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EXPLORING CONSUMER ANALYTICS IN BANKING: INSIGHTS FROM CUSTOMER PERSPECTIVES ON PERSONALIZING FINANCIAL PRODUCTS

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INTRODUCTION :

In an increasingly competitive banking environment, the ability to understand and respond to customer needs has become paramount. As financial institutions strive to differentiate themselves and foster customer loyalty, leveraging consumer analytics has emerged as a vital strategy. This research paper explores the role of consumer analytics in the banking sector, specifically focusing on how insights derived from customer perspectives can enhance the personalization of financial products. The personalization of financial products has emerged as a strategic imperative for banks, aiming to tailor services that resonate with individual customer needs and preferences. This transition is necessary adaptation to the dynamic landscape of consumer behavior, driven by a growing demand for customized financial solutions. Consumer analytics encompasses the collection, analysis, and application of data related to customer behavior, preferences, and interactions. It enables banks to gain valuable insights into their clientele, facilitating informed decision-making that enhances customer satisfaction and loyalty. As financial institutions strive to differentiate themselves in a competitive market, understanding customer perspectives on personalization becomes essential. This understanding allows banks to refine their strategies, improve product offerings, and foster deeper relationships with customers. The need for personalized financial products arises from several factors. First, consumers are increasingly seeking experiences that cater specifically to their unique circumstances and aspirations. With the abundance of information available online, customers are better informed about their options, leading to heightened expectations for tailored solutions. By absorbing data from various sources-such as transaction histories, online behaviors, and demographic information-banks can create comprehensive profiles of their customers. These profiles allow for the segmentation of the customer base, enabling institutions to develop targeted marketing strategies and personalized product recommendations. For instance, a bank may find out a segment of customers who frequently travel abroad and subsequently offer them tailored foreign exchange services or travel insurance products. But the execution of

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personalization strategies is contingent on various factors, including the quality of data collected, the analytical tools employed, and the banks' ability to act on the insights generated. As banks strive to implement consumer analytics effectively, understanding customer perspectives on the effectiveness of these personalization strategies is crucial. Insights from customers can shed light on what aspects of personalization resonate most, how customers perceive the relevance of offers, and the challenges they encounter when accessing personalized services.

Customer engagement is another vital dimension of this exploration. Engaged customers are more likely to adopt personalized financial products, leading to increased customer loyalty and lifetime value. By analyzing customer engagement levels and their impact on the adoption of personalized products, banks can identify opportunities for enhancing interactions and fostering long-term relationships. Engaging customers through meaningful communication, proactive outreach, and personalized experiences can create a cycle of loyalty that benefits both parties.

Despite the numerous advantages of personalization, banks also face challenges in implementing these strategies. Customers may encounter difficulties in accessing personalized services due to various factors, including technological barriers, lack of awareness, and insufficient communication from banks.

REVIEW OF LITERATURE

In recent years, the integration of consumer analytics in banking has become crucial in understanding customer behavior and preferences. Consumer analytics involves the collection, processing, and analysis of customer data to create personalized financial products that cater to individual needs. Banks are increasingly using data mining and machine learning to segment customers and predict their financial behaviors, which helps in the design of highly customized services. For instance, Kumar and Shah (2004) discuss how consumer data segmentation can help banks offer tailored financial services that match the diverse needs of different customer segments. By leveraging these data-driven insights, banks can not only enhance customer satisfaction but also increase customer loyalty, as personalized products directly resonate with individual financial goals.

According to Chen et al. (2012), the ability to process and analyse vast amounts of structured and unstructured data provides banks with critical insights into customer behavior and transaction patterns. This enables segmentation based on demographic and behavioural factors, which is vital for designing targeted marketing campaigns. Similarly, Wamba et al. (2017) emphasize that the maturity of analytics capabilities within an organization correlates with its ability to offer customized financial products, thus enhancing the overall customer experience. Building on this, banks can utilize predictive analytics to further refine their

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personalization strategies.

Predictive analytics has been instrumental in reducing customer churn and enhancing loyalty in the banking sector. According to Fayyad et al. (1996), predictive models identify patterns in customer behavior that signal attrition risks. This allows banks to implement timely interventions, such as loyalty programs or tailored financial advice, to retain customers. The integration of predictive analytics in customer relationship management (CRM) systems has also been linked to increased profitability, as detailed in the work of Verhoef et al. (2021). Effective CRM systems, combined with big data analytics, provide actionable insights for designing customer-centric strategies.

The use of big data has emerged as a significant factor in the personalization of banking products. Lee and Kim (2019) highlight those big data analytics enables banks to gain deep insights into customer needs and financial behaviors, which can lead to the development of products that are more aligned with customer expectations. These tools help banks understand complex patterns in consumer behavior, such as spending habits and investment preferences, allowing for the creation of bespoke financial offerings. However, the effective use of big data requires a robust infrastructure and sophisticated analytical tools, which many financial institutions are still in the process of implementing.

It is significant to understand the behavior of customers before designing personalized offerings. N. Sun et al. (2014) demonstrate that frameworks like iCARE can be used to gain insights into active customers based on their transaction patterns. Similarly, Gyamfi and Abdulai (2018) suggest that banks can deploy models like Support Vector Machines to identify normal and abnormal customer behaviors. Probable changes in customer behavior can also be predicted based on historical data, which informs the development of products that adapt to evolving customer needs.

Personalized banking services can significantly enhance customer loyalty, as they create a more relevant and engaging experience for customers. Lemon and Verhoef (2016) suggest that by focusing on the customer experience throughout their journey, banks can design a seamless and personalized interaction that not only attracts new customers but also retains existing ones. When customers feel that a bank understands their needs and offers solutions tailored to them, they are more likely to stay loyal to that institution, thus improving customer retention rates.

The adoption of CRM systems has also been critical in enabling banks to personalize their financial products. Payne and Frow (2005) argue that CRM systems help banks manage customer interactions and data more effectively, leading to improved customer experiences. By maintaining detailed customer profiles, banks can better anticipate customer needs and offer products that are more likely to be relevant to individual customers.

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CRM systems, when integrated with advanced analytics tools, allow for a holistic view of the customer, enabling banks to offer personalized advice and products tailored to life stages, financial goals, and preferences.

Another key area in the personalization of financial products is understanding how demographic factors influence customer preferences. Research by Zikmund and Babin (2010) underscores that demographic variables such as age, income, and education level play a significant role in shaping the types of financial products customers are likely to choose. For instance, younger customers mostly inclined to adopt digital banking products, while older customers may prefer traditional savings accounts or investment products. By understanding these demographic influences, banks can design products that are better suited to different customer groups, improving the likelihood of customer adoption and satisfaction.

Consumer behavior also plays a central role in the personalization of financial products. Behavioural analytics, as discussed by Rishika et al. (2013), is a powerful tool for understanding how customers make decisions and how those decisions are influenced by various factors, such as past experiences, social influences, and emotional triggers. Banks can use behavioural analytics to predict future behaviors and design products that meet the evolving needs of their customers. This approach not only enhances the customer experience but also ensures that banks remain competitive by offering products that appeal to specific consumer desires.

Moreover, consumer trust and privacy concerns are critical when banks offer personalized products. Martin and Murphy (2017) examine how customers' data privacy concerns impact their willingness to accept personalized banking services. Trust in how banks handle and protect personal data is essential for the successful implementation of personalized financial offerings. Banks that prioritize data security and transparency in their data collection practices are more likely to foster a positive customer relationship, which in turn leads to higher acceptance of personalized services. Customers tend to trust banks that exhibit a commitment to safeguarding their financial information, and this trust is integral to the long-term success of personalization strategies in banking.

While consumer analytics offers numerous benefits, it also raises ethical concerns regarding data privacy and algorithmic fairness. Zarsky (2016) emphasizes the need for transparency in how data is collected, analysed, and used. Furthermore, addressing potential biases in algorithms is critical to ensuring equitable outcomes for all customers. Failure to uphold ethical standards can undermine customer trust and expose banks to regulatory scrutiny.

Real-time analytics capabilities enable banks to make immediate decisions on critical

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aspects such as loan approvals, fraud detection, and customer queries. As noted by Davenport and Harris (2007), the use of real-time analytics improves operational efficiency and enhances customer trust. For instance, banks can instantly assess credit applications by analyzing customer financial data against predictive models, ensuring faster turnaround times.

Research by Wamba et al. (2017) demonstrates that banks leveraging advanced analytics see significant improvements in operational efficiency, revenue generation, and customer retention. The ability to align analytics with business objectives is therefore critical for sustainable growth.

METHODOLOGY

The objective of the research is to evaluate how customers perceive the effectiveness of personalization strategies implemented by banks using analytics. The study adopts a quantitative research design, leveraging structured data collection methods and statistical analyses to achieve its objectives. Descriptive research design is employed to analyze customer perspectives on the effectiveness of personalized financial products enabled by consumer analytics. A convenience sampling method was employed to select respondents from customers of banks in Bengaluru. A sample size of 212 respondents was determined. The primary data was gathered using a five-point likert scale questionnaire which included demographic details, customer experience and details about personalization and analytics. Descriptive statistics, correlation analysis and regression analysis were performed to analyze data.

RESULTS

This section provides a summary of the sample's characteristics and key variables, giving a clear overview of the data distribution.

Table 1: Descriptive statistics

4.1.1 Statistics

		Age	Gender	Monthly Income
N	Valid	212	212	212
	Missing	0	0	0
Mean		1.9387	1.5425	1.5330
Median		2.0000	2.0000	2.0000
Mode		1.00	2.00	2.00
Std. Deviation		.82094	.49937	.50009
Variance		.674	.249	.250
Sum		411.00	327.00	325.00

Source: Author Calculation

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4.1.2 Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-25	78	36.8	36.8	36.8
	26-35	69	32.5	32.5	69.3
	36-45	65	30.7	30.7	100.0
	Total	212	100.0	100.0	

Source: Author Calculation

4.1.3 Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	97	45.8	45.8	45.8
	Female	115	54.2	54.2	100.0
	Total	212	100.0	100.0	

Source: Author Calculation

4.1.4 Monthly Income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 25,000	99	46.7	46.7	46.7
	25,001 - 50,000	113	53.3	53.3	100.0
	Total	212	100.0	100.0	

Source: Author Calculation

The data reveals that the sample is slightly skewed toward younger respondents (mode of age = 1) and the second categories for both gender and income. The low variance and standard deviation across variables suggest a relatively homogeneous sample with limited diversity in demographics.

4.1.5 Case Processing Summary

		N	%
Cases	Valid	212	100.0
	Excluded[a]	0	.0
	Total	212	100.0

a. Listwise deletion based on all variables in the procedu.

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4.1.6 Reliability Statistics

Cronbach's Alpha	N of Items
.977	9

Source: Author Calculation

The alpha value for the scale used in the study is 0.977. This high value suggests that the scale has excellent internal consistency. This implies that the items used to assess customer perceptions of personalization in banking are reliable and closely related to each other.

4.3.1 Correlation

The study focused on exploring the connection between customer engagement and the adoption of personalized financial products. Spearman's rank-order correlation was employed to evaluate this relationship, yielding a correlation coefficient (ρ) of 0.41. This result indicates a moderate positive association, suggesting that higher levels of customer engagement are linked to greater adoption of personalized financial products.

4.1.7 Correlation

			Engagement_Score	Adoption_Score
Spearman's rho	Engagement_Score	Correlation Coefficient	1.000	.41
		Sig. (2-tailed)	.	.554
		N	212	212
	Adoption_Score	Correlation Coefficient	.41	1.000
		Sig. (2-tailed)	.554	.
		N	212	212

Source: Author Calculation

4.1.8 Regression

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.150[a]	.022	.018	.49402

a. Predictors: (Constant), I am willing to share more personal data if it leads to better-personalized services

ANOVAa

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.177	1	1.177	4.824	.029[b]
	Residual	51.252	210	.244		
	Total	52.429	211			

a. Dependent Variable: I actively engage with the personalized recommendations provided by my bank

b. Predictors: (Constant), I am willing to share more personal data if it leads to better-personalized services

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The regression analysis results indicate that customer engagement significantly influences the adoption of personalized financial products, as demonstrated by a p-value of 0.029. However, the relationship is weak, with an R^2 value of 0.022, suggesting that although customer engagement is a relevant factor, other variables likely have a more significant impact on the adoption of personalized financial products.

Thus, we reject H_0 and accept H_1, concluding that customer engagement does have a significant, albeit weak, impact on the adoption of personalized financial products. This finding suggests that banks should focus on improving customer engagement to boost the adoption of their personalized financial offerings, although other factors should also be considered for a more comprehensive strategy.

DISCUSSION

The aim of this study was to explore consumer analytics in banking, particularly focusing on customer perspectives regarding the personalization of financial products. Based on the findings from the descriptive statistics, correlation analysis, and regression results, several significant insights emerge. The descriptive statistics indicate that most respondents are satisfied with the personalized services offered by their banks, particularly in areas such as the effective use of financial history, communication preferences, and data analytics. These results suggest that banks are effectively employing consumer analytics to provide services that resonate with customer needs. This aligns with previous studies, which emphasize the role of personalized offerings in enhancing customer satisfaction and loyalty (Chen et al., 2012; Wamba et al., 2017). However, the study also uncovered a notable gap in satisfaction with the technology used for personalization. The lower mean score and higher variability in responses for this item suggest that while some customers are satisfied with the technology, others may find it lacking or difficult to use. This could reflect challenges faced by banks in implementing advanced technologies, such as AI or big data analytics, which may not yet be fully integrated or accessible to all customer segments. Addressing these technological gaps could lead to a more uniform customer experience and increased satisfaction.

One of the central hypotheses of the study was to assess whether customer engagement has a significant impact on the adoption of personalized financial products. Results from the Spearman's rank-order correlation analysis, showing a moderate positive relationship ($\rho = 0.41$), confirm that as customer engagement increases, so does the likelihood of adopting personalized financial products. This finding is consistent with existing literature that suggests higher customer engagement can foster deeper relationships with financial institutions, making customers more open to adopting new, personalized offerings (Kumar & Shah, 2004; Lemon & Verhoef, 2016).

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However, while the correlation is moderate, it is essential to acknowledge that the regression analysis results revealed a weak relationship ($R^2 = 0.022$) between customer engagement and adoption of personalized products. Despite the statistically significant impact (p-value = 0.029), the low R^2 value indicates that customer engagement alone does not fully explain the variation in product adoption. This suggests that other factors, such as product relevance, trust in the institution, demographic variables, and the effectiveness of marketing campaigns, also play crucial roles in driving the adoption of personalized products (Verhoef et al., 2021; Zikmund & Babin, 2010). Therefore, while enhancing customer engagement is important, it should be part of a broader strategy that also addresses these other influencing factors.

CONCLUSION

The current study has explored the critical role of consumer analytics in the banking sector, focusing on how customer in-sights can enhance the personalization of financial products. By analyzing customer perspectives on personalized services, it has become evident that personalized financial offerings, supported by advanced analytics, are positively perceived by customers. The findings suggest that customer engagement is significant in the adoption of personalized products, although other factors, such as technological advancements and data security, also contribute substantially to the overall effectiveness of personalization strategies.

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