African Journal of Accounting and Financial Research
ISSN: 2682-6690
Volume 6, Issue 2, 2023 (pp. 112-125)
www.abjournals.org

MARKETING INFORMATION SYSTEM (MKIS) AND OPTIMIZATION OF BANKING SERVICE DELIVERY

Glory Sunday Etim[1], William Smart Inyang[2], Edim Eka James[1] and Geraldine Banku Mbu-Ogar[2]

[1]Department of Marketing, University of Calabar, Nigeria

[2]Department of Accounting, University of Calabar, Nigeria

*Corresponding Email: jamesedim@gmail.com

Cite this article:

Glory S.E., William S.I., Edim E.J., Geraldine B.M. (2023), Marketing Information System (MKIS) and Optimization of Banking Service Delivery. African Journal of Accounting and Financial Research 6(2), 112-125. DOI: 10.52589/AJAFR-XRYGQLV3

Manuscript History

Received: 17 April 2023

Accepted: 6 June 2023

Published: 26 June 2023

ABSTRACT: *This study examined marketing information system and optimization of banking service delivery. It sought to assess the influence of internal records, marketing intelligence and marketing research on banking service delivery. The study adopted cross-sectional survey research design. The sampling technique used was total population sampling which enabled the collection of primary data from 282 marketing and managerial personnel of commercial banks through an adapted structured questionnaire. Instrument validity was confirmed through content validity while Cronbach's alpha reliability method was used for reliability testing. Multiple linear regression was adopted to test the hypotheses developed for the study. Consequently, the findings revealed that internal records, marketing intelligence and marketing research had significant positive influences on banking service delivery, with varying magnitudes of influence. Hence, the study concluded that marketing information system has a significant positive influence on the optimization of banking service delivery. Therefore, the study presented practical implications for the banking industry and research suggestions for future researchers.*

KEYWORDS: MIS, Banking Service, Internal Records, Marketing Intelligence, Marketing Research.

Article DOI: 10.52589/AJAFR-XRYGQLV3
DOI URL: https://doi.org/10.52589/AJAFR-XRYGQLV3

INTRODUCTION

The advent and proliferation of modern information and communication technologies in business and marketing continue to change the way and manner in which business operations are conducted. These technologies such as marketing information systems (MKIS) have revolutionized the practice of modern business today; and in some industries, such as banking and telecommunications, they are the backbone of successful operations (Al-Momani & Al-Assaf, 2020). By definition, marketing information system is a network of interconnected equipment, personnel, digital infrastructure and communication technologies that collects, sorts, analyzes, stores and makes available marketing-useful information on the basis of which marketing executives make decisions regarding the marketing mix strategies and plans implemented by organizations (Bahloul & Wady, 2011). It is an offshoot of the management information system (MIS) designed and utilized by marketing executives and professionals in a bid to enhance the viability, effectiveness and efficiency of their marketing strategies. Considering the imperatives of well-designed and coordinated marketing information systems to marketing operations, business organizations across industries are investing in efforts to create their own systems amidst competitive pressure (Wijaksana & Pradana, 2018). They argued that from hotels, telecommunications companies, aviation companies, hospitals, insurance companies to commercial banks, the use of marketing information system has witnessed a dramatic increase as the drive to achieve efficiency, profitability and competitive advantages surge among corporate executives. However, in this study, the emphasis is to explore how the implementation of marketing information system tools such as internal records, marketing intelligence, and marketing research has lcontributed to the delivery of banking services to customers.

According to Kamau and Njuguna (2020), internal records are sources of obtaining actionable marketing-related information such as customers' demographic information and transactional history within the confines of a company. Marketing intelligence is emerging data or information about current marketing events and activities occurring in the marketplace obtained by companies for better marketing decision-making. Whereas, Rosário (2021) viewed marketing research as the objective and systematic process of obtaining, analyzing and interpreting data to generate information to solve marketing problems or improve the performance of marketing operations. These and other tools of marketing information system have been applied by companies in a push to enhance organizational performance and competitive advantages. Companies use internal records such as customers' database, sales records and customers' recent order histories to understand customers' needs in order to shape product and service offerings that align with customers' requirements (Al-Momani & Al-Assaf, 2020). Rotich (2016) also observed that companies take advantage of external sources such as suppliers, customers, industry reports and competitors' information to acquire marketing intelligence to improve the efficiency of their operations. Similarly, marketing research is carried out by both manufacturing and service-based companies to identify and resolve marketing-related problems as well as improve the effectiveness of marketing programmes (Bahloul & Wady, 2011). Nevertheless, there is insufficient evidence of how the implementation of marketing information system tools has affected the delivery of banking services to customers even in the face of an accelerated application of modern information and communication technologies in commercial banks around the world.

This has culminated in a slew of studies aimed at assessing the causal relationship between

Article DOI: 10.52589/AJAFR-XRYGQLV3
DOI URL: https://doi.org/10.52589/AJAFR-XRYGQLV3

marketing information system (MKIS) and organizational performance so as to provide empirical evidence that demonstrates how commercial enterprises, including banks, could enhance their competitive performance using MKIS (Bahloul & Wady, 2011; Rotich, 2016; Al-Momani & Al-Assaf, 2020; Kamau & Njuguna, 2020). The vast majority of these studies were in the banking industry; however, their emphasis was on predicting sales and overall performance of banks as an outcome of the application of marketing information system (Bahloul & Wady, 2011; Rotich, 2016; Ade *et al.*, 2017; Al-Momani & Al-Assaf, 2020; Kamau & Njuguna, 2020). There has not been sufficient research attention on how the application of marketing information systems influences the delivery process of banking services (in terms of service accuracy, service speed, error-free service and service innovation). Other studies focused on hospitals (Fahmi *et al.*, 2019), manufacturing companies (Anucha, 2018), transportation companies (Ezekiel *et al.*, 2013) and small and medium-sized enterprises (Heodosiou & Beheshti, 2021), where the emphasis was on operational and overall organizational performance, without any particular reference to the performance of banking service delivery. This entails that although marketing information systems have been widely applied by commercial banks around the world, including in Nigeria, there is a knowledge gap in terms of its contributions to the service delivery process of commercial banks. There is therefore a need for studies that explore the causality between MKIS application and the service delivery processes of commercial banks. It was against this backdrop that this study was carried out to assess the influence of marketing information systems (internal records, marketing intelligence, and marketing research) on banking service delivery (in terms of service accuracy, service speed, error-free service and service innovation).

LITERATURE REVIEW

Theoretical Framework

This study finds support in the dynamic theory of innovation propounded by Taylor *et al.* (2002). This theoretical framework was created to enable business organizations to improve their corporate performance by harnessing the enormous potential of modern technology. It evolved to tackle the high rate of failure that traditional commercial organizations were experiencing as a result of environmental changes and globalization. The dynamic theory of innovation explains why traditional corporate structures fell behind as the business landscape changed over time. The theory is anchored on the basic premise that business organizations operate in an environment characterized by a torrent of ongoing natural and man-made changes, which may promote or thwart corporate performance (Taylor *et al.*, 2002). According to the theory, a key approach towards mitigating adverse environmental changes in order to improve corporate performance is innovation (in terms of product, process, personnel and orientation). The premise of the dynamic theory of innovation purports the practically realistic notion that innovation is a critical factor in improving business performance in a dynamic and competitive environment (Teece *et al.*, 2016). It stresses that the ability to innovate is essential for businesses to stay relevant and competitive in today's fast-changing market. This is because the theorists believed that innovation can help businesses to increase efficiency and reduce costs. By innovating processes, businesses can streamline operations, reduce waste, and improve productivity. This is why Taylor *et al.* (2002) espouse that a corporate organization is at liberty to embark on innovation in four (4) areas, namely: personnel, technology, corporate

Article DOI: 10.52589/AJAFR-XRYGQLV3
DOI URL: https://doi.org/10.52589/AJAFR-XRYGQLV3

orientation, and methods. Since this study centered on a technology-related concept –marketing information system, the technology aspect of the theory was addressed. In the context of this study, the dynamic theory of innovation implies that commercial banks operate within a dynamic environment marked by consistent changes and trends, which may present opportunities or threats to their operations. Consequently, the theory suggests that through technological innovations such as marketing information systems, banks can mitigate adverse environmental impacts while improving corporate efficiency and effectiveness in terms of banking service delivery.

Marketing Information System (MKIS)

Marketing Information System (MKIS) is a network of interconnected equipment, personnel, digital infrastructure and communication technologies that collects, sorts, analyzes, stores and makes available marketing-useful information on the basis of which marketing executives make decisions regarding the marketing mix strategies and plans implemented by organizations (Bahloul & Wady, 2011). It is an offshoot of the management information system (MIS) designed and utilized by marketing executives and professionals in a bid to enhance the viability, effectiveness and efficiency of their marketing strategies. According to Fahmi *et al.* (2019), marketing information system is an interdependent architecture of tools that enable marketing organizations to continuously and regularly collect relevant marketing data, analyze and interpret them in order to generate valuable, actionable and viable information for use by marketing practitioners to further their marketing operations and operational performance. Its importance to business organizations is indispensable especially in the wake of intense competition, and other marketing dynamism such as change in target market taste and fashion, among others. Consequently, business organizations in a variety of industries, including manufacturing, telecommunications, hospitality and banking are developing robust marketing information systems to guard against shortfalls in their marketing performance.

Optimization of Banking Service Delivery

Banking service delivery has come a long way since the days of long queues and manual bookkeeping. With the advancement in technology, banks have automated their processes, and customers can now access their banking services from anywhere, anytime. However, with the increasing competition in the banking industry, banks have to optimize their service delivery to remain relevant and competitive (Hong *et al.*, 2016). Optimization of banking service delivery involves using technology and other strategies (like marketing information systems) to improve the efficiency, speed, and quality of banking services. One of the critical ways to optimize banking service delivery is through the use of digital channels (Shareef *et al.*, 2018). Digital channels such as mobile banking, internet banking, and social media banking provide customers with the flexibility to access banking services from anywhere and anytime. With these digital channels, customers can access their accounts, transfer funds, pay bills, and apply for loans without visiting the physical bank. Another way to optimize banking service delivery is through the use of artificial intelligence (AI) and machine learning (ML) technologies (YuSheng & Ibrahim, 2019). AI and ML can be used to automate routine tasks such as account opening, loan disbursement, and fraud detection. By automating these tasks, banks can reduce the time it takes to perform them, increase accuracy, and reduce costs. In addition to digital channels and AI/ML technologies, banks can optimize their service delivery by using data analytics (Firdous & Farooqi, 2017). Data analytics can be used to gain insights into customer

Article DOI: 10.52589/AJAFR-XRYGQLV3
DOI URL: https://doi.org/10.52589/AJAFR-XRYGQLV3

behavior, preferences, and needs. With these insights, banks can tailor their services to meet the specific needs of their customers, thereby improving customer satisfaction and loyalty.

Internal Records and Banking Service Delivery

Internal records are sources of obtaining actionable marketing-related information such as customers' demographic information and transactional history within the confines of a company (Kamau & Njuguna, 2020). They include any documented source within an organization where information or data on customers and their engagements with the organization could be obtained, analyzed and utilized for marketing decision-making purposes. Internal records are the first line of information source available to firms, because every marketing company typically holds some sort of record or documentation of customers' transactions and even demographic information (Hatai & Panda, 2015). This becomes usable when companies are faced with marketing problems or seek to exploit nascent marketing opportunities. They then rely on internal records to track and identify patterns of purchase behaviors among customers to understand what they need and how to ultimately satisfy that need through the appropriate product and service offering. The foregoing view suggests that by providing reliable data on consumers' interactions with firms, internal records supply relevant information that inform and direct firms on the appropriate products and services capable of improving customer satisfaction, and potentially marketing performance. However, it is unclear whether or not the use of internal records by commercial banks facilitates the delivery of banking services to customers. Therefore, the study proposed the following hypothesis for testing:

H_1: Internal records have a significant influence on banking service delivery

Marketing Intelligence and Banking Service Delivery

Marketing intelligence is emerging data or information about current marketing events and activities occurring in the marketplace obtained by companies for better marketing decision-making (Rotich, 2016). It is synonymous with a military reconnaissance system that surveils and monitors enemy territory for the purpose of obtaining vital intelligence or information about enemy movements and formations in order to enhance troops' chances of victory. In the marketing context, companies rely on reliable external sources, partners or informants who, on an on-going and regular basis, supply them with current or emerging relevant market information that can potentially have impacts on organizational marketing performance (Al-Weshah, 2017). Marketing intelligence is the current information about happenings in the marketplace; changes in consumers' demand, tastes, requirements, market trends, industry trends, government policies and technological innovations that can have substantial impacts on an organization's position and activities in the market. As such, Kamau and Njuguna (2020) argued that companies that lack the capability of tracking, monitoring and understanding emerging marketing intelligence are operating blindly in the marketplace. Similarly, the authors assert that marketing intelligence is the ability to quickly take actions based on the intelligence to exploit marketing opportunities or neutralize threats. The role of marketing intelligence in enhancing the sales performance of commercial banks has been confirmed by existing studies (Rotich, 2016; Kamau & Njuguna, 2020). However, it is unclear whether or not marketing intelligence facilitates the process of banking service delivery to customers. Therefore, the study proposed the following hypothesis for testing:

Article DOI: 10.52589/AJAFR-XRYGQLV3
DOI URL: https://doi.org/10.52589/AJAFR-XRYGQLV3

H_2: Marketing intelligence has a significant influence on banking service delivery

Marketing Research and Banking Service Delivery

Marketing research is the objective and systematic process of obtaining, analyzing and interpreting data to generate information to solve marketing problems or improve the performance of marketing operations (Rosário, 2021). It is a formalized and organized enquiry or investigation that seeks to determine marketing problems or opportunities available to an organization; collect and analyze data on them to generate credible information to effectively resolve the problems or profitably exploit the opportunities. In the views of Christofi *et al*. (2017), marketing research is a step-by-step process of identifying a marketing problem of concern and generating accurate and reliable information capable of enabling the resolution of the identified problem in a way that enhances marketing performance. Its major role in business is to enhance the effectiveness and efficiency of marketing programmes and operations. In a typical marketing environment characterized by competition, social change and technological dynamism, the imperatives of an effective marketing research capability cannot be overemphasized (Séraphin *et al*., 2016). This is because research is both a curative and preventive exercise that enables marketing organizations to not only solve problems confronting them, but also to prevent the emergence of the problems in the first place. With the information it provides, marketing research enables firms to ensure that the most appropriate marketing mix strategies are adopted and targeted at the most suitable market segment capable of improving marketing performance (Radnović *et al*., 2015). The foregoing assertion suggests that marketing research has the capacity to enhance organizational marketing performance. However, it is not clear whether or not the application of marketing research can improve the delivery of banking services to customers. Therefore, the study proposed the following hypothesis for testing:

H_3: Marketing research has a significant influence on banking service delivery

Empirical Review and Research Model

Al-Momani and Al-Assaf (2020) conducted a study on marketing information systems and bank decision-making systems by using a structured questionnaire to obtain primary data from 30 bank managers in Jordan. Descriptive statistics and simple regression were the tools adopted for data analysis in the study. The findings therefore revealed that marketing intelligence, database system, marketing analysis, and marketing research had significant positive effects on decision-making systems of bank management in Jordan. Kamau and Njuguna (2020) examined marketing intelligence systems and banks' sales performance by adopting a self-administered questionnaire to elicit primary data from 86 marketing executives in selected deposit money banks in Kenya. Data analysis was accomplished through descriptive statistics, Pearson's correlation and regression analyses. The findings of the study revealed that marketing intelligence had a significant positive relationship and influence on the sales performance of Kenyan commercial banks. Also, in the study of Rotich (2016), a structured questionnaire was used to obtain primary data from 26 deposit money banks in Nairobi, Kenya. Descriptive statistics and multiple linear regression were employed for data analysis and hypotheses testing in the study. Consequently, the findings revealed that marketing intelligence had a significant effect on the sales performance of Bancassurance in Kenyan banks.

Article DOI: 10.52589/AJAFR-XRYGQLV3
DOI URL: https://doi.org/10.52589/AJAFR-XRYGQLV3

In Palestine, Bahloul and Wady (2011) examined marketing information systems and banks' decision-making processes by using a structured questionnaire to get primary data from 99 bank personnels and managers of selected banks in the Gaza Strip. Descriptive statistics and Pearson's correlation methods were applied for data analysis in the study. Therefore, the findings of the study revealed that marketing information systems (internal records, marketing intelligence, marketing research, marketing decision support system, and new technology) had a significant positive effect on the decision-making processes of commercial banks. Also, in Iraq, a study conducted by Fahmi et al. (2019) on marketing information systems and hospitals' financial performance used a structured questionnaire to obtain primary data from 206 hospital personnels in Iraq, while multiple linear regression and structural equation modeling were employed for hypothesis testing. Consequently, the findings of the study revealed that internal records, marketing decision-support system, marketing intelligence and marketing research had significant positive relationships and influence on the financial performance of hospitals. Similarly, in Nigeria, Anucha (2018) conducted a study on marketing information system and decision-making effectiveness in manufacturing firms by using a structured questionnaire as an instrument for obtaining primary data from 126 marketing and managerial personnel of manufacturing firms in Port Harcourt. Data analysis and hypothesis testing were carried out using Spearman's rank order correlation method. As a result, it was revealed that internal records, marketing intelligence system, and marketing research had significant positive relationships with management decision-making in Nigerian manufacturing companies.

Furthermore, in Malaysia, Heodosiou and Beheshti (2021) carried out an exploratory study on marketing information systems and small and medium-sized enterprises' performance. The study was purely an exploratory literature review whose findings were based on the findings of previous existing researchers. The findings of the study revealed that the marketing information system significantly and positively impacts the performance of Malaysian SMEs. Also, a Nigerian study by Ezekiel *et al.* (2013) assessed the influence of marketing information systems on performance of transportation companies. The study used a 5-point Likert scale questionnaire to obtain primary data from management personnels of selected public road transportation companies in Calabar, Nigeria while Ordinary Least Square method was adopted to test the hypotheses of the study. Consequently, the findings revealed that marketing research, internal records and marketing intelligence had significant positive influences on the performance of public road transportation companies. Similarly, another Nigerian study by Ade *et al.* (2017) obtained primary data from 285 personnels from the now defunct Diamond Bank Plc in Lagos State using a structured questionnaire, while data analysis was accomplished using multiple regression analysis, and Pearson's correlation. The study therefore found that internal records (internal records, competitors' sales data, marketplace opportunity, competitive risk analysis, and competitors' threat analysis) had significant positive relationship and influence on competitive advantage of commercial banks in Nigeria.

In light of existing research reviewed, the study has developed a conceptual model presented in Figure 1 to hypothetically portray the association between marketing information system (MKIS) and banking service delivery within the context of this study. The model suggests that marketing information system tools such as internal records, marketing intelligence and marketing research are related to banking service delivery as shown in figure 1.

Article DOI: 10.52589/AJAFR-XRYGQLV3
DOI URL: https://doi.org/10.52589/AJAFR-XRYGQLV3

African Journal of Accounting and Financial Research
ISSN: 2682-6690
Volume 6, Issue 2, 2023 (pp. 112-125)

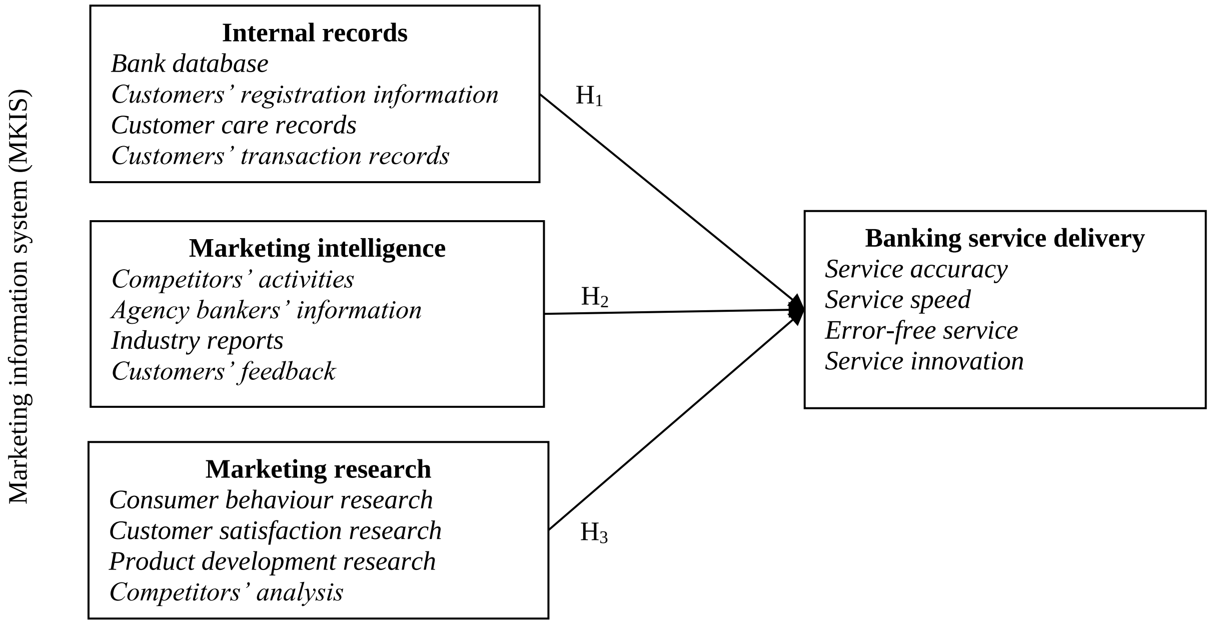

Figure 1: Adapted conceptual model for the study

Source: *Independent variables' indicators adapted from Bahloul and Wady (2011); Al-Momani and Al-Assaf (2020); Kamau and Njuguna (2020). Dependent variable indicators adapted from Yusheng and Ibrahim (2019)*

METHODOLOGY

The study design was the cross-sectional survey research design. The population comprised 296 marketing and managerial personnels of five (5) major commercial banks in Calabar Metropolis, Nigeria. The study targeted marketing and managerial personnels of banks because, given their positions and professional experience, they were perceived to be more appropriate to provide information related to their banks' marketing information system and its potential influence on banking service delivery. The same population figure of 296 personnels was adopted as sample size for the study because it was small and manageable (that is, below 500) as suggested by Odigbo (2018) and Malterud *et al.* (2016). Therefore, the study adopted the total population sampling technique, which enabled the administration of the questionnaire to all the 296 marketing and managerial personnels of commercial banks. The instrument administered to respondents was a 5-point Likert scale questionnaire with statements adapted from existing studies. The indicators (bank database, customers' registration information, customer care records and customers' transaction records) were adapted from Al-Momani and Al-Assaf (2020) to measure the variable "Internal records"; the indicators (competitors' activities, agency bankers' information, industry reports and customers' feedback) were adapted from Kamau and Njuguna (2020) to measure the variable "Marketing intelligence"; the indicators (consumer behavior research, customer satisfaction research, product development research and competitors' analysis) were adapted from Bahloul and Wady (2011)

Article DOI: 10.52589/AJAFR-XRYGQLV3
DOI URL: https://doi.org/10.52589/AJAFR-XRYGQLV3

African Journal of Accounting and Financial Research
ISSN: 2682-6690
Volume 6, Issue 2, 2023 (pp. 112-125)

to measure the variable "Marketing research", while the indicators (service accuracy, service speed, error-free service and service innovation) were adapted from Yusheng and Ibrahim (2019) to measure the variable "Banking service delivery".

In advance of questionnaire administration, the instrument was confirmed to be valid through content validity, while its reliability status was confirmed through the Cronbach alpha reliability approach. The Cronbach's alpha coefficients generated by the instrument ranged from 0.7 and above, thereby implying that the scales were reliable and the instrument was internally consistent [internal records (α = 0.727); marketing intelligence (α = 0.771); marketing research (α = 0.800); and banking service delivery (α = 0.728)]. The data obtained from respondents were subjected to statistical analysis while multiple linear regression methods were adopted to test the hypotheses proposed in the study. The developed multiple regression model is stated as follows:

$$BSERVDEL = a + \beta_1 INTRECS + \beta_2 MKTINTEL + \beta_3 MKTRESCH + e$$

Where:

BSERVDEL	=	Banking service delivery
INTRECS	=	Internal records
MKTINTEL	=	Marketing intelligence
MKTRESCH	=	Marketing research
a	=	The intercept (or constant)
β_1 INTRECS	=	Coefficient of internal records
β_2 MKTINTEL	=	Coefficient of marketing intelligence
β_3 MKTRESCH	=	Coefficient of marketing research
e	=	Error margin (5 percent)

ANALYSIS AND INTERPRETATION

To obtain data for the study, a total of 296 questionnaire copies were administered to marketing and managerial personnel of commercial banks. However, the total questionnaire copies retrieved were 282 (representing 95.3 percent) of the total questionnaire copies administered, while 14 questionnaire copies (representing 4.7 percent) could not be retrieved from respondents. Consequently, the 282 questionnaire copies retrieved were ultimately used for analysis and hypothesis testing in the study.

Article DOI: 10.52589/AJAFR-XRYGQLV3
DOI URL: https://doi.org/10.52589/AJAFR-XRYGQLV3

Table 1: Model summary of the influence of marketing information system (MKIS) on banking service delivery

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.597[a]	.356	.349	.52308

a. Predictors: (Constant), Internal records, marketing intelligence, marketing research

Source: Authors' computation via SPSS, 2023

Table 2: ANOVA[a] of the influence of marketing information system (MKIS) on banking service delivery

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	42.127	3	14.042	51.322	.000[b]
	Residual	76.064	278	.274		
	Total	118.191	281			

a. Dependent Variable: Banking service delivery

b. Predictors: (Constant), Internal records, marketing intelligence, marketing research

Source: Authors' computation via SPSS, 2023

Table 3: Coefficients[a] of the influence of marketing information system (MKIS) on banking service delivery

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.045	.233		4.490	.000
	Internal records	.610	.055	.605	11.071	.000
	Marketing intelligence	.246	.048	.287	5.149	.000
	Marketing research	.260	.055	.237	4.728	.000

a. Dependent Variable: Banking service delivery

Source: Authors' computation via SPSS, 2023

The hypotheses developed for this study were tested using multiple linear regression, the results of which are displayed in Tables 1, 2 and 3. From the correlation coefficient (R = 0.597) in

Article DOI: 10.52589/AJAFR-XRYGQLV3
DOI URL: https://doi.org/10.52589/AJAFR-XRYGQLV3

Table 1, it shows that the relationship between marketing information system (MKIS) and banking service delivery is 59.7 percent, which is very high. The regression coefficient (R^2 = 0.356) in Table 1 shows that changes in the application of marketing information system (MKIS) will result in a 35.6 percent improvement in banking service delivery to customers, if other variables remain constant. This entails that the marketing information system (MKIS) is responsible for up to 35.6 percent of the variation in banking service delivery. Given that the F-statistic is 51.322 and the significant value is 0.000 less than 0.05 as shown in Table 2, it means that there is a credible evidence to conclude that the regression model is significant statistically, thereby implying that marketing information system (MKIS) has a significant influence on banking service delivery. Furthermore, the results presented in Table 3 reveal that all the dimensions of marketing information system (MKIS) tested had significant positive influences on banking service delivery because their individual significant values were less than 0.05 [internal records (p-value = 0.000; t-value = 11.071); marketing intelligence (p-value = 0.000; t-value = 5.149); and marketing research (p-value = 0.000; t-value = 4.728)]. The implication of this revelation is that internal records, marketing intelligence, and marketing research have significant positive influences on banking service delivery.

That notwithstanding, the coefficient section in Table 3 reveals that individually, internal records had the highest significant influence on banking service delivery (β = 0.605 i.e., 60.5 percent). Marketing intelligence had the second-highest significant influence on banking service delivery (β = 0.287 i.e., 28.7 percent); while marketing research had the least significant influence on banking service delivery (β = 0.237 i.e., 23.7 percent). In summary, the findings of this study prove that, in order of relative importance, internal records, marketing intelligence and marketing research had significant positive influences on banking service delivery. The results of this study imply that just as internal records enabled commercial banks to significantly improve their decision-making effectiveness in the studies of Bahloul and Wady (2011) and Al-Momani and Al-Assaf (2020), it can also enable commercial banks to significantly enhance the delivery of banking services to customers. The results also imply that just as marketing intelligence enabled commercial banks to significantly improve their performance in the studies of Rotich (2016) and Kamau and Njuguna (2020), it can also enable commercial banks to significantly enhance the delivery of banking services to customers. Finally, the findings of the study imply that just as marketing research enabled transportation companies (Ezekiel *et al.*, 2013), manufacturing firms (Anucha, 2018), hospitals (Fahmi *et al.*, 2019) and small and medium-sized enterprises (Heodosiou & Beheshti, 2021) to significantly improve their performance, marketing research can also enable commercial banks to significantly improve the delivery of banking services to customers.

Article DOI: 10.52589/AJAFR-XRYGQLV3
DOI URL: https://doi.org/10.52589/AJAFR-XRYGQLV3

CONCLUSION AND PRACTICAL IMPLICATIONS

Given the immense benefits of marketing information systems (MKIS), companies around the world have sought to apply such systems with a view to improving their competitive and operational performance. As observed earlier, this has resulted in a slew of studies seeking to determine the causality between marketing information systems and organizational performance. However, it was observed that there was a knowledge gap in terms of the contributions of marketing information systems (MKIS) in the service delivery process of commercial banks given that the vast majority of existing studies centered on competitive, sales, operational and overall organizational performance of business firms including banks. This study was therefore carried out to bridge this knowledge gap by examining the influence of marketing information systems (internal records, marketing intelligence and marketing research) on banking service delivery to customers. To do this, the study obtained data from marketing and managerial personnel of selected commercial banks, which were analyzed using multiple linear regression. The findings of the study therefore revealed that, in order of relative importance, internal records, marketing intelligence and marketing research had significant positive influences on banking service delivery. The implication of these findings is that commercial banks can significantly enhance the delivery of banking services to customers by applying marketing information system tools such as internal records, marketing intelligence and marketing research. With respect to internal records, commercial banks should explore their internal databases, customers' registration information, customer care records and customers' transaction records in order to gain insights into how best to deliver banking services to them to satisfy their needs. To harness the potential of marketing intelligence to improve service delivery, commercial banks should monitor competitors' activities, seek information from their partners, industry reports and customers' feedback to understand how best to deliver banking services to customers to enhance their satisfaction. Finally, marketing research, such as consumer behavior research, customer satisfaction research, product development research and competitors' analysis should be carried out on a periodic basis to identify effective and efficient innovative ways to deliver banking services to customers capable of satisfying their needs and requirements.

LIMITATIONS AND FUTURE RESEARCH

This study centered on assessing the causality between marketing information system tools (specifically, internal records, marketing intelligence and marketing research) and banking service delivery. Variables such as decision-support systems, a critical dimension of marketing information systems, were not studied in this research. Therefore, future researchers may explore the influence of the decision-support system alongside other dimensions of the marketing information system on banking service delivery in order to augment the findings of the present study. Also, this study was tailored towards the service delivery process; hence it does not explain how marketing information systems might influence customers' satisfaction with banking services received from commercial banks. Therefore, it is essential for future studies to be tailored towards examining the influence of marketing information systems on customer satisfaction with banking services of commercial banks. Since marketing information systems are not industry-specific, there is a need for more studies on the application of marketing information systems in a variety of industries other than the banking industry in

Article DOI: 10.52589/AJAFR-XRYGQLV3
DOI URL: https://doi.org/10.52589/AJAFR-XRYGQLV3

order to provide comprehensive empirical evidence of how industry practitioners are applying these systems in their marketing operations.

CONFLICT OF INTEREST

This is to certify that there is a complete consensus among the authors of this research article for the publication of this work. We hereby affirm that the authors do not disagree on any issues relating to this article.

REFERENCES

Ade, L. P., Akanbi, A. M. & Tubosun, A. I. (2017). The influence of marketing intelligence on business competitive advantage (A study of Diamond Bank Plc). *Journal of Competitiveness, 9*(1), 51-71

Al-Momani, M. M. & Al-Assaf, K. T. (2020). The impact of marketing information systems on decision-making systems at Islamic International Arab Bank in Jordan. *Journal of Management Information and Decision Sciences, 23*, 387-396.

Al-Weshah, G. A. (2017). Marketing intelligence and customer relationships: Empirical evidence from Jordanian banks. *Journal of Marketing Analytics, 5*(3), 141-152.

Anucha, V. C. (2018). Marketing information system and management decision making in manufacturing organizations in Nigeria. *International Journal of Business and Management Research, 8*(2), 9-20

Bahloul, M. Y. & Wady, R. A. (2011). *The role of marketing information system technology in the decision-making process of the banking sector in Gaza Strip* [A Master’s Thesis, Islamic University of Gaza, Palestine]

Christofi, M., Leonidou, E., & Vrontis, D. (2017). Marketing research on mergers and acquisitions: A systematic review and future directions. *International Marketing Review, 7*(1), 18-28

Ezekiel, M. S., Eze, F. J. & Anyadighibe, J. A. (2013). A study of marketing information system (MIS) as a contributory factor in the performance of selected transport companies in Calabar Metropolis. *American Journal of Tourism Research, 2*(2), 154-159

Fahmi, A. M., Atiyah, S. M. & Sadiq, A. S. (2019). The impact of marketing information systems on brilliant financial performance in hospital industry. *Indian Journal of Public Health Research & Development, 10*(3), 577-581

Firdous, S., & Farooqi, R. (2017). Impact of internet banking service quality on customer satisfaction. *The Journal of Internet Banking and Commerce*, *22*(1), 1-17.

Hatai, L. D., & Panda, D. (2015). Agricultural marketing information system: A case study of traders in Meghalaya. *Economic Affairs, 60*(2), 263-272.

Heodosiou, A. A., & Beheshti, M. A. (2021). Relationship between marketing information system and performance of SMEs in Malaysia. *African Journal of Emerging Issues, 3*(10), 15-24

Hong, T. L., Cheong, C. B., & Rizal, H. S. (2016). Service innovation in Malaysian banking industry towards sustainable competitive advantage through environmentally and socially practices. *Procedia-Social and Behavioral Sciences*, *224*, 52-59.

Article DOI: 10.52589/AJAFR-XRYGQLV3
DOI URL: https://doi.org/10.52589/AJAFR-XRYGQLV3

Kamau, E. W. & Njuguna, P. M. (2020). Effect of marketing intelligence on sales performance of commercial banks in Kenya. *The International Journal of Business Management and Technology, 4*(5), 20-32

Malterud, K., Siersma, V. D., & Guassora, A. D. (2016). Sample size in qualitative interview studies: guided by information power. *Qualitative Health Research, 26*(13), 1753-1760.

Odigbo, B. (2018). *Mastering research: Developing countries' challenges (1st Ed.).* Enugu: Rhyce Kerex Publishers

Radnović, B., Marić, R., Radnović, V., Ilić, M., & Lukač, D. (2015). Marketing research on passenger satisfaction with public transport service in the city of Belgrade. *Promet-Traffic & Transportation, 27*(1), 47-57.

Rosário, A. T. (2021). Based guidelines for marketing information systems. *International Journal of Business Strategy and Automation, 2*(1), 1-16.

Rotich, E. C. (2016). *Effects of marketing intelligence on sales performance of Bancassurance among financial institutions in Kenya* [A Master's Thesis, University of Nairobi, Kenya].

Séraphin, H., Ambaye, M., Gowreesunkar, V., & Bonnardel, V. (2016). A marketing research tool for destination marketing organizations' logo design. *Journal of Business Research, 69*(11), 5022-5027.

Shareef, M. A., Baabdullah, A., Dutta, S., Kumar, V., & Dwivedi, Y. K. (2018). Consumer adoption of mobile banking services: An empirical examination of factors according to adoption stages. *Journal of Retailing and Consumer Services*, *43*, 54-67.

Taylor, R., Burrows, E. & Logan, P. (2002). Assessing organizational performance: The dynamic theory of innovation approach. *International Journal of Emerging Trends in Business and Management, 28*(7), 190-203

Teece, D., Peteraf, M., & Leih, S. (2016). Dynamic capabilities and organizational agility: Risk, uncertainty, and strategy in the innovation economy. *California Management Review*, *58*(4), 13-35.

Wijaksana, T. I., & Pradana, M. (2018). Optimization of marketing information system for clothing production in Bandung city, Indonesia. *The EurAseans: Journal on Global Socio-economic Dynamics, 3*(10), 27-35.

Yusheng, K. & Ibrahim, M. (2019). Service innovation, service delivery and customer satisfaction and loyalty in the banking sector of Ghana. *International Journal of Bank Marketing, 37*(5), 1215-1233

YuSheng, K., & Ibrahim, M. (2019). Service innovation, service delivery and customer satisfaction and loyalty in the banking sector of Ghana. *International Journal of Bank Marketing*, *6*(2), 67-81

Article DOI: 10.52589/AJAFR-XRYGQLV3
DOI URL: https://doi.org/10.52589/AJAFR-XRYGQLV3