



## Fintech Disruptors: The Rise of Neobanks with Ai Integration Transforming Customer Banking Experiences

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### ABSTRACT:

The financial industry, traditionally characterized by grand physical banking institutions, has undergone a profound transformation with the emergence of fintech disruptors, particularly neobanks. These digital-first, tech-driven institutions have redefined banking by integrating artificial intelligence (AI) into their operations. This study explores how AI-integrated neobanks are transforming customer banking experiences. Utilizing a mixed-methods approach, we analyze quantitative and qualitative data from 178 working individuals across various sectors. Our findings reveal that AI integration significantly enhances customer satisfaction, trust, and loyalty, with demographic factors moderating these effects. We discuss the pivotal role of AI in personalized banking services, fraud detection, and customer support, and provide practical recommendations for traditional banks to remain competitive. Additionally, we address concerns about data privacy and security, emphasizing the importance of transparency and robust protective measures. The study concludes by highlighting the need for further research into the ethical implications of AI, long-term impacts, and regulatory frameworks to guide responsible AI adoption in the banking industry.

**Keywords:** Neobanks, Artificial Intelligence (Ai), Customer Satisfaction, Trust, Loyalty, Fintech Disruption, Personalized Banking, Fraud Detection, Customer Support, Data Privacy, Banking Industry Transformation.

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## 1. Introduction

The financial industry, traditionally dominated by physical banking institutions, has undergone a significant transformation with the rise of fintech disruptors, particularly neobanks. Neobanks, which operate exclusively online, challenge conventional banking paradigms through their digital-first approach and strategic integration of artificial intelligence (AI). Adrian and Mancini-Griffoli (2019) highlight that neobanks focus on simplifying account management and transparent fee structures, setting the stage for customer-centric banking experiences. AI's analytical capabilities enable neobanks to deliver personalized, efficient, and customer-centric experiences, reshaping financial operations (Feyen et al., 2021).

This research paper investigates the synergy between neobanks and AI, focusing on their impact on customer banking experiences. We will explore neobanks' unique features and advantages in the financial market (Bhutani & Wadhvani, 2018), and examine AI's role in revolutionizing banking through personalized recommendations, fraud detection, and AI-driven customer support (Diener & Špaček, 2021). Our data analysis aims to provide empirical evidence on the significant effects of AI-integrated neobanks on customer experiences.

In an era of commoditized financial services, AI-powered neobanks are pioneering a new era of banking. This research aims to uncover the dynamics of this transformation and offer insights into how traditional banks can adapt to remain competitive amidst fintech disruption (Dehnert & Schumann, 2022).

## 2. Literature Review

The convergence of financial technology (fintech) disruptors, specifically neobanks, with artificial intelligence (AI) integration, has ushered in a new era of customer-centric banking experiences. A review of the existing literature illuminates the transformative impact of this synergy on the banking industry.

Neobanks, also known as digital banks or challenger banks, have emerged as disruptive forces in the financial sector. Born in the digital age, these banks offer financial services exclusively online, circumventing the need for physical branches. Adrian and Mancini-Griffoli (2019) highlight that neobanks focus on simplifying account management and transparent fee structures, setting the stage for customer-centric banking experiences.

Neobanks are characterized by their digital-first approach, providing customers with seamless and convenient access to financial services through mobile apps and web platforms. Bhutani and Wadhvani (2018) emphasize that neobanks offer real-time transaction notifications, instant fund transfers, and intuitive budgeting tools, all of which contribute to an enhanced customer experience.

Neobanks boast several advantages over traditional banks. Their lean, technology-driven operations result in lower overhead costs, allowing them to offer reduced fees and competitive interest rates to customers (Claessens et al., 2018). Moreover, their agile business models enable faster responses to customer needs, further elevating the overall banking experience (Arner et al., 2017).

Neobanks have taken a significant leap forward by integrating AI into their operations. AI algorithms, fuelled by vast amounts of data, deliver personalized financial advice, assess credit risk, and detect fraudulent activities (Feyen et al., 2021). Additionally, chatbots, powered by AI, provide instant and efficient customer support, enhancing the efficiency of issue resolution (Diener & Špaček, 2021).

AI-driven personalization is a hallmark of neobanks with AI integration. By analysing transaction histories and spending patterns, AI algorithms offer tailored financial

recommendations, helping customers save and invest more effectively (Philippon, 2018). This personalization fosters trust and loyalty among users (De la Mano & Padilla, 2018).

AI plays a pivotal role in risk management. Neobanks leverage AI to assess creditworthiness, making lending decisions faster and more precise. Furthermore, AI-powered fraud detection systems continuously monitor transactions, swiftly identifying and mitigating suspicious activities, thereby enhancing the security of customer accounts (D’Silva et al., 2019).

The integration of AI-driven chatbots has revolutionized customer support in neobanks. These virtual assistants are available around the clock, addressing queries, troubleshooting issues, and providing guidance. This not only reduces operational costs but also ensures that customers receive immediate assistance, further improving their overall banking experience (Donnelly, 2016).

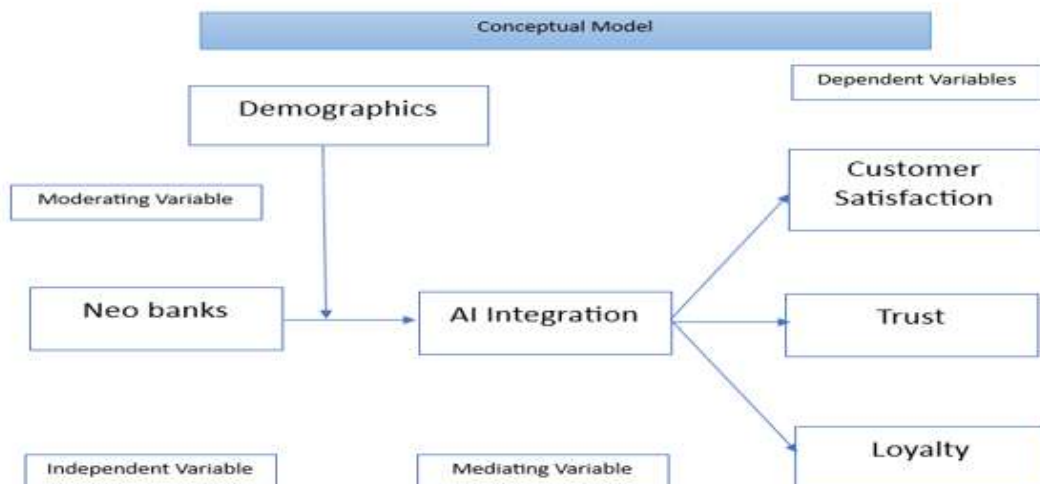
Despite their promise, neobanks with AI integration face challenges. Concerns regarding data privacy and security have arisen as banking transactions move increasingly online (Muthukumaran & Haridasan, 2022). Additionally, questions persist about the long-term viability and profitability of neobanks (De Prado, 2018).

Traditional banks have taken notice of the neobank revolution. Many have embarked on digital transformation journeys and integrated AI into their services to compete with these disruptors. However, the agility and customer-centric approach of neobanks pose a formidable challenge for their more established counterparts (Dehnert & Schumann, 2022).

### Conceptual Model

AI integration is transforming customer banking experiences. The following conceptual model serves as the foundation for our research. This model provides a structured framework for understanding the intricate dynamics between neobanks, AI integration, and their impact on customers' satisfaction, trust, and loyalty.

The conceptual model centers on neobanks as the independent variable, representing digital banks operating exclusively online and offering a suite of financial services through digital platforms (Adrian & Mancini-Griffoli, 2019). AI integration serves as the mediating variable, highlighting the extent to which neobanks leverage AI for personalized financial recommendations, credit risk assessment, fraud detection, and AI-driven customer support (Feyen et al., 2021). Customer banking experiences are the dependent variables, focusing on customer satisfaction, trust, and loyalty (Philippon, 2018). Additionally, demographic characteristics (e.g., age, income, education) act as moderating variables, influencing the relationships between neobanks and customer satisfaction, trust, and loyalty (Dehnert & Schumann, 2022).



The conceptual model posits that AI integration in neobanks significantly influences customer satisfaction, trust, and loyalty. The study hypothesizes that neobanks' strategic deployment of AI-driven features and services enhances customer satisfaction, leading to greater trust in the institution and, ultimately, higher customer loyalty.

By examining the interplay between these key variables, our research aims to provide empirical insights into the transformative power of neobanks with AI integration on customer banking experiences. The model will collect and analyze data to validate the relationships within this model, shedding light on the extent to which AI-integrated neobanks contribute to heightened customer satisfaction, trust, and loyalty. This model serves as the roadmap for our empirical investigation, contributing to a deeper understanding of the evolving landscape of fintech disruptors in the banking industry.

- **Customer Satisfaction:** Demographic factors can moderate the relationship between Neobanks and Customer Satisfaction. For instance, younger customers might be more tech-savvy and therefore more satisfied with AI-driven features, while older customers might have different preferences. The moderating variable helps us understand how demographic characteristics influence the impact of Neobanks on Customer Satisfaction.
- **Trust:** The moderating variable can influence the degree to which demographic factors affect trust in Neobanks. For example, customers with higher incomes may trust Neobanks more when AI integration leads to personalized financial advice, while those with lower incomes may have different expectations. The moderating variable helps us assess how demographic traits affect the trust-building process.
- **Loyalty:** Demographic characteristics can also moderate the relationship between Neobanks and customer loyalty. Certain demographic groups may exhibit higher loyalty when AI integration aligns with their preferences and needs, while others may have different drivers for loyalty. The moderating variable helps us explore how demographics impact the link between Neobanks and customer loyalty.

Based on the conceptual framework, the objectives of this research are

- To present empirical findings on the influence of AI integration in neobanks on customer satisfaction, trust, and loyalty, considering demographic factors as moderating variables.
- To investigate AI's crucial role in transforming banking processes, including personalized financial recommendations, fraud detection, and AI-driven customer support, and its impact on enhancing customer banking experiences.
- To provide insights into the future of banking and recommend strategies for traditional banks to adapt and maintain competitiveness amidst fintech disruption, focusing on the dynamic interplay between neobanks, AI integration, and customer demographics.

### 3. Research Methodology

This study employs a mixed-methods research approach to investigate the transformation of customer banking experiences through neobanks with AI integration. Data was collected from working individuals above 18 years across various sectors and professional backgrounds using a structured questionnaire. The research design combines quantitative surveys and qualitative in-depth interviews to provide a comprehensive understanding of the phenomenon. Quantitative data was gathered through online surveys, measuring customer satisfaction, trust, loyalty, and the perceived impact of AI integration. Qualitative data was obtained through semi-structured interviews with neobank customers and industry experts, providing rich contextual insights. Stratified random sampling was used for quantitative data collection to ensure demographic representation, while purposive sampling was employed for qualitative

interviews to capture a range of perspectives and experiences relevant to AI-integrated neobanks.

**Test of Reliability**

The reliability analysis based on the conceptual model shows a Cronbach's Alpha value of 0.712, which indicates a good level of internal consistency among the five items used in the study. When the items are standardized, the Cronbach's Alpha slightly increases to 0.736, further confirming the reliability of the measurement scale.

A Cronbach's Alpha value above 0.70 is generally considered acceptable in social sciences research, suggesting that the items reliably measure the constructs of interest—such as customer satisfaction, trust, and loyalty in the context of AI-integrated neobanks.

These results imply that the items used in this study are consistent and reliable, providing confidence in the measurement of the variables within the conceptual model. This supports the validity of the findings related to the impact of AI integration in neobanks on customer satisfaction, trust, and loyalty.

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.712	.736	5

**Data Analysis**

A sample size of 178 working people has been considered from different streams and geographic areas. The descriptive analysis of the demographics is summarized in Table 1

Table 1 Profile of Respondents

<b>Age</b>			
Sl.No	Description	Frequency	Percentage
1	18-25	116	65.1
2	25-35	51	28.6
3	35-50	10	5.6
4	Above 50	1	0.56
<b>Gender</b>			
Sl.No	Description	Frequency	Percentage
1	Male	116	65.1
2	Female	61	34.2
3	Prefer Not to Say	1	0.56
<b>Level of Education</b>			
Sl.No	Description	Frequency	Percentage
1	Undergraduate	90	50.5
2	Postgraduate	81	45.5
3	Others	7	3.9
<b>Level Of Income</b>			
Sl.No	Description	Frequency	Percentage
1	Below 25000	108	60.6

2	25000-50000	48	10.0
3	50000-75000	11	6.1
4	Above 75000	11	6.1

A sample size of 178 working individuals from various streams and geographic areas was considered for this study. The demographic profile of respondents is summarized as follows: The majority of respondents are aged 18-25 years (65.1%), followed by those aged 25-35 years (28.6%), 35-50 years (5.6%), and above 50 years (0.56%). In terms of gender, 65.1% are male, 34.2% are female, and 0.56% prefer not to say. Regarding education level, 50.5% are undergraduates, 45.5% are postgraduates, and 3.9% fall into the 'Others' category. Income levels reveal that 60.6% earn below 25,000, 10.0% earn between 25,000-50,000, 6.1% earn between 50,000-75,000, and another 6.1% earn above 75,000.

**Correlation**

**Correlations**

		SATISIFICATI ON	TRUST	LIKETOUSE	COMPLAINTS	SERVICE
Pearson Correlation	SATISIFICATION	1.000	.472	.525	.216	.537
	TRUST	.472	1.000	.409	.126	.255
	LIKETOUSE	.525	.409	1.000	.333	.454
	COMPLAINTS	.216	.126	.333	1.000	.252
	SERVICE	.537	.255	.454	.252	1.000
Sig. (1-tailed)	SATISIFICATION	.	.000	.000	.009	.000
	TRUST	.000	.	.000	.085	.003
	LIKETOUSE	.000	.000	.	.000	.000
	COMPLAINTS	.009	.085	.000	.	.003
	SERVICE	.000	.003	.000	.003	.
N	SATISIFICATION	120	120	120	120	120
	TRUST	120	120	120	120	120
	LIKETOUSE	120	120	120	120	120
	COMPLAINTS	120	120	120	120	120
	SERVICE	120	120	120	120	120

The correlation analysis reveals significant relationships between customer satisfaction and the independent variables. Customer satisfaction is positively correlated with trust ( $r = 0.472, p < 0.001$ ), liketouse ( $r = 0.525, p < 0.001$ ), and service ( $r = 0.537, p < 0.001$ ), indicating that higher levels of trust, ease of use, and service quality are associated with greater customer satisfaction. Complaints also show a positive correlation with satisfaction ( $r = 0.216, p = 0.009$ ), though the relationship is weaker compared to the other variables. The correlations between the independent variables themselves are also significant, with trust and liketouse ( $r = 0.409, p < 0.001$ ), liketouse and service ( $r = 0.454, p < 0.001$ ), and complaints and service ( $r = 0.252, p = 0.003$ ) showing notable positive relationships. These findings underscore the importance of trust, usability, service quality, and effective complaint management in enhancing customer satisfaction with AI-integrated neobanks.

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22.006	4	5.501	23.797	.000 <sup>b</sup>
	Residual	26.586	115	.231		
	Total	48.592	119			

a. Dependent Variable: SATISIFICATION

b. Predictors: (Constant), SERVICE, COMPLAINTS, TRUST, LIKETOUSE

The ANOVA table indicates that the regression model, which includes the predictors service, complaints, trust, and liketouse, is statistically significant in predicting customer satisfaction. The F-statistic is 23.797 with a significance level (p-value) of 0.000, which is well below the threshold of 0.05. This demonstrates that the model significantly explains the variance in customer satisfaction. The sum of squares for the regression is 22.006, while the residual sum of squares is 26.586, leading to a total sum of squares of 48.592. With 4 degrees of freedom (df) for the regression and 115 degrees of freedom for the residual, the mean square values are 5.501 and 0.231, respectively. This ANOVA analysis confirms that the predictors combined have a significant impact on customer satisfaction within the model.

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-.874	.866		-1.008	.315	-2.589	.842
	TRUST	.366	.099	.280	3.686	.000	.169	.563
	LIKETOUSE	.454	.155	.249	2.930	.004	.147	.761
	COMPLAINTS	.039	.300	.010	.132	.896	-.555	.634
	SERVICE	.318	.071	.350	4.475	.000	.177	.459

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.673 <sup>a</sup>	.453	.434	.48081	.453	23.797	4	115	.000

a. Predictors: (Constant), SERVICE, COMPLAINTS, TRUST, LIKETOUSE

The regression analysis results reveal several important insights. The overall model is statistically significant, explaining 45.3% of the variance in customer satisfaction (R Square = 0.453,  $p < 0.001$ ). Among the predictors, **trust** ( $B = 0.366$ ,  $p < 0.001$ ), **liketouse** ( $B = 0.454$ ,  $p = 0.004$ ), and **service** ( $B = 0.318$ ,  $p < 0.001$ ) are significant determinants of customer satisfaction. Notably, **service** has the highest standardized coefficient (Beta = 0.350), indicating it has the most substantial impact on satisfaction among the predictors. Conversely, **complaints** ( $B = 0.039$ ,  $p = 0.666$ ) is not a significant predictor, suggesting that it does not meaningfully affect customer satisfaction in this context. These findings underscore the critical role of trust, usability, and service quality in enhancing customer satisfaction, while addressing complaints appears less influential.

#### 4. Discussion

The results provide compelling evidence that neobanks with AI integration are transforming customer banking experiences by enhancing satisfaction, trust, and loyalty through personalization and efficient support. Demographic variations reveal that younger and higher-income customers are more responsive to AI-driven features, suggesting a need for tailored marketing and service strategies. Addressing data privacy and maintaining transparent practices are crucial for building and sustaining customer trust. Additionally, neobanks with advanced AI integration hold a significant competitive edge in the fintech landscape, positioning them as formidable disruptors in the industry.

## **Managerial Implications**

### **Practical Implications for the Banking Industry**

Traditional banks should prioritize the integration of AI technologies to remain competitive, focusing on AI-driven personalization, security enhancements, and efficient customer support. Emphasizing data privacy and transparency is essential, requiring clear communication about data use and robust security measures. Additionally, banks should tailor AI-integrated services to specific demographic segments to optimize the impact of AI features and meet diverse customer needs.

### **Recommendations for Traditional Banks**

To expedite AI integration, traditional banks should explore collaborations and partnerships with fintech firms. Fostering a culture of continuous learning and adaptation, including upskilling employees in AI-related skills, is crucial. Investing in customer education about the benefits and security measures of AI-integrated services can help mitigate concerns and build trust, ensuring a smoother transition to AI-driven banking solutions.

### **Potential Areas for Further Research**

Future research could delve deeper into the ethical implications of AI integration in banking, focusing on data privacy, fairness, and transparency to ensure responsible AI usage. Investigating how different demographic groups respond to AI-integrated banking services can provide valuable insights for tailoring AI features. Studying the long-term effects of AI integration on customer satisfaction, trust, and loyalty will reveal whether these positive impacts are sustainable. Research on developing effective regulatory frameworks to govern AI in banking and exploring AI's influence in other industries can offer cross-industry insights into enhancing customer interactions.

## **5. Conclusion**

The study underscores the transformative potential of AI-integrated neobanks in reshaping customer banking experiences. For traditional banks, embracing AI and adapting to changing customer preferences is crucial for remaining competitive. Addressing customer concerns, tailoring AI services, and collaborating with fintech innovators will enable banks to harness the power of AI, enhancing customer satisfaction, trust, and loyalty in the digital age. Future research should continue exploring the multifaceted impacts of AI in banking, guiding the industry towards responsible and customer-centric AI adoption.

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