terms of profitability and market share. There is also a need to inspect the influence of cultural values in adopting green bank services in developing countries. Future research may also examine fresh findings from the fear of COVID-19 and service purchase intention that investigates modern trends like COVID-19 (Sheth, 2020), customers' interpersonal interactions in social commerce (Hossain, Rahman, & Zhou, 2021), purchase intention through QR codes (Hossain, Zhou, & Rahman, 2018), emotional and normative aspects of customers (Pashchenko, Rahman, Hossain, Uddin, & Islam, 2022) and customers' sentiments (Hossain & Rahman, 2022; Hossain, Rahman, Uddin, & Hossain, 2022).

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