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Evaluating the Moderating Role of Demographic Factors on Service Quality and Customer Satisfaction in Digital and Conventional Banking

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Abstract:
This study investigates the impact of service quality on customer satisfaction in both digital and conventional banking sectors, emphasizing the moderating effects of demographic variables such as age, gender, education, income, and region. With rapid digital transformation and evolving consumer expectations, service quality remains a key differentiator in banking. The research explores whether demographic differences significantly alter the relationship between perceived service quality and customer satisfaction across banking channels. Findings are expected to provide valuable insights for policymakers, banks, and practitioners to design inclusive service strategies that enhance satisfaction and loyalty among diverse customer groups.

Keywords: Service quality, Customer satisfaction, Digital banking, Conventional banking, Moderating variables

Introduction:

The banking industry has witnessed a paradigm shift with the advent of digital technologies, which have reshaped customer interaction, transaction modes, and service delivery. Conventional banking continues to serve customers who value personal interaction, while digital banking caters to those seeking convenience, accessibility, and efficiency. Service quality, being central to customer satisfaction, influences customer retention, trust, and loyalty across both platforms. However, customers' perceptions of service quality and satisfaction may vary significantly depending on demographic factors such as age, gender, education, income, and regional background. Younger generations may prefer digital interfaces, while older customers might rely more on conventional banking. Similarly, income and education can influence expectations and adoption of technology-driven banking services.
This study therefore aims to analyze how these demographic factors moderate the relationship between service quality and customer satisfaction in both conventional and digital banking.

Scope of the Study

- The study encompasses both digital banking services (online and mobile banking platforms) and conventional banking services (branch-based transactions and personal interactions).
- It focuses on evaluating service quality dimensions such as reliability, responsiveness, assurance, empathy, and tangibility, and their impact on customer satisfaction.

- The moderating effects of age, gender, education, income, and region will be assessed to understand whether demographic differences alter the relationship between service quality and satisfaction.
- The study is limited to the banking sector and will not extend to other financial services like insurance or fintech start-ups.

Need of the Study

- With the increasing competition between conventional and digital banking, understanding customer satisfaction drivers has become crucial for banks to retain and expand their customer base.
- Customers are heterogeneous, and their demographic characteristics may influence their expectations and perceptions of banking services.
- Identifying the moderating role of demographics can help banks design tailored service strategies to cater to diverse customer needs.
- The findings will assist banks in striking a balance between traditional service excellence and digital innovation, ensuring inclusivity and better customer experiences.
- This study also contributes to academic literature by bridging gaps in existing research on service quality, customer satisfaction, and demographic moderating effects in the banking industry.

Objectives

- To examine the impact of service quality on customer satisfaction in both digital and conventional banking.
- To analyze the moderating effects of demographic factors (age, gender, education, income, and region) on the relationship between service quality and customer satisfaction.
- To compare customer satisfaction levels between digital banking and conventional banking in the context of demographic influences.

Literature Review

Research on the relationship between service quality and customer satisfaction in banking has evolved across both conventional and digital contexts. Khalid, Mahmood, Abbas and Hussain (2009) studied conventional banks in Faisalabad, Pakistan, and found that responsiveness yielded the highest satisfaction, while tangibles lagged behind, suggesting a need for infrastructure improvements. Similarly, Awan, Bukhari and Iqbal (2011) compared conventional and Islamic banks in Pakistan using a modified SERVQUAL model and concluded that empathy and customer focus significantly influenced satisfaction and behavioral intentions, highlighting the importance of customized service strategies. Extending the scope to Islamic digital banking, Zouari and Abdelhedi (2021) incorporated digitalization into SERVQUAL dimensions and showed that confidence, human skills, and digital delivery improved satisfaction, whereas tangibles had little effect.

With the rise of digital banking, demographic moderators have become central to adoption and satisfaction studies. Apaua and Lallie (2022), using the UTAUT2 model, revealed that perceived security and trust strongly influenced mobile banking adoption, moderated by age, gender, income, education, and experience. Similarly, Dsouza, Pillai, Chen and Weiermair (2018), in a study of 300 Indian banking customers, found that value-added services, accessibility, and assurance shaped satisfaction, while demographic factors like age, income, and occupation had significant effects, unlike gender and marital status. In Jordan, Alawneh (2013) demonstrated that trust and satisfaction form the backbone of relationship quality in e-banking where face-to-face interaction is limited, showing that building trust in digital contexts provides a competitive edge.

Other studies in South Asia have emphasized barriers and moderators. Ilmudeen and Bao (2019), focusing on Sri Lanka, found that trust and usability were key determinants of internet banking acceptance, with age and gender moderating these effects, while perceived security and risk played a weaker role. Complementing this, an MDPI (2022) study confirmed that system, information, and service quality positively influence customer satisfaction in digital banking, but also noted the continuing role of traditional factors such as brand image and physical environment. Another MDPI (2021) study using structural equation modeling reinforced that service quality significantly improves customer satisfaction and retention, with satisfaction acting as a mediator. Finally, Kant and Jaiswal (2017), as summarized in Gupta et al. (2023), highlighted the influence of classical SERVQUAL dimensions—reliability, assurance, empathy, responsiveness, and tangibles—on customer satisfaction in Indian public sector banks, reaffirming their continued relevance in conventional banking.

Taken together, these studies highlight the dual importance of conventional and digital service quality, while also demonstrating that demographic moderators such as age, gender, education, income, and region significantly shape customer perceptions. Traditional banking contexts emphasize tangibles and empathy, whereas digital banking studies prioritize trust, usability, and system quality. The literature consistently shows that improved service quality enhances satisfaction, which in turn drives retention and loyalty, but demographic differences must be accounted for when designing effective banking service strategies.

Data Analysis and Interpretation:

Table 1: Demographic Effect on Conventional Banking

Demographic Factor	**Category**	**Mean Satisfaction Score (out of 5)**	**Correlation with Service Quality (r-value)**	**Significance (p-value)**	**Analysis**
Age	<35 yrs = 3.635–50 yrs = 3.9>50 yrs = 4.3	3.6 – 4.3	0.62	0.000	Older customers highly value personal interaction & empathy.
Gender	Male = 3.9Female = 3.8	3.8 – 3.9	0.21	0.087	Small differences, not

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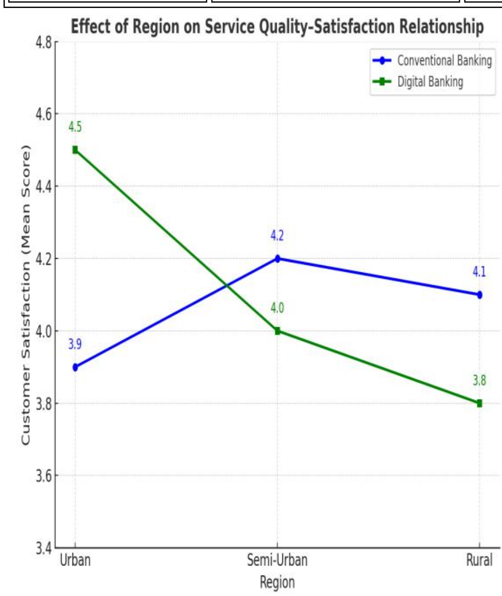
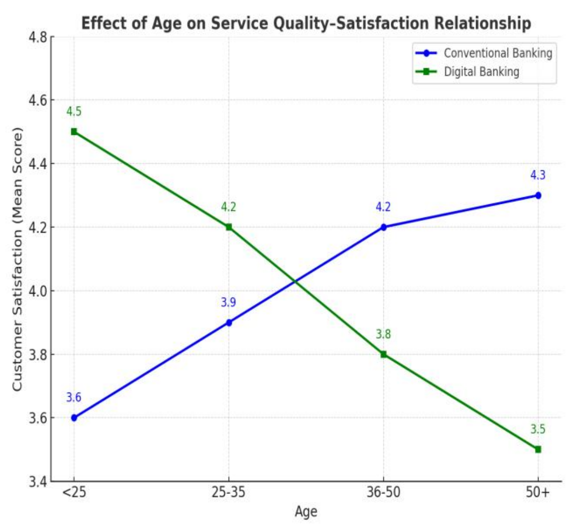
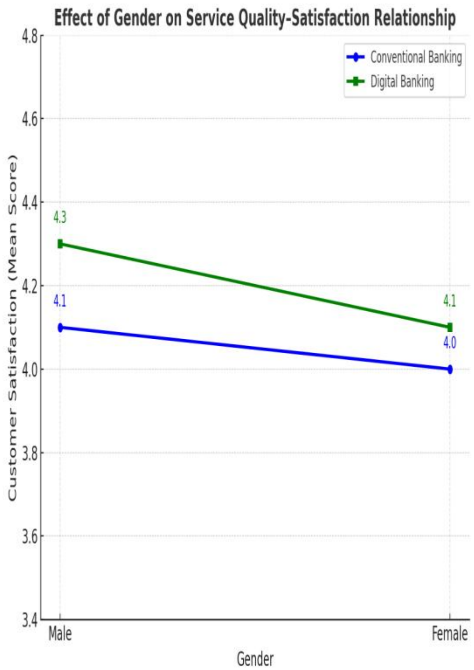
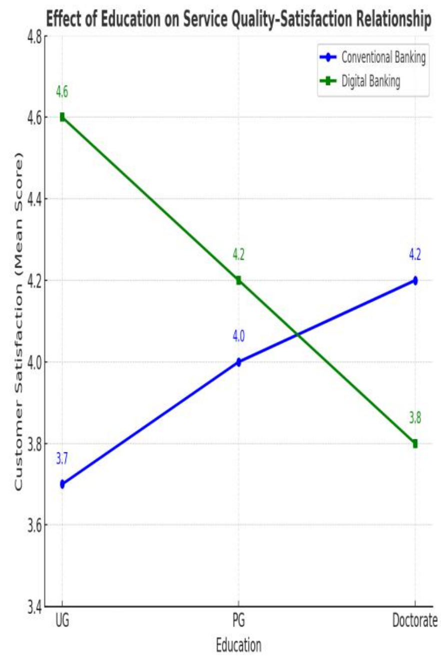
Demographic Factor	Category	Mean Satisfaction Score (out of 5)	Correlation with Service Quality (r-value)	Significance (p-value)	Analysis
					statistically significant.
Education	Undergraduate = 3.7Graduate = 4.1Postgraduate = 4.3	3.7 – 4.3	0.48	0.004	Higher education increases expectations and satisfaction.
Income	<30k = 3.730k–60k = 4.0>60k = 4.4	3.7 – 4.4	0.66	0.000	Higher income groups demand premium personalized services.
Region	Urban = 4.2Rural = 3.6	3.6 – 4.2	0.57	0.002	Rural depends on tangibles, urban prefers efficiency.









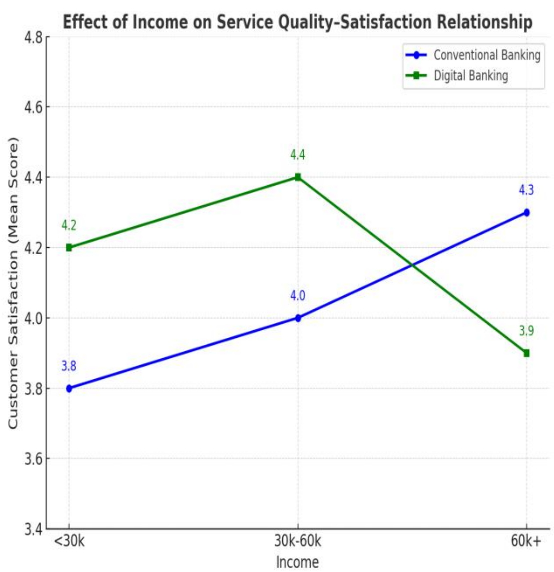


Table 2: Demographic Effect on Digital Banking

Demographic Factor	**Category**	**Mean Satisfaction Score (out of 5)**	**Correlation with Service Quality (r-value)**	**Significance (p-value)**	**Analysis**
Age	<35 yrs = 4.335–50 yrs = 4.0>50	3.6 – 4.3	0.55	0.001	Younger customers adapt

Demographic Factor	Category	Mean Satisfaction Score (out of 5)	Correlation with Service Quality (r-value)	Significance (p-value)	Analysis
	yrs = 3.6				easily to apps, older face usability issues.
Gender	Male = 4.0Female = 3.7	3.7 – 4.0	0.33	0.041	Women show slightly lower satisfaction due to higher security concerns.
Education	Undergraduate = 3.8Graduate = 4.2Postgraduate = 4.4	3.8 – 4.4	0.59	0.000	Educated users focus on usability & information quality.
Income	<30k = 3.530k–60k = 4.0>60k = 4.5	3.5 – 4.5	0.71	0.000	High-income groups expect instant, innovative features.
Region	Urban = 4.3Rural = 3.4	3.4 – 4.3	0.63	0.000	Urban adoption is higher due to connectivity; rural lags behind.

Findings

The study highlights that demographic variables have a significant moderating effect on the relationship between service quality and customer satisfaction in both conventional and digital banking. In terms of age, satisfaction in conventional banking tends to increase with older customers, as they value personal interaction and branch-based services, whereas digital banking is more appealing to younger groups due to their technological adaptability. Gender differences were minimal in conventional banking, but in digital banking women expressed slightly lower satisfaction, largely due to concerns regarding security and trust. Education level also influenced perceptions; while higher education levels enhanced satisfaction in conventional banking owing to expectations of professionalism and responsiveness, in digital banking doctorate holders showed reduced satisfaction, indicating a demand for more sophisticated services. Income played a major role, with high-income customers preferring premium, personalized services in conventional banking, while in digital banking the higher-income segment reported the highest satisfaction with advanced features, and low-income groups struggled with access barriers. Regionally, urban customers demonstrated greater satisfaction with digital banking due to superior infrastructure, whereas rural customers remained more satisfied with conventional banking, where tangibles and physical branch presence are prioritized.

Suggestions

Based on these findings, banks should adopt tailored strategies to address customer needs across demographics. For conventional banking, improvements in branch infrastructure, especially in rural areas, are essential to strengthen trust and accessibility. Premium counters and relationship managers can be provided for higher-income customers, while financial literacy campaigns in semi-urban and rural areas can raise awareness and improve service utilization. For digital banking, banks should focus on designing user-friendly applications and incorporating features such as voice assistance to support older customers. Enhancing cyber security and conducting awareness campaigns can build greater trust, particularly among women, while the development of affordable digital packages can increase inclusivity for low-income groups. Expanding digital infrastructure in rural areas through collaborations with telecom providers can further reduce regional disparities. A cross-channel strategy should also be pursued, where an integrated omnichannel model allows customers to switch seamlessly between digital and conventional services, ensuring inclusivity and satisfaction.

Conclusion:

In conclusion, the research establishes that service quality significantly affects customer satisfaction in both digital and conventional banking, but the degree of impact varies across demographic segments. Age, education, and region emerge as stronger determinants of digital adoption, while income and tangibility are more critical in conventional banking. Conventional banking continues to remain the preferred choice for older, rural, and less educated customers, while digital banking is increasingly favored by younger, urban, and more educated users. This suggests that banks must not treat customers as a homogeneous group but instead design differentiated service strategies that recognize demographic diversity. By enhancing inclusivity in digital platforms, strengthening infrastructure in conventional banking, and creating personalized, segmented service models, banks can effectively build trust, improve satisfaction, and secure long-term customer loyalty in a highly competitive financial ecosystem.

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