

Green tech service quality dimensions shape customer adaptability in Indian public sector banks

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Abstract

This study examines the relationship between the dimensions of green tech service quality and customer adaptability in the banking sector. It adopts a hypothesis-testing research design, drawing on 420 customers of public sector banks in Delhi, selected through purposive sampling from a benchmark sample size of 384.6, derived using the Cochran formula. A structured questionnaire was developed using the service quality dimensions of Parasuraman, Zeithaml, and Berry (1985), together with a review of the relevant literature, and the proposed model was tested using structural equation modelling, confirmatory factor analysis, and exploratory factor analysis in SPSS and SPSS AMOS. Of the nine hypotheses tested, eight were supported: tangibility, reliability, responsiveness, access, empathy, financial aspect and employee competence were each positively related to customer adaptability, while assurance showed no significant positive relationship. Together, these dimensions of green tech service quality explained approximately 35% of the variance in customer adaptability, with reliability and tangibility emerging as the strongest contributing dimensions and assurance the weakest. The findings suggest that banks seeking to strengthen customers' adaptability to green tech services should prioritise reliable, tangible, and accessible offerings, financially attractive terms, and knowledgeable staff, while treating assurance-related gaps as an area requiring further attention. Practical implications include aligning financial activities with environmental objectives, meeting consumer demand for sustainable solutions, managing environmental risk, fostering innovation and supporting the broader transition toward a more sustainable economy.

Keywords: Customer Adaptability, Green Technology, Service Quality, Banking Sector, Sustainability, Structural Equation Modeling

JEL Classification: M31, G21, Q56

1. Introduction

"Green tech" encompasses a wide range of technologies and services aimed at reducing environmental impact by lowering carbon emissions, conserving natural resources, and protecting ecosystems. The quality of green tech services can vary depending on several factors- How well does the technology or service actually reduce environmental impact? For example, a solar panel installation might be considered high-quality if it efficiently generates electricity with minimal environmental impact. Green tech services should be durable and reliable over time (Venkatachalam et al., 2024). For instance, an electric vehicle should have a long lifespan and be able to withstand regular use without significant degradation in performance. While the primary goal of green tech is to reduce environmental impact, it's essential to consider the full lifecycle of the technology. Some green tech solutions may have unintended consequences or environmental trade-offs that need to be evaluated. Green tech services should provide value for money, considering both the initial investment and long-term savings. Ideally, they should offer a good return on investment in terms of energy savings or environmental benefits (Pakurár et al., 2019). The ease of use and convenience of green tech services are crucial for widespread adoption. Whether it's a renewable energy system or a waste management solution, user-friendly interfaces and seamless integration into daily life can enhance service quality. Green tech services must adhere to relevant environmental regulations and standards to ensure they meet minimum requirements for environmental performance and safety (Khan et al., 2024). Timely and effective customer support, as well as maintenance services, are essential for ensuring the continued performance of green tech solutions. This includes regular inspections, troubleshooting, and repairs when necessary. Overall, high-quality green tech services not only reduce environmental impact but also provide tangible benefits to users while considering broader sustainability goals.

The quality of green tech services can significantly influence consumer adaptability and adoption as consumers are more probable to adopt green tech services if they perceive them as valuable. High-quality services that effectively reduce environmental impact, save money, or offer other benefits are more likely to be adopted by consumers. Consumers are more inclined to adopt green tech offerings that are simple to use and comprehend (Jayabal et al., 2017). If a service is complicated or difficult to implement, consumers may be hesitant to adopt it, even if it offers environmental benefits. Cost is a significant factor for consumers when considering green tech services. High-quality services that offer a good return on investment in terms of energy savings or other benefits are more likely to be adopted, even if they have a higher upfront cost. Consumers expect green tech services to be reliable and perform as advertised. Services that are unreliable or

fail to deliver promised benefits may lead to dissatisfaction and decreased consumer adaptability (Khan et al., 2024). Education and awareness campaigns can help increase consumer adaptability by providing information about the environmental benefits, cost savings, and other advantages of green tech services. Government incentives, rebates, and other policies can encourage consumer adoption of green tech services by making them more affordable or attractive. Overall, the quality of green tech services plays a crucial role in consumer adaptability and adoption. Services that offer clear benefits, are easy to use, cost-effective, reliable, and supported by education and incentives are more likely to be adopted by consumers (Iqbal et al., 2019).

The adoption of green tech services in the Indian banking sector has gained momentum, driven by increasing environmental consciousness, regulatory mandates, and a desire to reduce operational costs. Here's how green tech service quality is impacting the sector. Banks are investing in energy-efficient infrastructure for their branches, including LED lighting, solar panels, and efficient HVAC systems. High-quality green tech solutions ensure these branches effectively reduce energy consumption while maintaining a comfortable environment for customers and staff (Yun & Jin, 2024). Green tech services such as digital banking platforms and electronic document management systems are becoming increasingly popular. Banks are focusing on the quality of these platforms to ensure they are user-friendly, secure, and accessible, driving customer satisfaction and adaptability. Some banks are investing in renewable energy projects to power their operations. The quality of these investments, in terms of the reliability and efficiency of renewable energy sources, is crucial for ensuring long-term sustainability and reducing carbon footprint (Bouteraa, 2024). Banks are incorporating environmental risk assessment tools into their lending practices to evaluate the environmental impact of projects and companies they finance. High-quality green tech solutions enable banks to accurately assess and manage environmental risks, ensuring responsible lending practices. Banks are offering green financing products such as loans for renewable energy projects, energy-efficient buildings, and sustainable businesses. The quality of these products, including competitive interest rates, flexible terms, and efficient approval processes, influences customer adoption and satisfaction. Banks are educating customers about the environmental benefits of green tech services and incentivising their adoption through awareness campaigns and rewards programs (Herath & Herath, 2019). In summary, the quality of green tech services in the Indian banking sector is critical for driving customer adoption, regulatory compliance, and long-term sustainability. Banks that prioritise high-quality, innovative, and customer-centric green tech solutions are well-positioned to meet the evolving needs of environmentally conscious customers and contribute to a greener economy.

2. Literature Review

2.1 Banking tech service quality and its components

Banking service quality and its components are often discussed within the framework of various models and research studies. One prominent model frequently referenced is the SERVQUAL

model, which was developed by Parasuraman, Zeithaml, and Berry. This model identifies several dimensions or components of service quality that are relevant to banking and other service industries, namely: *Tangibles*: Tangibles refer to the physical facilities, equipment, personnel, and communication materials used to deliver the service. In banking, this includes factors such as the appearance of bank branches, ATMs, and the professionalism of staff. Tangibles play a role in forming initial impressions and perceptions of service quality. *Reliability*: Reliability relates to the ability of the bank to perform promised services dependably and accurately. This includes aspects such as error-free transactions, timely processing of transactions, and consistency in service delivery. Reliability is crucial for building trust and confidence among customers. *Responsiveness*: Responsiveness refers to the willingness of bank employees to help customers and provide prompt service. It involves factors such as the speed of service delivery, willingness to answer questions, and resolving customer issues promptly. Responsive service is essential for meeting customer needs and expectations. *Assurance*: Assurance pertains to the knowledge, competence, and credibility of bank employees and their ability to inspire trust and confidence in customers. It includes factors such as the expertise of staff, their ability to handle customer inquiries competently, and the security measures in place to protect customer information. *Access*: Access refers to the ease of approachability and contact with the bank. This includes factors such as the convenience of branch locations, availability of ATMs, and accessibility of online banking platforms. Easy access enhances customer convenience and satisfaction. *Empathy*: Empathy involves understanding and caring about the individual needs and circumstances of customers. It includes factors such as personalized service, understanding customer preferences, and addressing concerns empathetically. Empathetic service can enhance customer loyalty and satisfaction. *Financial Aspect*: The financial aspect focuses on the transparency, fairness, and value-for-money offered by the bank's financial products and services. This includes clear fee structures, competitive interest rates, and the perceived value of services relative to costs. Financial aspects directly impact customer perceptions of service value. *Employees' Competence*: Employees' competence refers to the skills, knowledge, and professionalism of bank employees in delivering service. It encompasses factors such as training programs, effective communication with customers, and problem-solving abilities. Competent employees contribute significantly to service quality and customer satisfaction (Parasuraman et al., 1994). The SERVQUAL model and its dimensions have been widely cited and applied in the study of service quality across various industries, including banking. These components provide a comprehensive framework for assessing and improving service quality to meet customer expectations and enhance overall customer experience.

2.2 Tangibility

In the banking sector, the tangibility dimension of green tech service quality and its impact on consumer adaptability are crucial factors in promoting sustainable practices and influencing consumer behavior. In banking, green tech services can include tangible products such as eco-

friendly credit cards, green loans for energy-efficient home improvements, or investment products focused on sustainable funds (Iqbal et al., 2019). These tangible offerings provide consumers with direct tools to align their financial decisions with environmental goals. Tangibility also extends to digital interfaces that banks provide for managing green investments, tracking carbon footprints, or accessing educational resources on sustainable finance. These tools make sustainability efforts more tangible and accessible to consumers. Tangible green tech services in banking help raise awareness about environmental issues and the role of finance in sustainability. Clear information and tangible benefits (like reduced interest rates for green loans) can motivate consumers to adopt green banking practices. Tangible benefits such as financial incentives (e.g., lower fees for electronic statements or rewards for sustainable spending) encourage consumer adaptability towards green banking services (Wu et al., 2018). Tangible aspects like user-friendly interfaces for mobile banking apps or online platforms that highlight sustainable options make it easier for consumers to integrate green banking into their daily financial activities. In conclusion, the tangibility dimension of green tech service quality in the banking sector plays a pivotal role in enhancing consumer adaptability towards sustainable finance.

HO1: Tangibility dimension of green tech service quality is positively correlated with customer adaptability in banking sector.

2.3 Reliability

In the banking sector, the reliability dimension of green tech service quality refers to the consistency, dependability, and trustworthiness of green banking products and services. This dimension is critical in influencing consumer adaptability towards adopting sustainable financial practices. Reliability in green tech services ensures that financial products such as green loans, sustainable investment funds, or eco-friendly credit cards perform as expected (Sugiarto & Octaviana, 2021). This consistency builds trust among consumers, reassuring them that their financial decisions aligned with environmental goals will have the intended impact over time. Reliability extends to digital platforms used for green banking services, such as mobile apps or online portals. Consumers rely on these platforms to access information about their green investments, track their environmental impact, and manage sustainable transactions effectively. Reliability encourages long-term commitment from consumers towards green banking practices (Anish et al., 2018). When consumers experience reliable performance and consistent benefits from green financial products (e.g., competitive returns on sustainable investments), they are more likely to continue and expand their adoption of these services. Reliable green tech services help mitigate perceived risks associated with adopting new financial products or services. Consumers feel more comfortable exploring and using green banking options when they perceive minimal risk of financial loss or operational issues. In summary, the reliability dimension of green tech service quality in the banking sector is instrumental in fostering consumer adaptability towards sustainable finance (De Leon et al., 2020).

HO2: Reliability dimension of green tech service quality is positively correlated with customer adaptability in banking sector.

2.4 Responsiveness

The responsiveness dimension of green tech service quality in the banking sector refers to how quickly and effectively banks address consumer needs and concerns related to sustainable finance. This dimension is crucial in influencing consumer adaptability towards adopting green banking practices. Responsiveness ensures that banks promptly address consumer inquiries, issues, or feedback regarding green financial products and services. This includes providing timely support through various channels such as phone, email, or chat, which enhances consumer confidence and satisfaction (Iqbal et al., 2019).. Effective responsiveness in handling consumer complaints or problems related to green banking fosters trust and loyalty. When consumers experience prompt resolution of issues, they are more likely to trust and continue using green banking services. Responsive banks offer personalized advice and customized solutions that align with consumers' specific sustainability goals and financial needs. This personalized approach demonstrates a commitment to understanding and meeting individual consumer preferences in sustainable finance. Banks that are responsive can adapt their green tech services to evolving consumer preferences and market trends (Wu et al., 2018). This flexibility allows them to introduce new features, improve existing products, and innovate in response to consumer feedback and industry developments. Responsive banks communicate transparently about their green tech services, including the environmental benefits, risks, and costs associated with sustainable financial products. Clear and accurate information helps consumers make informed decisions and understand the impact of their choices. In conclusion, the responsiveness dimension of green tech service quality in the banking sector plays a pivotal role in driving consumer adaptability towards sustainable finance (Park et al., 2021).

HO3: Responsiveness dimension of green tech service quality is positively correlated with customer adaptability in banking sector.

2.5 Assurance

The assurance dimension of green tech service quality in the banking sector refers to the confidence and trust consumers have in the reliability, security, and integrity of sustainable financial products and services. This dimension is crucial in influencing consumer adaptability towards adopting green banking practices. Assurance in green tech services includes robust measures to protect consumer data related to sustainable finance transactions and information (Eberle et al., 2016). Banks ensure secure handling of personal and financial data, which is essential for consumer trust in using green banking products. Consumers seek assurance that green financial products are backed by financially stable institutions (Mneimne et al., 2023). Assurance in this context involves transparency about the financial health of banks offering sustainable finance options, reducing perceived risks associated with these products. Assurance in green tech

services includes providing accurate and reliable information about the environmental impact of financial products and services. Banks publish transparent reports on the sustainability performance of their investments, loans, and operations, enabling consumers to make informed decisions. In summary, the assurance dimension of green tech service quality in the banking sector plays a critical role in building consumer trust and confidence in adopting green banking practices (Iqbal et al., 2019).

HO4: Assurance dimension of green tech service quality is positively correlated with customer adaptability in banking sector.

2.6 Access

The access dimension of green tech service quality in the banking sector refers to the availability, affordability, and inclusivity of sustainable financial products and services. This dimension plays a crucial role in influencing consumer adaptability towards adopting green banking practices. Accessible green tech services include a variety of sustainable financial products such as green loans, eco-friendly credit cards, sustainable investment funds, and green mortgages (Aggarwal et al., 2018). Banks offer these products to cater to diverse consumer needs and preferences related to environmental sustainability. Access also involves ensuring that green banking services are available across different regions and communities, including rural and underserved areas. Banks expand their service footprint to ensure equitable access to sustainable finance options (Jayabal et al., 2017). Accessible green tech services leverage digital platforms, mobile apps, and online banking portals to facilitate easy access and management of sustainable financial products. Consumers can conveniently monitor their green investments, track environmental impacts, and conduct sustainable transactions from anywhere. In summary, the access dimension of green tech service quality in the banking sector is essential for promoting consumer adaptability towards sustainable finance (Iqbal et al., 2019).

HO5: Access dimension of green tech service quality is positively correlated with customer adaptability in banking sector.

2.7 Empathy

The intersection of the empathy dimension in green tech service quality and customer adaptability is an interesting area where customer-centric approaches meet the challenges and innovations of sustainable technologies (Famiyeh et al., 2018). Green tech companies that excel in empathy understand the specific needs and concerns of their customers regarding sustainability. They empathize with the desire to reduce environmental impact, save costs, or adhere to regulatory requirements. Empathetic service quality means offering personalized solutions that align with customers' sustainability goals. This could involve recommending energy-efficient technologies, suggesting eco-friendly materials, or providing lifecycle assessments that help clients make informed decisions. When empathy in service quality meets customer adaptability, it enhances

customer engagement. Customers feel understood and supported in their sustainability journey, which fosters loyalty and positive word-of-mouth. In summary, integrating empathy into green tech service quality and understanding customer adaptability are crucial for the successful adoption and long-term sustainability of green technologies (Parkash, 2019).

HO6: Empathy dimension of green tech service quality is positively correlated with customer adaptability in banking sector.

2.8 Financial Aspect

In the banking sector, the Financial Aspect dimension of green tech service quality refers to how financial institutions integrate and offer green technologies and sustainable practices to their customers. Banks can offer green financial products such as loans with lower interest rates for investments in energy-efficient technologies or sustainable projects. Customers are more adaptable to these offerings when they perceive them as financially advantageous, either through reduced costs or improved returns (Parkash, 2019). Banks can collaborate with governments or offer their own incentives such as reduced fees or bonuses for customers using eco-friendly banking services or products. These incentives encourage customers to adopt green technologies and practices, making them more financially appealing. Banks can develop specific financing options tailored to green technologies, such as financing for solar panels or energy-efficient upgrades for businesses and individuals. Offering flexible repayment terms and competitive rates encourages customers to invest in sustainable solutions (Iqbal et al., 2019). Overall, in the banking sector, the Financial Aspect dimension of green tech service quality plays a pivotal role in fostering customer adaptability by aligning financial products, incentives, and transparency with customers' sustainability goals and financial interests.

HO7: Financial aspect dimension of green tech service quality is positively correlated with customer adaptability in banking sector.

2.9 Employees' Competence

In the banking sector, the Employee Competence dimension of green tech service quality focuses on the knowledge, skills, and capabilities of bank employees in understanding and effectively communicating about green technologies and sustainable financial products. Bank employees need to be well-trained and knowledgeable about green technologies and sustainable financial products (Iqbal et al., 2019). They should understand the benefits, risks, and financial implications of these offerings. Customers are more likely to adapt to green banking services when they can rely on competent employees who can provide accurate information and guidance. Competent employees can educate customers about the advantages of green technologies and sustainable financial products. They can explain how these offerings align with environmental goals and financial interests, helping customers make informed decisions (Fook, 2024). Effective communication and personalized advice based on customer needs enhance adaptability.

Competent employees foster collaboration across different departments within the bank to integrate green technologies into various banking services seamlessly. This alignment ensures consistency in promoting and delivering sustainable financial products, which enhances customer trust and adaptability. In summary, the Employee Competence dimension of green tech service quality in the banking sector plays a critical role in enhancing customer adaptability by ensuring that employees are knowledgeable, skilled, and capable of effectively promoting and supporting green technologies and sustainable financial products (Abass et al., 2024).

HO8: Employee's competence dimension of green tech service quality is positively correlated with customer adaptability in banking sector.

2.10 Dimensions of tech service quality and customer adaptability

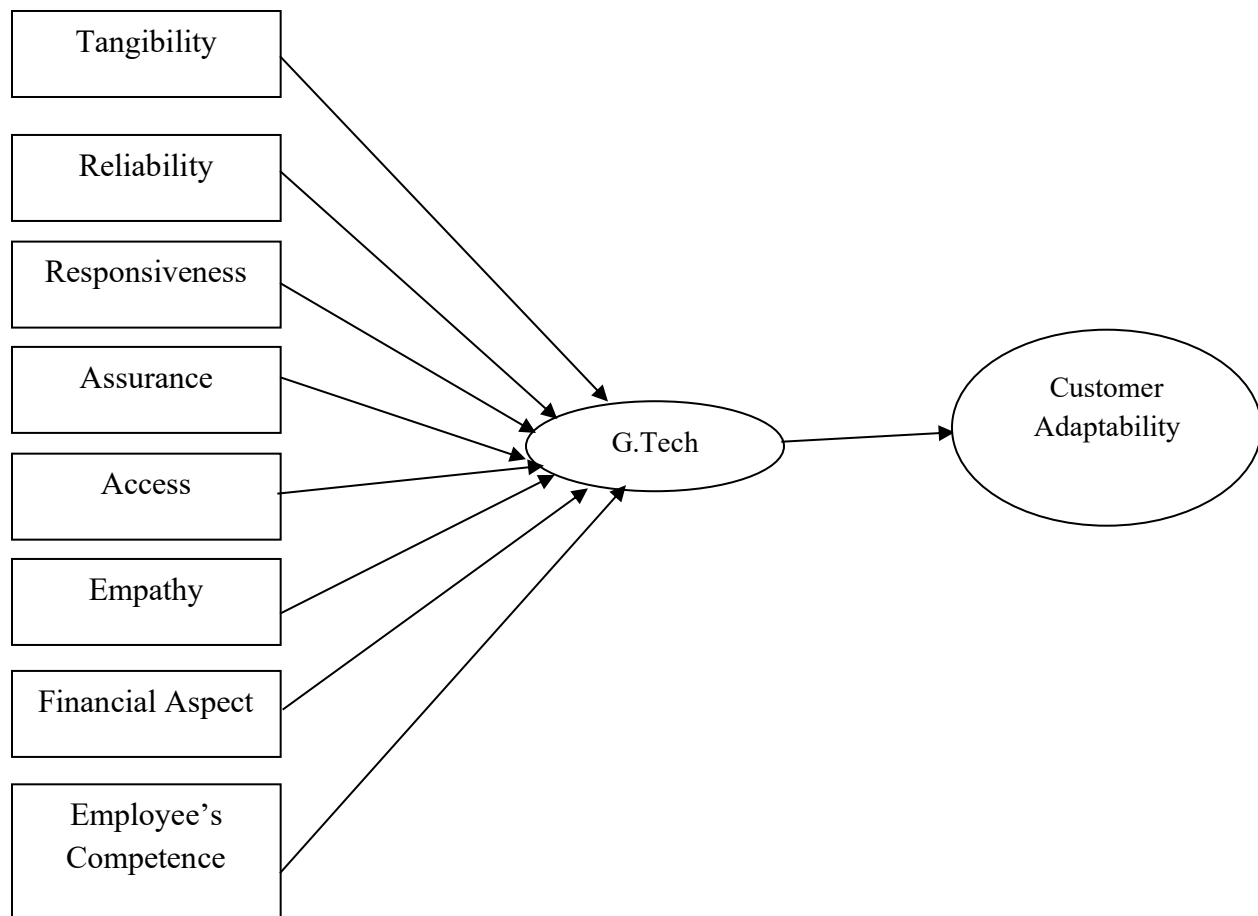
Dimensions of Customer Adaptability: *Customization*: The degree to which the tech service can be tailored to meet individual customer needs or preferences. *Flexibility*: How easily the tech service can accommodate changes or adaptations in customer requirements or circumstances. *Learning Curve*: The ease or difficulty for customers to understand and effectively use the technology or service. *Support for Change*: Assistance provided to customers when transitioning to new features, upgrades, or changes in the tech service. *Feedback Mechanisms*: Systems in place for customers to provide input and influence the ongoing development or customization of the tech service. Various studies highlight high-quality tech service enhances customer adaptability by providing reliable, responsive, and customizable solutions. Services that are adaptable can better meet diverse customer needs, potentially improving overall service quality perceptions (Iqbal et al., 2019; Parkash, 2019; Wu et al., 2018). Understanding these dimensions helps tech companies and service providers in designing, delivering, and improving their offerings to better meet customer expectations and adapt to evolving technological landscapes.

HO9: Green Tech Service Quality Dimensions is positively correlated with customer adaptability in banking sector.

Numerous scholars have examined the correlation between banking services and customer satisfaction in the context of the pandemic (Iqbal et al., 2019). Pandemic satisfaction with e-banking and customer loyalty (Indrasari et al., 2022); pandemic and Islamic banking (Mansour et al., 2021); the pandemic's effects on banking customers' payment behavior (Kubota et al., 2021); physical banking performance (Higgs et al., 2022); and financial support for pandemic stakeholders (Song et al., 2020). To the best of the authors' knowledge, and based on reviewing previous relevant literature, this may be the first attempt to investigate the relationship between consumers' adaptability and green tech service quality dimensions, especially when it comes to areas other than mobile banking. Additionally, it has been observed that there is a shortage of literature on green tech service quality in the Indian context. Hence, the gap has been found and is filled via this study.

The main purpose of the present study is to find out the relationship between dimensions of green tech service quality and customer adaptability in banking sector. Also, based on the hypothesis the conceptual framework of the study is:

Figure 1. Conceptual Framework of the Study



3. Methodology

3.1 Research and Sample Design

The research design of the present study is the Hypothetical Testing design. This study examined the hypothesis regarding whether the dimensions of green tech service quality impact customer adaptability in banking sector. The area under the study is Delhi which is also known as “Mini India”. The sample respondents are the customers of public banks of Delhi. The sample size is infinite. Accordingly, the Cochran formula is used to select the sample size which gives minimum of 384.6 sample size. Hence, the sample size is 420 which is more than the benchmark sample obtained. As per the information displayed by delhimetrotimes.in we have 6 public sector banks in Delhi. So, from each bank 70 respondents has been surveyed which makes up the total sample

size of 420 (6*70). Purposive sampling method has been used to obtain the data. Table 1 shows the demographic summary of the sample respondents Male respondents made up 347 (82.61%) while female respondents made up 73 (17.38%) of the total. Women engage in less banking-related interactions than men do. Subsequently, it was discovered that the majority of customers who had used their banks' banking services for less than five years ($n = 156$; 37.14%), five to ten years ($n = 133$; 31.66%), and more than ten years were ($n = 131$; 31.11%). When it came to the consumers' educational attainment, 123 (or 29.28%) had completed up to higher secondary school or less, 116 (or 27.61%) had completed a bachelor's degree, and 181 (or 43.09%) of the respondents had completed a master's degree or higher. Equal number of respondents has been taken from each bank.

Table 1. Demographic statistics

Variables	Category	Frequency	Percentage
Gender	Male	347	82.61
	Female	73	17.38
Service Tenure	Less than 5 year	156	37.14
	5-10 year	133	31.66
	More than 10 year	131	31.11
Education	Up to Higher secondary school	123	29.28
	Bachelor's Degree	116	27.61
	Master's Degree	181	43.09
Bank	Bank of Baroda	70	16.667
	Bank of India	70	16.667
	Canara Bank	70	16.667
	Central Bank of India	70	16.667
	Indian Bank	70	16.667

(Source- Researcher Calculations)

3.2 Instrument Development and Data Collection

Using the dimensions of the service quality items (Parasuraman et al., 1985) and a comprehensive examination of pertinent literature, a structured questionnaire was developed. The survey was split into two separate parts. Demographic information was included in the study's first section, while elements pertaining to customer adaptability and service quality were covered in the second. A Likert scale of five points was created, with one representing strong disagreement and five representing strong agreement. The study found eight elements in the field of green technology and 22 criteria falling under the dimensions of technology service quality. Also, few statements related to customer adaptability were added. The participants received the structured questionnaire (Table 2). Data evaluation was done using MS Excel, SPSS, and SPSS AMOS application software. The proposed model was implemented and assessed using “Structural Equation Modeling (SEM), Confirmatory Factor Analysis (CFA) and Exploratory Factors Analysis (EFA).

Table 2. Measurement Items

Variables	Coding	Statements	Sources
Reliability	V1	Committed to act by a specific deadline.	(Parasuraman et al., 1994); (Sugiarto & Octaviana, 2021); (Anish et al, 2018)
	V2	Sincere in addressing customer issues.	
	V3	Complete the task correctly the first time.	
Tangibility	V4	Green equipment with a modern appearance	(Parasuraman et al., 1994); (Iqbal et al, 2019); (Wu et al, 2018).
	V5	Physical Green Service Infrastructure	
	V6	Technologically Astute Employees	
Responsiveness	V7	Aware of the scheduled service time	(Parasuraman et al., 1994); (Park et al, 2021);
	V8	Prompt customer service	

	V9	Never too busy to answer inquiries from customers	(Iqbal et al, 2019); (Wu et al, 2018).
Assurance	V10	Give customers a sense of trust	(Parasuraman et al., 1994);
	V11	Customers are at ease with the online transaction.	(Eberle et al, 2016);
	V12	Always being polite to customers	(Mneimneh et al, 2023).
Empathy	V13	Cater to each consumer individually	(Parasuraman et al., 1994);
	V14	User-friendly functionalities for every one of their customers	(Famiyeh et al, 2018); (Parkash, 2019).
	V15	Recognizes the unique requirements of its customers.	
Access	V16	The location of the service facility is convenient.	(Parasuraman et al., 1994);
	V17	The hours of operation are useful,	(Jayabal et al 2017); (Iqbal et al, 2019)
	V18	The service is easily available via phone.	
Financial Aspect	V19	Provide loans and deposits at competitive interest rates.	(Parasuraman et al., 1994);
	V20	Examine the fees charged by various institutions and take into account elements like financial penalties when calculating their adaptability quotient.	(Parkash, 2019); (Iqbal et al, 2019)
	V21	Pay attention to each customer's profitability.	
Employee's Competence	V22	Employees possess the necessary abilities, skills, and knowledge.	(Parasuraman et al., 1994); (Fook,

	V23	Employees hold certain values.	2024); (Abass etal, 2024).
	V24	Employees are driven, self-reliant, and disciplined.	
Customer Adaptability	Q1	I feel content with how quickly my request was handled.	(Iqbal etal, 2019; Parkash, 2019; Wu etal, 2018).
	Q2	I'm happy with the green banking services and how quickly they respond.	
	Q3	Content with the green features, amenities, and related technologies.	
	Q4	Pleased with the online transactions	

4. Results and Discussion

Two different models were compared for effectiveness using structural equation modeling (SEM) analysis in the present study. The suggested research framework and the technological service quality's applicability for the investigation were determined. The technology service quality model summary and the proposed model, shown in Table 3, explained that every model fit indicator, including χ^2/df , "NFI, CFI, AGFI, GFI, TLI, and RMSEA," satisfied the predetermined threshold level.

A thorough overview of the validity and reliability analysis, including item codes, factor loading, composite reliability, and Cronbach's alpha, is provided in Table 4. The study first used EFA to determine the construct validity of the suggested model before evaluating it. CFA was then performed in order to validate the model. Remarkably, every factor produced by EFA was kept since, as shown in Table 4, their substantial factor loads were greater than 0.60.

Table 3. SEM Model Fit Statistics

Model	χ^2	df	Sig.	χ^2/df	NFI	CFI	AGFI	GFI	TLI	RMSEA	CD
SERVQUAL	423.66	419	.000	1.01	.956	.987	.854	.867	.956	.056	.35
Research Model	835.22	419	.000	1.99	.867	.967	.843	.843	.950	.056	.17

*Note: χ^2 - Chi Square; df- Degree of freedom; NFI - Normed Fit Index; CFI - Comparative Fit Index, AGFI - Adjusted Goodness of Fit Index; GFI - Goodness of Fit Index; TLI- Tucker-Lewis Index, RMSEA- Root Mean Square Error of Approximation. CD- Coefficient of Determination.

(Source: Authors' SPSS AMOS output)

Table 4. Overview of EFA and CFA outcome

Variables	Coding	EFA		CFA	
		Factor Loading	α	Factor Loading	CR
Reliability	V1	.908	.912	0.04	.912
	V2	.922		1.01	
	V3	.867		1.00	
Tangibility	V4	.909	.900	0.08	.900
	V5	.890		1.01	
	V6	.842		1.00	
Responsiveness	V7	.890	.890	.94	.890
	V8	.876		1.02	
	V9	.867		1.00	
Assurance	V10	.765	.712	0.10	.712
	V11	.711		1.03	
	V12	.653		1.00	
Empathy	V13	.812	.855	0.10	.855
	V14	.811		1.03	
	V15	.723		1.00	
Access	V16	.811	.823	.90	.823

	V17	.723		.92	
	V18	.721		1.00	
Financial Aspect	V19	.756	.800	1.00	.800
	V20	.745		.97	
	V21	.723		1.00	
Employee's Competence	V22	.734	.799	1.07	.799
	V23	.724		1.04	
	V24	.711		1.00	
Customer Adaptability	CA1	.901	.912	1.00	.912
	CA2	.900		.98	
	CA3	.899		.98	
	CA4	.876		.94	

Twenty-eight questions (items) and nine components were identified by the investigation. Nine hypotheses were developed using a conceptual model that was produced by the literature analysis. The proposed model has been verified with the aid of SPSS AMOS's -SEM analysis. Following validation, it turns out that eight of the nine hypotheses have been validated (i.e. tangibility, reliability, access, responsiveness, employee competence, empathy and financial aspect) are positively related with customer adaptability; however, one of the hypothesis—assurance do not appear to be positively correlated with consumer adaptability.

The coefficient of determination estimation indicates that the following dimensions of the technology service quality—"reliability, tangibility, responsiveness, empathy, assurance, access, financial aspect, and employee competence"—can account for and interpret green tech customer adaptability to the tune of 35%, given that the relevant coefficient of determination is 0.35. In other words, it can be interpreted as Green tech service quality dimensions impact customer adaptability. Also, the factor loadings have shown that Reliability and Tangibility is the highest contributing dimension of GTSQ and assurance is the least. Banking technology that are inadequate or banks frequently fall short of optimizing the potential of green banking customers' adaptability with banking services. It is advised that practitioners concentrate on this specific problem.

4.1 Discussion

The present study is focused on examining the relationship between dimensions of green tech service quality and customer adaptability in banking sector. Figure 2 (a) and (b) shows the SEM results. Figure 2 (a) represents the servqual modified model which clearly shows the regression weights and the model validity and reliability. Figure 2(b) shows the proposed research model of the study through which we come to know which dimension of green tech service quality impacts customer adaptability in the Indian banking sector. Also, Table 5 shows the results of hypothesis based on SEM results. The results clearly showed that as the value of p in 7 cases greater than 0.05 which shows alternative hypothesis has been accepted i.e. tangibility, responsiveness, access, empathy, financial aspect, employee's competence and reliability has a positive correlation with customer adaptability. Moreover, the dimension assurance does not have a positive correlation with customer adaptability. So, as 7 dimensions out of 8 positives correlates with customer adaptability. So, it can be said that there is a positive relationship between dimensions of green tech service quality and customer adaptability in Indian banking sector.

Table 5. Results of Hypothesis Testing with SEM

S.No	Relationship	P Value	Hypothesis Accept/ Reject
1	TD → CA	.10	Accept
2	RB → CA	.04	Accept
3	RS → CA	.03	Accept
4	AS → CA	.46	Reject
5	AC → CA	.07	Accept
6	E → CA	.00	Accept
7	FA → CA	.06	Accept
8	EC → CA	.06	Accept

Here, "CA- Customer Adaptability; TD- Tangibility; RB- Reliability; RS- Responsiveness; AS- Assurance; AC- Access; E-Empathy; FA- Financial Aspect; EC- Employee's competence", ** P>0.05- Accept Alternate Hypothesis.

(Source- SPSS AMOS)

Figure 2a. Results of SERVQUAL and SEM Research Model

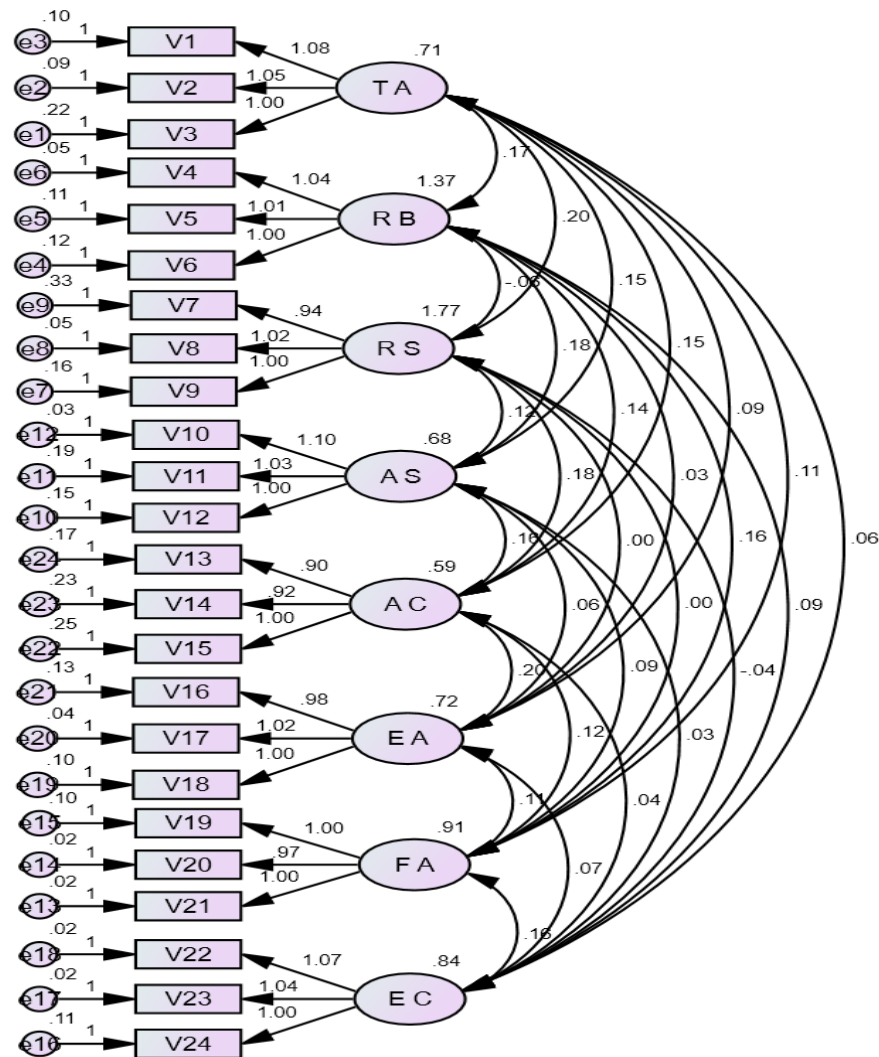
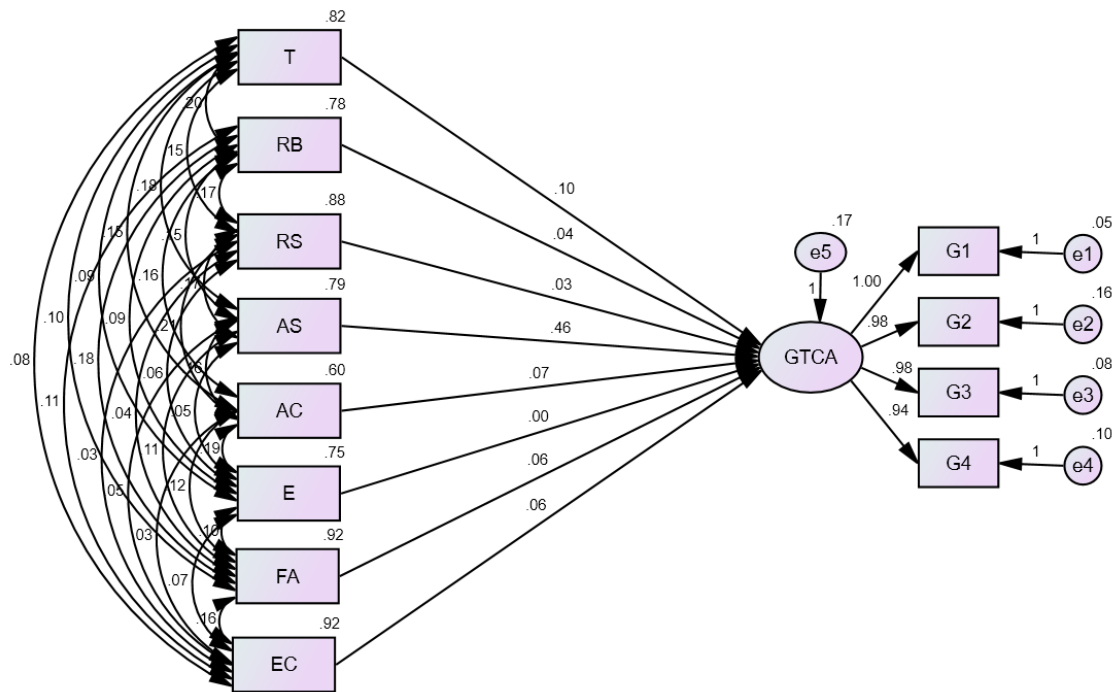


Figure 2b. Results of SERVQUAL and SEM Research Model



(Source- SPSS AMOS)

5. Conclusion

Green tech banking services refer to financial products and services that support environmentally sustainable initiatives, such as renewable energy projects, energy-efficient infrastructure, and eco-friendly businesses. The practical implications of such services and their consumer adaptability are multifaceted and can have significant impacts on both the banking industry and society as a whole. As environmental consciousness grows among consumers, there is an increasing demand for banking services that align with their values. Green tech banking services cater to this demand by offering products and solutions that promote sustainability. Banks need to adapt to these changing preferences to remain competitive and attract environmentally conscious customers. Investing in green technologies and sustainable projects can contribute to mitigating environmental risks associated with climate change. From the banking perspective, integrating sustainability criteria into lending and investment decisions can help in identifying and managing long-term risks associated with environmental degradation, regulatory changes, and shifts in consumer preferences. Green tech banking services require continuous innovation and product development to meet the evolving needs of consumers and businesses. This may involve creating new financial products tailored to support renewable energy projects, green infrastructure development, or

sustainable agriculture. Banks that are proactive in developing such products can gain a competitive advantage in the market. The banking industry is subject to various regulations and standards related to environmental sustainability. Banks offering green tech services need to ensure compliance with these regulations, which may include reporting requirements, adherence to sustainable lending practices, and meeting environmental performance standards. Banks offering green tech services need to establish metrics and reporting mechanisms to measure the environmental impact of their activities accurately. This includes tracking the carbon footprint of their lending and investment portfolios, evaluating the effectiveness of sustainability initiatives, and providing transparent disclosure to stakeholders (Sharma et al, 2022). Overall, the practical implications of green tech banking services revolve around aligning financial activities with environmental objectives, meeting consumer demand for sustainable solutions, managing risks, fostering innovation, and contributing to the transition towards a more sustainable economy.

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