



Research Paper

Impact of Fin-tech Innovations on Traditional Banking in Developing Countries

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Abstract: Financial technology (fin-tech) has emerged as one of the most transformative innovations in recent years, significantly altering the landscape of financial services globally. This technological revolution is not confined to developed nations; it is also making substantial inroads in developing countries, reshaping their economic and banking structures. This study explores the impact of fin-tech innovations on traditional banking systems in three developing countries: Djibouti, Morocco, and Kenya. Each country presents a unique environment for fin-tech development, influenced by specific economic conditions, regulatory frameworks, and the maturity of relevant technologies. Focusing on these diverse settings, the research aims to uncover how fin-tech reconfigures traditional banking models and customer interactions. The study employs a mixed-methods approach, combining quantitative data from surveys and statistical analyses with qualitative insights from interviews with key stakeholders in the financial sectors of the three countries. The findings reveal that the frequency of using financial services is positively associated with the perceived positive impact of fin-tech on traditional banking systems. The high *t*-value and significance level indicate a strong and reliable relationship, suggesting that as the frequency of using financial services increases, the perceived positive impact of fin-tech also increases. Conversely, the speed of digital banking services from Salam African Bank shows a negative relationship, indicating underlying concerns related to faster transaction times. Additionally, financial inclusion through Safaricom M-Pesa and the widespread use of fin-tech by Attijariwafa Bank are positively associated with the perceived positive impact of fin-tech innovations, highlighting the complex dynamics of fin-tech adoption in developing countries. These insights can help policymakers and financial institutions tailor strategies to enhance positive outcomes and address concerns in the evolving fin-tech landscape.

KEYWORDS: Financial technology, Traditional Banking, Customer Interactions, Developing Countries

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I. INTRODUCTION

Financial technology (fin-tech) has become one of the most disruptive innovations in the recent past, and this rise to prominence plays a significant role in changing the landscape of how financial services are offered to consumers worldwide. These technological breakthroughs have never been limited to the developed world. Indeed, developing countries have marked a boom in the fin-tech solutions that remodel their economic and banking structures. This study deals with the effect that fin-tech innovations create in relation to traditional banking systems. It focuses on three developing countries: Djibouti, Morocco, and Kenya. Each of the mentioned unfolds the different environment for fin-tech development, influenced by specific economic conditions, regulatory frames, and maturity of relevant technologies.

The research aims to investigate how fin-tech innovations reconfigured traditional banking in select countries. Therefore, it will seek to explore new business models and changes in customer interaction because fin-tech is reshaping the competitive landscape for traditional banks. By understanding these shifts, we can have a better perspective on the broader consideration of the implications of fin-tech in the global financial ecosystem, particularly in settings that differ from developed economies.

This study is significant because it contributes to a nuanced understanding of fintech's roles and impacts in developing countries. As fin-tech advances, examining its positive outcomes, such as increased financial inclusion and enhanced service delivery, and its challenges, including disruptions to existing banking structures and regulatory dilemmas, is imperative. This study is guided by two main research questions: How have fin-tech innovations affected traditional banking in Djibouti, Morocco, and Kenya? And what are the similarities and differences in fin-tech adoption among these countries? Through this inquiry, the research aims to provide valuable insights into the transformative effects of fin-tech and offer strategic guidance for stakeholders looking to navigate this evolving landscape.

Hypothesis 1 (H_1): The frequency of using financial services (both traditional and fin-tech) is positively associated with the perceived positive impact of fin-tech innovations on traditional banking in Djibouti, Morocco, and Kenya.

Hypothesis 2 (H_2): There is a significant positive relationship between the impact of Safaricom M-Pesa on financial inclusion and the perceived positive impact of fin-tech innovations on traditional banking systems in Djibouti, Morocco, and Kenya.

Hypothesis 3 (H_3): Digital banking services from Salam African Bank having faster transaction times than traditional banking services are positively associated with the perceived positive impact of fin-tech innovations on traditional banking systems in Djibouti, Morocco, and Kenya.

Hypothesis 4 (H_4): The widespread use of fin-tech by Attijariwafa Bank among peers and the community is positively associated with the perceived positive impact of fin-tech innovations on traditional banking systems in Djibouti, Morocco, and Kenya.

II. LITERATURE REVIEW

Walker and Thomas et al. (2023) This study concluded that, within a decade of the new millennium, these disruptive new technologies like artificial intelligence, blockchain, cloud computing, big data, and the Internet of Things (collectively referred to as ABCDI) have spread. Their diffusion has had a significant impact on the financial world and has given rise to fin-tech innovations that disrupted the way banks and other financial institutions did their business. The official and other regulators, including the Financial Stability Board, the market supervisors, and the academic and financial industry bodies, are increasingly becoming conscious that these fin-tech innovations have brought prospective benefits in the world of finance and that these fin-tech innovations are too associated with risks. This research is intended to bring out the main effects of the fin-tech innovations in the banking arena. To describe and appraise the opportunities and challenges these fin-tech technologies proffer for the retail and commercial banks as seen by both the financial service regulators and the banking practitioners.

Takeda and Atsuyoshi et al. (2021) aimed to summarize the substantial research that already existed on FinTech. In its broadest definition, FinTech is the innovative use of information technology to provide financial services. The research was a systematic review of 88 peer-reviewed academic articles on FinTech. All of the articles were published in the highest-ranking SJR2017 journals. The first and most critical aspect summarized in this article is the type of companies utilizing FinTech. This is broken down into two categories: existing financial institutions or new market entrants. It looked at the value derived from this FinTech innovation, whether that innovation was newly added value or enhanced efficiency. Moreover, the research looked at types of new value-added, the geographical area that the research was focused on, and the methodology used. More than half of the research focused on new market entrants and how they used FinTech innovation to solve a social problem or build new financial ecosystems. The research established that more than half of the research focused on FinTech in Asia or the European Union. The most common research methodology utilized was the case study.

Kemunto and Eunice Rabera et al. (2018) examined the influence of Fintech strategies on Kenya's banking sector competitiveness. The results of the study suggested that the enhancement of the competitiveness of commercial banks is positively and significantly related to the enhancement of e-banking, mobile banking, agency banking, and process automation. Particularly, the results indicated that mobile banking was the most significant factor influencing the competitiveness of commercial banks. In contrast, the second most significant driver for the competitiveness of commercial banks was process automation. Agency banking was the third major significant driver. However, internet banking was the least significant factor in influencing the competitiveness of commercial banks.

Ochenge and Rogers Ondiba et al. (2023) outlined the impact of the recent financial technology (FinTech) revolution on risk-taking behavior in banks in Kenya from 2008 to 2021. The study found that the effect of FinTech on a bank's risk-taking behavior exhibits a "U" pattern. Initially, FinTech's introduction reduced banks' risk, but as the technology advanced and FinTech firms began competing directly with traditional commercial banks, risk-taking increased. Furthermore, the study discovered that the impact of

FinTech development on risk-taking varies with bank size, with larger banks being more sensitive to changes in FinTech than smaller and medium-sized banks.

Emara et al. (2021) explored how the expansion of Financial Technology (FinTech) could affect the attainment of Sustainable Development Goals (SDGs), specifically targeting the eradication of extreme poverty by 2030. The study assessed FinTech adoption using three metrics: the number of mobile cellular subscriptions per 100 people, the number of fixed broadband subscriptions per 100 people, and the percentage of the population using the internet. The findings indicate that FinTech adoption has a statistically significant positive impact on reducing extreme poverty across the entire sample, particularly in the Middle East and North Africa (MENA) and Sub-Saharan Africa (SSA) regions. A gap analysis was conducted to compare current situations with four extreme poverty targets: the United Nations' 0%, the World Bank's 5%, and two intermediary targets of 1.5% and 3%. This analysis showed more promising results for MENA than SSA, suggesting that except for Yemen and Djibouti, all MENA countries could reduce extreme poverty to below 5% if FinTech advancements continue. In contrast, in SSA, only Gabon, Cabo Verde, Seychelles, and Mauritius are projected to meet the 5% target. The study concludes that while digital dividends can aid in poverty reduction, enhancing human capital and governance are essential prerequisites. Only within such a comprehensive policy framework can the full potential of FinTech be realized to help eradicate extreme poverty and achieve the SDGs in both MENA and SSA regions.

Koffi and Hua Wilfried Serge et al. (2016) concluded that financial technology (Fintech) introduces innovative solutions and business models that may soon replace traditional banking processes. The study explores the potential benefits that Fintech's financial system offers to West Africa. It provides insights into the current state of the financial sector, advancements in digital settlements, and the financial market segments impacted by Fintech. The financial services sector generates extensive data that Fintech companies use to segment customer populations, discover new product and service opportunities, and optimize pricing. This sector can also employ data analytics to automate decision-making processes. Payment systems, crucial for transferring funds between individuals and institutions, comprise innovative startups, retailers, established banks, card companies, and other payment service providers. For the banking sector, Fintech offers viable and sustainable opportunities. It enhances value propositions, increases sales, reduces operational costs, simplifies access to loans, and lowers interest rates. The study highlighted the benefits of Fintech services and concluded that Fintech could improve the quality of financial services and their accessibility in the West African economy.

Bouaoulou and Mouna (2024) explored the factors affecting Moroccan consumers' intentions to adopt mobile banking, employing the Technology Acceptance Model (TAM). The study examined several determinants: Perceived Ease of Use (PEU), Perceived Usefulness (PU), Perceived Trust (PT), Perceived Risk (PR), and Social Influence (SI). The hypotheses formed through an extensive literature review were tested using a quantitative approach on a sample of 110 Moroccan consumers. Data analysis was conducted using the PLS-SEM method and SmartPLS 4 software. The results from the PLS regression model indicated that Perceived Usefulness, Perceived Trust, and Social Influence significantly and positively affected the intention to adopt Fintech services. However, the study also demonstrated that Perceived Ease of Use and Perceived Risk did not significantly impact the intention to adopt mobile banking services.

Iman and Nofie et al. (2018) conducted a study that highlights the substantial influence mobile phones have exerted on financial growth. They are anticipated to become ubiquitous tools for conducting a variety of financial transactions. Although mobile payment services have spread globally, a disturbingly high number of these efforts have failed. This research examined the continuing relevance of mobile payments in the era of fintech by analyzing three case studies: Oi Paggo in Brazil, TCASH in Indonesia, and M-PESA in Kenya. It suggests that current mobile payment systems operate within complex, multidimensional networks that share common infrastructures and compete to provide superior value to customers. The study points out three key aspects of industry and network structure: (1) further segmentation of the vertical supply chain might enable larger players to extend their influence, (2) the primary platform remains under the control of multinational operators (MNOs), predominantly telecom companies, and (3) the degree of openness in the networks may vary, increasing or decreasing, even as the number of independent entities in the supply chain diminishes.

Elsaid and Haitham Mohamed (2023) This study was conducted to understand the probable effect that fin-tech players can create in the entire financial services marketplace across the world through an extensive and widespread review of the literature. Specifically, the study focused on the possible advantages and threats that may be offered to the existing traditional banking system from fin-tech companies. Their results were that although the fin-tech companies can grab some market share from the traditional banks, they are not going to replace the latter in total. But to survive in the game, the banks must increase their pace of absorbing new technology that is innovative and sophisticated. It is also assumed by many that co-operative strategic tie-ups and co-operation between the banks and the fin-tech firms are also feasible.

Anagnostopoulos and Ioannis (2018) aimed to investigate and analyze the impact of FinTech development to the wider financial technology space. The article would refer to different angles to expand the understanding of the FinTech potential to be disruptive and how this can impact the wider financial ecosystem.

The work is based on the latest, most pertinent research to give a snapshot of the implications for financial institutions and their regulators, especially with new technology that will challenge the existing global banking and global regulatory systems. The research provided a broad overview of the development of FinTech, its status in the past, and its likely development in the future. It serves to narrow the gap between practitioner-led and academic research by taking account of the inputs made available from industry sources, publicly available commentaries, professional roundtables, and think-tanks where the author has played an active part. The research also views banking and regulatory issues from a behavioral perspective.

The last financial crisis demonstrated enormous failures of both regulation and supervision; therefore, Financial Market Law and Compliance should be a contemporary topic. The research maintains that the changing regulatory compliances need to be understood through the disruptive technological change lens. The study also helps in adding to the literature on financial and digital innovation by new entrants, with practical implications. The study also provides an updated review of current regulatory issues and addresses the root causes of disruption with the financial services domain. It is intended to help the market participants in better effectiveness and collaboration. The entire burden of regulation calls for a more liberal, principled approach to financial regulation. Disruptive innovation may accrue benefits for the customer, the regulatory environment, and the reputation of the financial services sector. As the financial services sector evolves, therefore, the adoption of disruptive innovation becomes crucial. Regulatory readiness to drive the cultural change and embed the technological advancements would achieve several desired outcomes: to provide for market orderliness and growth in an orderly manner, establish systemic stability, and restore trust in the financial system. Policy-making implications of the findings from this action-led research shall not only benefit regulatory standard setters, investors, international organizations, and other academics researching the issues of regulation and competition in a financial and social context. This research paper, representing a view on the social construct, shall be of interest to regulators, policymakers, entrepreneurs, investors, and bankers who probably might perceive the phenomena of FinTech and strategic alliances in that sphere for the future.

The FinTech revolution was occurring across the globe. Murinde and Victor et al. (2022) explored the emergent literature concerning FinTech and the services and products it enables, focusing on the putative benefits and risks to banks. The two used high-quality, bank-specific data from 115 countries over the last 16 years. This study, hence, uses the calculation of the statistical significance of some indicators to show how the banking landscape is changing in the FinTech era. The authors say from the initial findings that it is highly unlikely that FinTech lenders will replace traditional banks. This may be because today, many banks are either developing their own FinTech platforms or collaborating with FinTech startups. The authors also illustrate how various factors will shape the future of banking, namely regulation, global infrastructures, and geopolitical tensions. They identify some areas that hold promise for future research and summarize some key implications of the current findings for policymakers and industry practitioners.

III. METHODOLOGY

This study used primary survey data to measure the relationship between adopting fin-tech services and changes in traditional banking in developing countries. The Likert skill questions were used to achieve the objectives of the study.

Table 1. Variables Description

Variable Name	Meaning
Dependent Variable	The impact of fin-tech innovations on traditional banking in Djibouti, Morocco, and Kenya.
Independent Variable	The frequency of using financial services The impact of Safaricom M-Pesa on financial inclusion Digital banking services from Salam African Bank The widespread use of fin-tech by Attijariwafa Bank

Source: Author's Design

3.1 DATA COLLECTION METHOD

In this study, the 319-sample size was collected using the structural questionnaire, which uses the survey approach. The questionnaire often provides a detailed description of the present condition, or processes involved. This descriptive research aims to show how fin-tech innovations have reconfigured the traditional banking landscape in developing countries, focusing on specific impacts such as customer service, financial inclusion, and the competitive environment among banks.

3.2 METHOD OF THE STUDY

The multiple regression method is used to investigate the relationship between the frequency of using financial services, the trust in the security of digital services, and higher levels of financial inclusion with the perceived positive impact of fin-tech innovations on traditional banking systems in Djibouti, Morocco, and Kenya. This approach allows the researchers to quantify the extent to which these independent variables predict

changes in how traditional banking is perceived, considering fin-tech advancements while controlling for other influencing factors in the model.

The mathematical formula is as follows:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \dots + \beta_nX_n$$

Y is the dependent variable

X is the independent variable

β_0 is the slope coefficient.

β_i is the intercept.

n represents the number of independent variables in the regression model.

IV. RESULTS

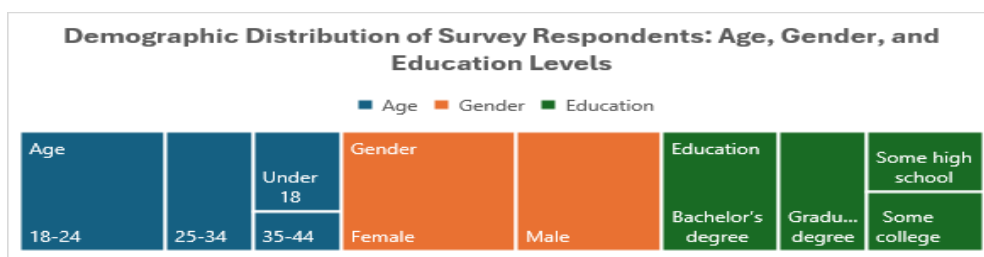
The questionnaire data from the study participants was processed using SPSS (Statistical Package for Social Sciences). Descriptive statistics summarize key aspects of the study's variables, encompassing the computation of means and standard deviations. Furthermore, this analysis includes tables showing the frequency and percent of the studied variables.

TABLE 2: SUMMARY STATISTICS OF DEMOGRAPHIC VARIABLES

Variable Name	Category	Frequency	Percent
Age	Under 18	58	18.2
	18-24	145	45.5
	25-34	87	27.3
	35-44	29	9.1
Gender	Male	145	45.5
	Female	174	54.5
Education	Some high school	58	18.2
	Some college	58	18.2
	Bachelor's degree	116	36.4
	Graduate degree	87	27.3

Source: Survey Data (2024)

The table summarizes the demographic characteristics of 319 respondents in fin-tech innovations and traditional banking surveys. Notably, most participants are aged 18-24, comprising 45.5% of the sample. This is followed by the 25-34 age group at 27.3%, under 18 at 18.2%, and the 35-44 age group at 9.1%. Gender distribution is relatively balanced, with 54.5% female and 45.5% male respondents. In terms of education, the largest group consists of those with a bachelor's degree (36.4%), followed by graduate degree holders (27.3%), and equal percentages (18.2%) for those with some high school and some college education. This demographic profile indicates a youthful and moderately well-educated sample, reflecting significant insights into the adoption and perception of fin-tech among younger, educated populations.



Source: Author's Design.

Table 3: Distribution of Countries' Residences

Variable Name	Frequency	Percent
Djibouti	138	43.3
Morocco	84	26.3
Kenya	97	30.4

Source: Survey Data (2024)

The data indicates the distribution of survey respondents from three countries, focusing on their perceptions of fin-tech innovations in traditional banking as follows:

Djibouti: The largest group of respondents is from Djibouti, with 138 individuals making up 43.3% of the total sample. This suggests a significant interest or impact of fin-tech innovations in Djibouti, potentially due to specific economic or regulatory conditions.

Kenya: Following Djibouti, Kenya represents 30.4% of the sample, with 97 respondents. This substantial proportion underscores Kenya's ongoing engagement with fin-tech solutions, which have been widely adopted across the country, particularly in mobile banking and financial services.

Morocco: The smallest group comes from Morocco, with 84 respondents accounting for 26.3% of the sample. The relatively lower participation rate from Morocco might indicate different levels of fin-tech integration or different focuses in financial technology developments compared to Djibouti and Kenya.

Overall, the distribution of respondents across these countries highlights varying degrees of fin-tech adoption and the diverse impacts of technological advancements in traditional banking within different economic and regulatory landscapes.

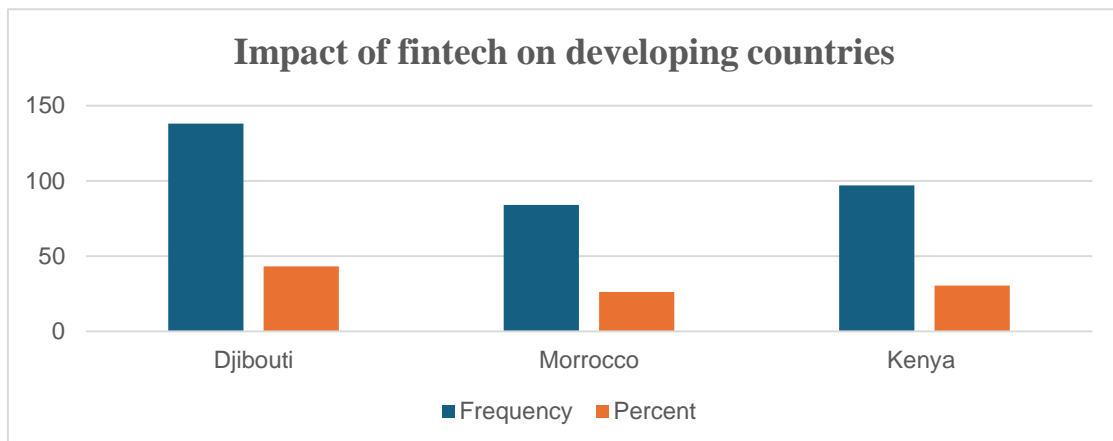


Figure 1: Impact of Fintech on Developing Countries: Djibouti, Morocco, Kenya
Source: Survey Data (2024)

4.1 RELIABILITY TEST

The Cronbach's Alpha value obtained is 0.674. This statistic ranges from 0 to 1, with higher values signifying stronger internal consistency among the items on the scale. Therefore, a value of 0.674 is deemed acceptable, suggesting that the items are adequately correlated and consistently measure the same underlying concept.

Table 4. Reliability Test Result

Reliability Test	
Cronbach's Alpha	N of Items
.674	28

Source: SPSS output.

4.2 MULTIPLE REGRESSION

The multiple regression model is an extension of simple linear regression that allows for analyzing the relationship between a dependent variable and two or more independent variables. It is a powerful statistical technique for understanding how several variables influence a single outcome. The multiple regression model analyzes the relationship between one dependent variable and two or more independent variables. It helps to understand how the typical value of the dependent variable changes when any one of the independent variables is varied while the other independent variables are held fixed.

TABLE 5: ANOVA TEST

	Sum of Squares	df	Mean Square	F	Sig.
Regression	13.731	3	4.577	7.198	.000
Residual	200.288	315	.636		
Total	214.019	318			

Source: SPSS output.

TABLE 6: REGRESSION COEFFICIENTS RESULT

Constant	B	T	Significance value
(X1) Frequency of Using financial services (both traditional and fin-tech)	.203	4.974	.000
(X2) Safaricom M-Pesa has increased financial inclusion in my community	.226	2.858	.005
(X3) Digital banking services from Salam African Bank have faster transaction times than traditional banking services	-440	0.062	.001
(X4) The use of fin-tech by Attijariwafa Bank is widespread among my peers and community	.189	0.070	.007

Source: SPSS output.

The table presents a regression analysis that explores how various factors influence a financial services-related dependent variable. The constant value stands for the predicted value of the dependent variable when all independent variables (X_1, X_2, X_3, X_4) are at zero.

The first variable, X_1 , represents "frequency of using financial services (both traditional and fin-tech)." The unstandardized coefficient (B) is 0.203, suggesting that every single unit rise in the use of financial services leads to a 0.203 unit increase in the dependent variable. The p-value of 0.000 confirms that this variable is statistically significant at the 1% level.

The second variable, X_2 , represents whether "Safaricom M-Pesa has increased financial inclusion in my community." It has an unstandardized coefficient (B) of 0.226. This means that a single unit rise in the perception of M-Pesa's role in financial inclusion leads to a 0.226 unit increase in the dependent variable. The p-value is 0.005, indicating that this variable is statistically significant at the 1% level.

The third variable, X_3 , represents "Digital banking services from Salam African Bank have faster transaction times than traditional banking services." The unstandardized coefficient (B) is -0.440, suggesting that a single unit increase in the perception of Salam African Bank's faster transaction times correlates with a 0.440 unit decrease in the dependent variable. The p-value is 0.001, indicating statistical significance at the 1% level.

The fourth variable, X_4 , "The use of fin-tech by Attijariwafa Bank is widespread among my peers and community." It has an unstandardized coefficient (B) of 0.189, suggesting that a single unit increase in the widespread use of Attijariwafa Bank's fin-tech correlates with a 0.189 unit increase in the dependent variable. The p-value is 0.007, indicating statistical significance at the 1% level.

In conclusion, all variables are statistically significant, meaning they significantly impact the financial services-related dependent variable. The coefficients show the impact's direction and size, with (X_3 , digital banking services from Salam African Bank have faster transaction times than traditional banking services) indicating a negative relationship, and the others indicating a positive relationship.

4.3 COMPARATIVE ANALYSIS OF FINTECH IN DJIBOUTI, MOROCCO, AND KENYA

The adoption and impact of fin-tech innovations vary significantly across Djibouti, Morocco, and Kenya due to their unique economic conditions, regulatory frameworks, and technological maturity. This comparative analysis highlights these differences and similarities to understand better how fin-tech is reshaping traditional banking systems in these countries. Djibouti's fin-tech landscape is characterized by its nascent stage of development, largely influenced by specific economic and regulatory conditions. The country has been making strides in improving its financial inclusion rates by introducing mobile banking and other digital financial services. However, the adoption rate is still relatively low compared to the other two countries.

The regulatory environment in Djibouti is gradually adapting to support fin-tech innovations, but there remain significant barriers to widespread adoption, including limited infrastructure and consumer awareness. In Morocco, the fin-tech sector is more advanced, with a greater emphasis on integrating digital services into the existing banking framework. The country's regulatory framework is more supportive of fin-tech innovations, which has facilitated a higher rate of adoption. Moroccan banks, such as Attijariwafa Bank, have been at the forefront of promoting digital financial services, contributing to higher levels of financial inclusion. The widespread use of these services among the population reflects a positive perception and trust in fin-tech innovations. However, challenges remain in terms of scaling these innovations to reach more remote and underserved areas. Kenya stands out as a leader in fin-tech adoption among the three countries, primarily due to the success of Safaricom's M-Pesa. M-Pesa has revolutionized the financial landscape in Kenya, significantly

increasing financial inclusion and changing how financial services are delivered and consumed. The regulatory environment in Kenya has been highly conducive to fin-tech growth, with policies that encourage innovation and protect consumer interests. The rapid adoption and widespread use of fin-tech services in Kenya highlight the country's readiness and enthusiasm for digital financial solutions. Kenya's experience provides valuable insights for other countries looking to enhance their fin-tech ecosystems.

4.4 FUTURE TRENDS AND PREDICTIONS IN FINTECH

This study predicts that fin-tech in the developing world, including Djibouti, Morocco, and Kenya, will gear up for radical change based on emerging trends and technological changes in the future. The following are some of the globally emerging trends and technological changes that are going to further integrate the ecosystem of fin-tech in the financial ecosystem, aid in the cause of financial inclusion, and reshape traditional models of banking. Mobile banking and mobile payment solutions have deeper penetration in countries like Kenya. An example is in M-Pesa, a mobile payment and banking system that is already making much headway. Migration towards mobile financial services is bound to rise in countries that have seen an increased proliferation of smartphones and better internet connectivity, helping ease the public in getting better access to the bank. AI and ML are going to revolutionize the fin-tech sector and bring about more personalized and more efficient ways of delivering financial services. These can further be useful in places such as risk assessment, fraud detection, and customer service, as well as making financial institutions more responsive and safer for the customers. AI-driven chatbots and virtual assistants will come with special prominence to give real-time customer support, among other things. Blockchain and cryptos will also have an added advantage here; they are secure, transparent, and have more efficient modes for crypto.

The regulation of cryptos, however, is still dogged by challenges, and as such, it has vast potential to streamline cross-border payments while reducing transaction costs. Most financial services have this in operation in countries such as Morocco, so that trend should prevail. In this view, regulators in emerging markets are also expected to adjust their regulatory frameworks at a pace that matches the pace of technological change. Regulators are also going to become more common, considering regulatory sandboxes as controlled environments that allow fin-tech firms to test new products. Regulators will try to strike a balance between the call for consumer protection and the incentive toward financial innovation. This would mean integrating different financial services into one platform. Fin-techs will bring together savings and loan services with insurance and investment services. The more comprehensive approach of the relationship will lend the consumer more convenience regarding his process in money management. Cybersecurity must raise issues of key priority with a rise in the use of fin-techs. Security in electronic transactions and the protection of sensitive consumer data will be of utmost importance. Cybersecurity measures must be respected by fin-tech firms, just like traditional banks, to maintain trust with the consumers. Fin-tech will now be the one-stop solution for furthering financial inclusion, especially in areas that are remote and less served. Innovative solutions applicable to the needs of the low-net population will go a long way in furthering the inclusion of more people into the formal financial system with better access to better financial products and services.

V. CONCLUSION

This study investigates the relationship between the adoption of fin-tech services and changes in traditional banking in developing countries, specifically focusing on Djibouti, Morocco, and Kenya. Utilizing a sample of 319 respondents and employing multiple regression analysis, the research aims to measure how independent variables predict the perceived positive impact of fintech innovations on traditional banking systems. The results reveal that the frequency of using financial services is positively and significantly associated with the perceived positive impact of fin-tech on the economies of the studied countries. The standardized coefficient (Beta = .203) and the high significance level ($p < .001$) indicate a strong and reliable relationship. As the frequency of using financial services increases, so does the perceived positive impact of fintech. The impact of Safaricom M-Pesa on financial inclusion shows a positive relationship with the perceived positive impact of fintech. The coefficient (Beta = .226) and its significance ($p = .005$) indicate that increased financial inclusion due to Safaricom M-Pesa correlates with a higher perceived positive impact of fintech. On the other hand, the speed of Salam African Bank's digital banking services is negatively associated with the perceived positive impact of fintech. The standardized coefficient (Beta = -.440) and its significance level ($p = .001$) suggest that faster transaction times are linked to a lower perception of fintech's positive economic impact. This could be because of underlying concerns or complexities that this variable doesn't fully capture.

Attijariwafa Bank's widespread use of fin-tech among peers and the community is positively associated with its perceived positive impact. The standardized coefficient (Beta = .189) and significance ($p = .007$) suggest that as Attijariwafa Bank's use of fin-tech becomes more widespread, the perceived positive impact of fin-tech on traditional banking increases. These findings highlight the complex dynamics of fin-tech adoption in developing countries. The positive association between the frequency of using financial services and the

perceived positive impact of fin-tech underscores the importance of promoting both traditional and digital financial services. Encouraging frequent use can enhance positive perceptions and acceptance of fin-tech innovations. The negative relationship between the speed of digital banking services and perceived fin-tech impact highlights a potential paradox. While faster transactions are generally considered beneficial, they may reflect deeper concerns about digital transformation. Further research is needed to explore these complexities and address any related issues. The positive relationship between financial inclusion through Safaricom M-Pesa and the perceived positive impact of fintech suggests that initiatives like M-Pesa are viewed favorably. More robust measures and broader implementations might be necessary to achieve significant impacts. Policymakers and financial institutions can use these findings to design strategies that enhance the positive outcomes of fintech while addressing concerns related to digital transformation. Fostering an environment that encourages frequent use of financial services and improving the efficiency and trustworthiness of digital services can have a significant impact on the fin-tech landscape. The widespread adoption of fintech by major banks, such as Attijariwafa Bank, further supports the integration and positive impact of fintech innovations in traditional banking systems.

VI. DISCUSSIONS

This study provides several important insights into the dynamics of fin-tech adoption and its impact on traditional banking in developing countries. The significant positive association between the frequency of using financial services and the perceived positive impact of fin-tech highlights the importance of promoting both traditional and digital financial services. Encouraging frequent use of financial services can enhance positive perceptions and acceptance of fintech innovations. This finding aligns with previous research that emphasizes the role of service usage frequency in shaping consumer attitudes toward technological innovations. The positive relationship between the impact of Safaricom M-Pesa on financial inclusion and the perceived positive impact of fin-tech underscores the value of initiatives that promote financial inclusion. M-Pesa's success in increasing financial inclusion is well documented, and its positive association in this study suggests that similar initiatives can have a favorable impact on perceptions of fintech. However, the lack of statistical significance in some related variables indicates that while financial inclusion initiatives are viewed positively, broader implementations and more robust measures are necessary to achieve significant impacts.

The negative correlation between the speed of Salam African Bank's digital banking services and the perceived positive impact of fintech is intriguing. While faster transaction times are generally seen as a benefit, this negative relationship suggests there may be underlying concerns or complexities not fully captured by this variable. This paradox could be due to issues such as user experience problems, security concerns, or users' adaptability to new technologies. Further research is needed to explore these complexities and address any related issues to improve user perceptions and experiences. The positive relationship between Attijariwafa Bank's widespread use of fintech and its perceived positive impact suggests that as fintech adoption becomes more common among peers and communities, the overall perception of its benefits improves. This finding supports the notion that community adoption and peer influence play significant roles in shaping perceptions of technological innovations. Policymakers and financial institutions should leverage this insight to foster environments that encourage the widespread use and acceptance of fintech solutions. Overall, these findings highlight the complex and multifaceted nature of fin-tech adoption in developing countries. Policymakers and financial institutions can use these insights to design strategies that enhance the positive outcomes of fintech while addressing concerns related to digital transformation. Encouraging frequent use of financial services, promoting financial inclusion initiatives like M-Pesa, improving the efficiency and trustworthiness of digital services, and fostering community-wide adoption can all have a significant impact on the fin-tech landscape. Further research should continue to explore the nuances of these relationships and investigate additional factors that may influence perceptions of fin-tech. By addressing the identified concerns and leveraging the positive associations, stakeholders can better navigate the evolving fin-tech landscape and maximize its benefits for traditional banking systems in developing countries.

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