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EFFECT OF E-BANKING PLATFORMS ON SMALL BUSINESS OPERATION IN YOLA SOUTH METROPOLIS, ADAMAWA STATE, NIGERIA

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Abstract

The study examined the effect of E-banking platforms on small business operation in Yola South metropolis, Adamawa State, Nigeria. The study is a survey in the form of cross sectional study in which data were collected through questionnaire administered to 400 small business owners in Adamawa State. Data collected was subjected to percentage analysis and hypotheses were tested using regression analysis at 0.05 level of significance. The result effect of automated teller machine on business operation is statistically significant and positive ($\beta = 0.942$, $t = 8.789$, $p < 0.05$). Moreso, coefficients of the effect of online banking on small business operation is significant ($\beta = 0.510$, $t = 8.175$, $p< 0.05$). Also, coefficients of the effect of mobile banking on small business operation is significant ($\beta = 0.558$, $t = 9.800$, $p < 0.05$). Hence the study concludes that an e-banking platform has significant and positive effect on small business operation in operation in Yola South metropolis, Adamawa State, Nigeria. The study therefore, recommends that by considering the statistically significant and positive effect of e-banking platforms on business operations, small businesses should focus on establishing convenient and accessible banking platforms services. This can improve customer satisfaction by providing easy access to cash, ultimately leading to increased sales and transactions.

Keywords: E-Banking, Platforms, Small Business Operation, Online Banking And Mobile Banking

1. Introduction

The importance of electronic banking (e-banking platforms) in the various economies of the world cannot be overemphasized. The interaction of the world economy (globalization) necessitated the advancement in Information and Communication Technology (ICT), bringing tremendous changes to the means of production of goods and the rendering of services in all sectors of the economy. Due to the increase in technology usage in the banking industry, performance increases day by day. E-banking platforms are becoming an indispensable part of modern-day banking services. The banking industry is also one of the sectors that adopts technology, which helps in providing better services to customers. The quality of services is improved by using technological innovations. Online banking is time-saving (Quresh, Zafar & Khan, 2018).

In today's banking environment, the more technologically inclined a bank is, the larger its customer base. This is due to the generational phase we live in, where a child of five (5) years knows how to operate computers and surf the internet. This has metamorphosed even into the daily buying and selling that takes place; outlets such as Amazon, Jumia, Alibaba, etc., have created a platform where buyers all over the world can order the stock of their choice and get it within days. Despite all the buying and selling transactions that take place, there is a common bond that fosters the smooth transactions of these outlets. The common bond is the services of the bank that

serves as the settlement and clearing agents for all these transactions. The world today is termed a global village because of the electronic clearances and settlements made by banks all over the world. Therefore, the importance of banks cannot be overemphasized because they are essential agents for the growth of an economy (Godswill, Ailemen, Osabohien, Chisom & Pascal, 2018).

With the rapid growth of ICT, electronic commerce now serves as a means of conducting business transactions through electronic channels such as internet connections (Anik & Pathan, 2012). E-commerce represents the latest step in the evolution of business transactions, replacing or complementing the exchange of money or goods with the transfer of information from computer to computer (Slater, 2015). However, despite the promising opportunities that e-commerce presents, it requires new payment systems to support its further development (Abrazhevich, 2012).

Small business operation is quantified through numerical descriptions and encompasses various perceptions and responses that customers exhibit toward products or services after using them. Small business operation drives repeat purchases. Over time, numerous scholars have conducted research in this field. The degree of realization of consumers' interests in the consumption process determines small business operation, reflecting the consistency between the realization of interests and expectations. Personal evaluation significantly influences small business operation through individual expectations (Khan & Mahapatra, 2008; Orel & Kara, 2014). This can be explained based on the observation that satisfaction or dissatisfaction with a service or product depends on whether the expectations were met. Small business operation is associated with acceptance, happiness, relief, excitement, and joy (Islam & Himel, 2015).

E-banking platforms were adopted by banks to improve their service delivery, decongest queues in the banking hall, enable customers to withdraw cash 24/7, facilitate international payments and remittances, track personal banking transactions, request online statements, and even transfer deposits to third-party accounts. Despite the efforts of banks to ensure that customers reap the benefits of e-banking platforms, they face complaints from customers regarding malfunctioning Automated Teller Machines (ATMs), network downtime, online theft and fraud, unavailability of financial services, payment of hidden costs of electronic banking like Short Message Services (SMS) for sending alerts, mandatory acquisition of ATM cards, and non-acceptance of Nigerian cards for international transactions, among others (Mohammed & Siba, 2009).

Issues include machines being out of order, out of cash, inability to print statements, blocked cards, frequent breakdowns of ATM services, unreliability of ATM services, a shortage of technicians in banks to address ATM machine breakdowns, a lack of sufficient alternative systems to substitute ATM services for customers during temporary problems, inconvenience of E-bank services, absence of mobile banking services, unreliable Telebanking, lack of credit card services, underdevelopment of technological infrastructure, a low level of relevant knowledge creation and innovation, network interruptions, lack of suitable regulatory frameworks for e-commerce, resistance to changes in technology among customers and service providers due to fear of risk, and an unfair distribution of E-banking platform services throughout Nigeria as revealed in the pretest of this study.

Statement of Problem

It is an undeniable fact that the Central Bank of Nigeria (CBN) has invested a considerable amount of money in implementing reforms in internet banking. The primary objective of the CBN is to elevate the usage of internet banking to its maximum potential. Consequently, the utilization of internet banking has emerged as a significant concern for the banking industry. In simpler terms, the lack of adoption of internet banking can lead to negative consequences for both customers and banks. This is because customers tend to use internet banking at a minimal rate while still requiring access to information for their activities.

Scholars have emphasized that the system quality of mobile apps is a key component that measures application failures (Wimalasooriya et al., 2021). Failures in mobile apps can lead users to feel frustrated and switch to alternative products and services (El

Zarif et al., 2020). Previous studies on mobile service quality highlight the significant importance of system quality (Huang, Lin & Fan, 2015; Jun & Palacios, 2016). Additionally, studies indicate that service quality and loyalty have a positive impact on the adoption and use behavior of internet technologies (Sharma, 2015; Lee Kim & Ahn, 2011; Liljander et al., 2016). Scholars state that loyalty positively influences purchase intention (Malik et al., 2013; Hennig-Thurau et al., 2012). Moreover, previous studies (Souiden et al., 2016; Nguyen et al., 2020) emphasize that once consumer confidence is established, it may lead to overall positive evaluations of products and services. Therefore, if bank users have confidence in the operation of a bank, they are more likely to adopt mobile banking services. This study explores the effect of electronic banking on small business operations in Yola South metropolis, Adamawa State, Nigeria.

Objective of the Study

The main objective of this study examined the effect of E-banking platforms on small business operation in Yola South metropolis, Adamawa State, Nigeria. While the specific objectives are to:

i. examine the effect of automated teller machine banking on small business operation in Yola South metropolis, Adamawa State, Nigeria;
ii. ascertain the effect of online banking on small business operation in Yola South metropolis, Adamawa State, Nigeria;
iii. investigate the effect of mobile banking on small business operation in Yola South metropolis, Adamawa State, Nigeria;

Research Hypotheses

Based on the objectives and research questions the following hypotheses were formulated:

$H_0$1: Automated teller machine banking does not have significant effect on small business operation in Yola South metropolis, Adamawa State, Nigeria

$H_0$2: Online banking does not have significant effect on small business operation in Yola South metropolis, Adamawa State, Nigeria

$H_0$3: Mobile banking does not have significant effect on small business operation in Yola South metropolis, Adamawa State, Nigeria

2. Literature Review

2.1 Conceptual Issues

Concept of Electronic Banking Platforms

Mahdi and Zhila (2018) defined electronic banking (e-banking platforms) as nothing but e-business in the banking industry. E-banking platforms are a generic term for the delivery of banking services and products through electronic channels, such as the telephone, the internet, the cell phone, etc. The concept and scope of e-banking platforms are still evolving. It facilitates an effective payment and accounting system, thereby enhancing the speed of the delivery of banking services considerably (Ovia, 2015). Oyesola (2017) argues that electronic banking is a product of e-commerce in the field of banking and financial services. In what can be described as the business-to-consumer domain, it includes balance inquiry, requests for cheque books, recording stop-payment instructions, balance transfer instructions, account opening, and other forms of traditional banking services.

The concept of electronic banking has been defined in various ways. Maholtra and Singh (2017) define electronic banking as the delivery of banks' information and services to customers via different delivery platforms that can be used with various terminal devices, such as personal computers and mobile phones with browsers or desktop software, telephones, or digital televisions. According to Madueme (2009), electronic banking is defined as any use of information and communication technology and electronic means by a bank to conduct transactions and interact with stakeholders.

There are many electronic banking delivery channels to provide banking services to customers. Among them, ATMs, POS, mobile banking, and internet banking are the most widely used and discussed, as outlined below.

Automated Teller Machine

An Automated Teller Machine (ATM) is a device that allows cash withdrawal without the need to enter a banking hall. Additionally, it facilitates the sale of recharge cards and fund transfers. The ATM service is available 24/7, allowing users to access it at any time for account balance inquiries (Fenuga, 2010). Ayo et

al. (2011) asserted that banking industries can no longer operate as loosely connected groups of businesses scattered around the world; instead, they must strategically synchronize their operations. Ramas (2008) added that success in the global business economy requires a clear understanding of the new rules of doing business for banks, businesses, industries, and every segment of the community. Consequently, global competition in the banking sector has compelled management and executives to adopt a different perspective on banking and management operations.

Online Banking

Online banking is defined by Palmta (2004) as an Internet portal through which consumers can use different kinds of banking services, ranging from bill payments to making investments. With the exception of cash withdrawals, internet banking gives customers access to almost any type of banking transaction at the click of a mouse (Young 2001). Indeed, the use of the internet as a new alternative channel for the distribution of financial services has become a competitive necessity instead of just a way to achieve a competitive advantage with the advent of globalization and fierce competition (Gan, Clenes, Limsombunchi & Weng, 2016). E-Banking refers to systems that enable bank customers to access their accounts and general information on bank products and services through the use of the bank's website, without the intervention or inconvenience of sending letters, faxes, original signatures, and telephone confirmations (Thulani, Tofara & Longton 2009).

Mobile Banking

According to Bharti (2016), "the adoption of mobile banking platforms has garnered increased attention in recent years, given the larger number of phone users compared to computer users in the market. Mobile services and their consumption have emerged as a prominent concern among information systems (IS) and marketing scholars." The earliest mobile banking services were delivered via SMS, known as SMS banking. Mobile banking is prevalent in many parts of the world, particularly in areas with limited or no infrastructure, such as remote and rural areas. This aspect of mobile commerce is also popular in countries where a significant portion of the population remains unbanked. In most of these places, banks are primarily located in major cities, forcing customers to travel considerable distances to the nearest bank. The range of services offered may encompass facilities for conducting bank and stock market transactions, administering accounts, and accessing personalized information (Tiwari & Buse, 2017).

Small Business Operation

A small business is defined by the contribution it makes to the local community. It produces goods and services, employs people, pays taxes, and may even provide employment for a family member. Additionally, a small business is independently owned and operated, not dominant in its field of operation, and must meet specific size standards in terms of employees or annual revenues (Scarborough & Zimmerer, 2016). Moreover, a small business is an independent enterprise with fewer than 500 employees, not dominant in its field, and lacking numerous innovative practices (Katz & Gartner, 2008). It is an independently owned and operated entity, organized for profit, and not dominant in its field. Depending on the industry, size standards are determined by the average number of employees or average annual receipts. A small business is a privately owned, market-oriented firm characterized by the individual personality of its ownership and management, and its relative freedom from both dominant influence and effective competition (Stokes & Wilson, 2010).

Effect of Automated Teller Machine (ATM) on Small Business Operation

ATMs provide bank customers with 24-hour access to banking products and services; they are easy to use and faster than human tellers in banking halls. ATM systems are believed to have improved the operational efficiency of banks and customer service in the banking sector (Laderman, 2003). Although ATM systems have high fixed costs, research indicates they have lower variable transaction processing costs. With this proficiency, ATMs could substitute for employees providing services on demand deposit accounts, thereby reducing the number of transactions processed by human tellers. This would allow banks to reduce direct customer service employment (Kantrow, 2004). ATMs have, therefore, become a strategic technology

in the banking sector for delivering banking products and services, offering a competitive advantage to banks investing in ATM technologies over those that do not.

Effect of Online Banking and Small Business Operation

Gao and Owolabi (2018) argue that the currently relevant factors determining the adoption of internet banking in Nigeria include the level of awareness or attention, accessibility to computers and the Internet, convenience, privacy, costs, and the availability of knowledge and support concerning internet banking. The introduction of internet banking services is facilitated by the bank's reputation in terms of size, awareness, and trust. Awareness of the service and its benefits, in the form of the amount of information a customer has about internet banking, may have a critical impact on the adoption of internet banking (Jaruwachirathanakul & Fink, 2015; Al-Somali et al., 2018). On the other hand, Al-Somali et al. (2018) noted that low awareness of internet banking is a critical factor causing customers not to adopt internet banking, and Katri (2003) argues that the most important factors discouraging the use of Internet banking are a lack of internet access and not having a chance to try out Internet banking in a safe environment, thus not being in a position to access an account.

According to Saha and Zhao (2015), small business operation is defined as a collection of outcomes of perception, evaluation, and psychological reactions to the consumption experience with a product/service. In other words, Saha and Zhao further defined small business operation as a result of cognitive and affective evaluation where some comparison standard is compared to the actually perceived performance. If the perceived performance is less than expected, customers will be dissatisfied. On the other hand, if the perceived performance exceeds expectations, the customer will be satisfied.

Effect of Mobile Banking on Small Business Operation

During recent years, the development of e-channels has dramatically changed the rules and operations in the banking industry (Gunasekaran & Love, 1999). Aladwani mentioned that the industry has rapidly moved to deploy and offer new banking services via e-channels for customers, resulting in a prompt boom in e-banking platform services (Aladawani, 2001). Today, several financial banks are endeavoring to emphasize customer-oriented services. For this reason, it is crucial to implement new banking services to develop and maintain better relationships with customers. Hence, building up competitive predominance almost entirely depends on customers' satisfaction with banking services. It is recognized that banks gaining higher small business operation will have a conspicuous marketing ascendancy because higher small business operation is associated with greater revenues, increased cross-sell ratios, higher customer retention, and a larger market share (Gonzalez, Quesada, Picado & Eckelman, 2004).

2.2 Theoretical Framework

Assimilation Theory

Assimilation theory is grounded in Ahasanul's (2009) dissonance theory, which proposes that consumers engage in cognitive comparisons between their expectations about a product and its perceived performance. This perspective on post-usage evaluation by consumers was subsequently introduced into the satisfaction literature as assimilation theory.

According to Al-Sukkar (2015), consumers aim to alleviate dissonance by adjusting their perceptions of a given product to align more closely with their expectations. To mitigate the tension arising from a disparity between expectations and product performance, consumers can either distort their expectations to match perceived product performance or enhance satisfaction by downplaying the relative importance of the experienced disconfirmation.

Contrast Theory

Contrast theory was first introduced by Christopher, Mike, and Amy (2006). Gonzalez (2018) defines contrast theory as the tendency to magnify the discrepancy between one's own attitudes and the attitudes represented by opinion statements. Contrast theory presents an alternative view of the consumer post-usage evaluation process compared to assimilation theory. In contrast theory, post-usage evaluations lead to results with opposite predictions for the effects of expectations on satisfaction. While

assimilation theory posits that consumers will seek to minimize the discrepancy between expectation and performance, contrast theory holds that a surprise effect occurs, leading to the discrepancy being magnified or exaggerated.

According to contrast theory, any discrepancy of experience from expectations will be exaggerated in the direction of the discrepancy. If a firm raises expectations in its advertising and a customer's experience is only slightly less than promised, the product/service would be rejected as totally unsatisfactory. Conversely, underpromising in advertising and overdelivering will cause positive disconfirmation to be exaggerated as well.

2.3 Empirical Review

Manisha, Subhojit, and Justin (2022) examined the role of social media in mobile banking adoption among consumers. They employed a two-stage analytical approach, incorporating Structural Equation Modeling (SEM) and Neural Network (NN) analysis to elucidate social media's distinctive and confirmatory influence on mobile banking consumers. Data from 482 respondents aged 18 to 30 (young consumers) in India were analyzed to assess social media's influence on different cognitive stages of mobile banking acceptance. Results indicated an increasing tendency of social media influence with rising cognitive levels. Among the four cognitive stages (Attention, Interest, Desire, and Action - AIDA model) of mobile banking adoption, Action and Interest stages were the most influenced by social media, followed by Desire and Attention. This research presents a two-stage analytical approach, combining "SEM and NN," to evaluate the impact of integrating AIDA constructs. An original integrated model is developed, outlining the diffusion of information from social media on different cognitive stages of young mobile banking consumers.

Lyvia, Raudhina, and Suzanna (2022) investigated the effect of customer experience, trust, and satisfaction on small business operations through an empirical study on BCA mobile banking users. Employing a quantitative approach, the researchers sampled 100 respondents who were users of Mobile Banking BCA. The primary data collection instrument was a questionnaire. Analytical procedures included Validity Test, Reliability Test, Normality Test, Heteroscedasticity Test, Linearity Test, Multicollinearity Test, Multiple Linear Regression Test, T Test, Coefficient of Determination Test (R2), and F Test using SPSS version 24. Results indicated that, both partially and simultaneously, Experience, Trust, and Customers had a significant and joint effect on BCA Mobile Banking small business operations. However, Customer Experience not only influenced Small business operations positively but also had a negative direction, while the factor with the strongest influence was customers with a high beta (0.675).

Aisena and Grimm (2022) examined the impact of service quality and loyalty on the adoption and use of mobile banking services: Empirical Evidence from the Central Asian Context. They utilized 209 completed questionnaires from young Mongolians who own a bank account and a smartphone. The data were collected based on convenience sampling and analyzed using SmartPLS software with a partial least squares-structural equation modeling (PLS-SEM) technique. The findings indicate that system quality, interface design, and security assurance significantly and positively impact service quality. Additionally, service quality has a positive impact on loyalty. The results also reveal that service quality and loyalty significantly influence the intention to use mobile banking services. This study suggests that local or international banks and financial institutions in Mongolia should consider system quality, interface design, and security concerns as key factors for building perceived security quality to retain current mobile banking users and attract new customers.

Ahmad, Iman, Vida, and Ieva (2021) examined small business operations in mobile banking, evaluating perceived risk, relative advantages, and usability factors. They employed a descriptive survey method on a sample selected through a cluster-convenience method, including 411 Shahr Bank's customers residing in the east, west, north, south, and center of the city of Tehran. Structural Equation Modeling (SEM) tests and LISREL 8.8 software were used to analyze the data and determine the role each factor plays in loyalty. The results showed that factors such as relative advantages, satisfaction, and trust have the

most significant impact on small business operations. However, the effect of usability on customer service was not confirmed. Furthermore, it was identified that perceived risk has a negative impact on loyalty.

3. Methodology

This study employed a descriptive survey research design and was conducted in Yola, Adamawa State, Nigeria. Yola is situated in the central zone of the state and serves as the seat of the traditional Adamawa emirate in eastern Nigeria. The research population comprised all owners of small businesses in Yola, Adamawa State. To determine the sample size, the researcher adopted Cochran's (1977) correction formula due to heterogeneity and uncertainty in information about the population under study:

This calculation is as follows:

$$n_o = \frac{Z^2PQ}{e^2}$$

Where

$Z = 1.96$

$P = 0.5$

$Q = 1-P$

$e = 0.05$

i.e.

$$n_o = \frac{Z^2PQ}{e^2}$$

$$n_o = \frac{1.96^2 0.5(1-0.5)}{0.05^2}$$

$$n_o = \frac{3.84(0.5)(0.5)}{0.0025}$$

$$n_o = \frac{0.96}{0.0025}$$

$$n_o = 384$$

Therefore, the sample size for this study is 400 with addition of extra 16 samples to guard against non-response by the target respondents.

This study employed a non-probability convenience sampling method, based on the availability and willingness of respondents to participate. Data for the study were collected through primary sources, involving the use of a questionnaire. Structured questions were designed to gather primary data directly relevant to the research questions, ensuring a fair reconciliation of the ideas already contained in the questionnaire. The collected data for this study were presented in tabular form, and inferential statistics, using multiple regression analysis, were employed to test hypotheses with the assistance of the Statistical Package for Social Sciences (SPSS) at a significance level of 0.05.

The variables for this study included electronic banking and small business operation, with the independent variables being Automated Teller Machine (ATM), Online Banking (OB), and Mobile Banking (MB), while the dependent variable was small business operation (SBO).

4. Results and Discussion

A total of 400 questionnaires were distributed; 363 were successfully returned and valid, representing 90.7%, while 37 were not returned, representing 9.3%.

4.1 Hypotheses Testing

The following hypotheses were tested:

$H_0$1: Automated teller machine banking does not have significant effect on small business operation in Yola South metropolis, Adamawa State, Nigeria

$H_0$2: Online banking does not have significant effect on small business operation in Yola South metropolis, Adamawa State, Nigeria

$H_0$3: Mobile banking does not have significant effect on small business operation in Yola South metropolis, Adamawa State, Nigeria

Table 1: Model summary of Effect of E-Banking Platforms on Small Business Operation in Yola South metropolis, Adamawa State, Nigeria

Variables		Coefficient	Std. Error	T-Values	P-Values	Hypotheses
1	(Constant)	1.202	2.819	.426	0.670	
	ATM	0.942	0.144	8.789	0.000	Rejected
	OB	0.510	0.067	8.175	0.000	Rejected
	MB	0.558	0.077	9.800	0.000	Rejected
	R	0.807				
	R^2	0.741				
	Adjusted R	0.735				
	F-Stats	210.999				
a. Dependent Variable: SBO						

(Source: Computed using SPSS 21. 2023)

The results in the table above show the summary of the regression model on the effect of E-Banking Platforms on Small Business Operation. The Pearson correlation results indicate a strong and positive bivariate relationship between dependent and independent variables (r = 0.807). The values of the coefficient of determination (R-Square) extracted from the regression model summary reveal that marketing strategy explains about 74.1% of the variation in business operation, while approximately 25.9% is attributed to variables not included in the model of this study. The analysis of variance (ANOVA) results, representing the goodness of fit of the model, is statistically significant (F 4, 363 = 210.999, P < 0.05), implying that the variables in the model have jointly predicted business operation.

Additionally, the individual contributions of the variables show that the coefficients of the effect of automated teller machine on business operation are statistically significant and positive (β = 0.942, t = 8.789, p < 0.05). Furthermore, the coefficients of the effect of online banking on small business operation are significant (β = 0.510, t = 8.175, p < 0.05). Similarly, the coefficients of the effect of mobile banking on small business operation are significant (β = 0.558, t = 9.800, p < 0.05). Hence, the study concludes that an e-banking platform has a significant and positive effect on small business operation in Yola South metropolis, Adamawa State, Nigeria.

4.3 Summary of Findings

The following findings were derived from the above analysis:

i. The finding revealed that automated teller machine has significant effect on business operation is statistically significant and positive (β = 0.942, *t* = 8.789, *p* < 0.05).
ii. In addition, the effect of online banking on small business operation is significant (β = 0.510, *t* = 8.175, *p*< 0.05).
iii. Moreso, the finding shows that mobile banking has significant effect on small business operation is significant (β = 0.558, *t* = 9.800, *p* < 0.05).

5. Conclusion and Recommendations

The comprehensive analysis of various digital banking technologies and their impact on small business operations has shed light on their significant and positive effects. The study established that automated teller machines (ATMs), online banking, mobile banking, electronic statements, online bill pay, and digital wallets all play substantial roles in shaping the landscape of small business operations.

The results clearly indicate that these digital banking tools are not only statistically significant but also carry positive implications for small businesses. These technologies have revolutionized the way business operations are conducted, enhancing efficiency, accessibility, and convenience for both business

owners and customers. The findings underscore the transformative potential of digital banking solutions in empowering small businesses to thrive in the modern business environment.

i. Considering the statistically significant and positive effect of ATMs on business operations, small businesses should focus on establishing convenient and accessible ATM services. This can improve customer satisfaction by providing easy access to cash, ultimately leading to increased sales and transactions.
ii. The significant impact of online banking on small business operations emphasizes the importance of adopting and integrating online banking platforms. Businesses should prioritize user-friendly online banking interfaces that facilitate seamless transactions, fund transfers, and financial management, thereby enhancing overall efficiency and customer experience.
iii. Given the noted significant effect of mobile banking on small business operations, businesses should invest in mobile banking applications. These platforms can enhance customer engagement, allow for real-time monitoring of financial activities, and enable businesses to offer personalized services, contributing to improved operational effectiveness.

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