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# The Impact of the Digital Transformation on Customer Experience in Palestine Banks.

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**Abstract**— This research describes the effect of digital transformation on the relationship between the banks in Palestine and their customers and how this relation is influenced by digital transformation technologies. A survey was conducted among banks customer from different age intervals, in different work sectors, and with different educational levels that asked a set of questions that measured the usage of the digital banking technologies and interest among the participants. It also asked about customers' opinions about the digital banking technologies, in addition to that asked about the challenges and barriers related to the digital technology usage from the customer point of view. This research helped in building a better understanding of the customers' needs and preferences, awchich would help the banks in improving the quality of their services.

**Keywords**— *Digital Transformation, Banking technologies, ATM, customer experience, Mobile banking, online banking.*

## I. INTRODUCTION

Banks have great importance, as they are one of the main pillars of the economy, and people depend on them in their financial and commercial dealings, which leads to a continuous increase in the demand for banking services by customers. Digital Transformation caused major changes that ensure the smooth delivery of banking services from banks to customers. Digital transformation has become a necessity for organizations, in order to survive and stay competitive in the digital age, regardless of the size, industry, number of employees. organizations should have the flexibility and readiness to adjust to the accelerated changes in the business environment and to invent new values for customers[1]. Banking digitalization is linked with the development of the Internet and IT technologies [2]. As per the Palestinian Central Bureau of Statistics; there was an increase in the percentage of households That Have internet service by the end of 2019 reaching 79.6% of the Palestine households, and the percentage of households in Palestine who own one or more smart mobile phones also reached 86.2%[3] as shown in table 1.

TABLE I. SHOWS INTERNET SERVICE AND SMART MOBILE PHONE USAGE PERCENTAGE

Item	Percentage %
Internet service	79.6%
Smart mobile phones	86.2%.

Exploring this area will give the Palestinian banks, indicators, and guidance regarding the customer types, needs, and preferences especially those how are still in the initial

stages. It also gives the banks a better understanding of the importance, challenges, and opportunities associated with the Digital Transformation.

### A. Research problem

The increased demand for banking services made it difficult to complete the required operations using traditional methods; the increase in the number of transactions, and the limitation of working hours of the bank branches, and the difficulties to reach bank branches for every transition, make it difficult for banks to provide pleasant customer experience for their customers, hence utilizing of modern technologies to solve these problems has become a need. This research describes how the digital transformation has contributed to solving these problems through major changes to the way banking services are provided; by improving the services of the banking sectors and ensuring easy access to these services for all their customers and by interacting with them properly to allow a greater experience.

This research answered the following questions:

- What are the digital services offered by the banks?
- What are the bank customer categories?
- What are the preferences of each bank customer category?
- How does the Digital Transformation improve the quality of service provided to bank customers?
- What are the benefits of the digital transformation for banks?
- What is the challenges and barrier that facing the digital transformation implementation? (customers related)

### B. The Importance of the Research

The importance of this research comes from identifying and clarifying the role that digital transformation plays in improving the quality of the services provided to banking customers.

In addition to that, the importance of the results that were extracted from the survey that clarify Palestinian banks customers preferences according to the technologies and future interest for each banking technology, and the most preferred banking technologies, and even the fears and challenges associated with the usage of the banking technologies, from the customer's point of view.

Improving the understanding of the customers' needs, preferences, and interests would help in improving the level of provided services, which would lead to an improvement in the overall customer experience. This results in giving the

banks a higher competitive value that would increase the chance for the bank to attract more customers, hence, supports the bank availability and sustainability.

### C. Research objectives

This research aims to describe the effect of the digital transformation in improving and facilitating the banking operations, which would lead to an improvement in customer experience for the banking industry.

Moreover, this research would identify some of the digital transformation benefits for the banks.

## II. LITERATURE REVIEW

### A. Understanding digital transformation: Definitions

What is the digital transformation?

An early definition of the digital transformation is the process of using digital technologies to facilitate the works of institutions, nowadays the concept has become much wider and it has a deep impact on the business model and the relationship with the work [4].

Therefore, we will explore different definitions and explanations of the Digital Transformation from Different resources:

Digital transformation is the use of high-tech to improve and upgrade the performance and efficiency of enterprises[5]

It is also defined as: "Innovation of new technologies based on the Internet that has a fundamental impact on the society as a whole"[6].

Another definition is the deep change of Businesses, activities, processes, competencies, and models to get the max benefits from digital technologies[7].

Finally, this definition of the digital transformation summarizes the previous definitions; it is the use of technologies and digital developments to achieve Systematic change in internal processes, business models, and competencies to deliver intelligent and interactive values to customers [4].

Therefore, internal, digital transformation improves the process and functions of the business and externally optimizes marketing and sales processes, it also offers new products and services that may solve customers' issues and create value for them.

### B. Digital Transformation Technologies and Channels Provided by Banks

#### ✓ Automatic Teller Machine (ATM) banking:

ATM banking Is a machine-based service that allows bank customers to perform banking operations and tasks related to their accounts like cash in and out, obtaining account balances, viewing history of the transactions, performing transfers between accounts, and performing bill payments.

#### ✓ Mobile banking:

Mobile banking is the capability that allows bank customers to perform banking operations and tasks related to their accounts via the internet and Smartphones or tablets.

#### ✓ Online banking:

Online banking is also called internet banking or web banking, it is a service provided by the banks that allows their customers to perform banking operations and tasks related to their accounts, using the bank's website. It also provides the same capabilities mentioned in mobile banking.

#### ✓ Social media integration with the banking services:

"Social media are interactive technologies that facilitate the creation or sharing of information, ideas, interests and other forms of expression"[8].

#### ✓ Email banking:

Email banking is a service provided by banks that allows their customers to perform banking operations and tasks related to their accounts, using email messages.

### C. Previous work

When conducting a literature review for this research, it was found that there were no previous researches or studies that describe the impact of the digital transformation on customer experience in the Palestinian banking sector, and therefore the results of this research will be unique and will be a new addition to the knowledge in this regard.

Reshaping Banking Industry [1] discusses the importance of the digital transformation with a case study of DBS bank from Singapore, which made an extraordinary turnover in its business toward digital transformation and positioned itself as the leading digital bank in the world.

Understanding digital transformation [12] examines some aspects of digital transformation and building a framework for digital transformation that highlights digital transformation as a digital process in which technologies create disruptions that lead to strategic responses from organizations that seek to change their value creation paths while managing structural changes and organizational barriers that affect the outcomes of this process.

Digital Transformation in the Banking Sector [4] discusses the impact of the digital transformation on banking operations and suggests approaches to assist and support financial institutions in their digital transformation.

Impact on Employee Engagement [13] present the results of a survey conducted in a private bank that has carried out technology-based changes related to human resources.

Digital transformation of Russian banking [2] contains reference directions in adapting the bank system to the new requirements and features of transforming the traditional business of institutions to the new models of digital banks.

Application of AI and Big Data Analytics [14] discusses improving customer experience in the Indonesian banking sector by applying AI and Big data with digital transformation.

## III. THEORETICAL FRAMEWORK

### A. Theoretical Model

The theoretical model for this research was build based on the ABCD framework [9], and the structural [11]. One of the most important motivations of organizations to implement digital transformation is improving customer experience[9], it was found that the improved customer experience is able to improve customer satisfaction and customer loyalty in the banking business [11]. The key to maintaining customer satisfaction and loyalty is by providing the services that your target customers prefer[10]. There are some factors that would affect the success of digital transformation for improving customer experience including ease of use, availability of the services[9], and other factors like the speed and the convenience of the services provided by the

digital transformation, These factors are very critical in digital transformation for the purpose of improving customer experience[9]. Hence improving the quality of services provided to customers is one of the main factors that positively affect the customer experience. Service Quality is represented in this model by the following variables:

**Simplicity:** the easiness of performing the banking operation by the customers.

**Flexibility:** the capability of performing the banking operation anywhere at any time.

**Time manner (speed):** the least time required to perform the required banking operation.

**Convenience:** the variety of banking services provided to customers and the effectiveness of these services to perform banking operations.

The following figure shows the overall customer experience improvement model.

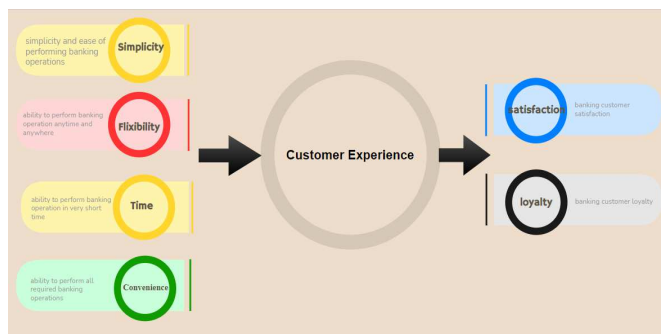


Fig. 1. The theoretical framework for customer experience improvement.

#### B. Research Hypothesis:

Based on the previous theoretical model proposed in the previous section; the following research hypotheses were developed in two parts:

The first part of the hypotheses is concerned with the quality of the services provided to the bank customers. The second part of the hypothesis is related to customer behavior according to their personal characteristics, such as age category:

The first part of hypotheses H1:

(H1.1) Digital banking services make it easier, faster, flexible, and more convenient for customers to perform banking operations.

(H1.2) Failure to provide competitive services to a customer may lead to a transfer of the customer to another bank.

The second part of hypotheses H2:

(H2.1) Customers in lower age categories tend to use digital services, provided by digital transformation, more than, customers in older age categories.

(H2.2) customers with higher education levels tend to use digital services, provided by digital transformation more the customers with less education level.

(H2.3) customers with higher income levels tend to use digital services provided by digital Transformation more than the lower-income level.

#### IV. METHODOLOGY

The purpose of this study is to describe the effect of digital transformation on improving customer experience in the Palestine banking sector, the most appropriate approach to

answer the research question was the quantitative approach. The investigations of this research were based on the correlation between the service quality improvement caused by the digital transformation and the customer experience.

#### A. Methods

Many vendors nowadays offer online services to conduct surveys, for this research an online survey was conducted using Google forms in a normal situation within a non-contrived setting, with minimal interference from the researcher.

The required data was collected one-shot via a survey with a questionnaire, that asked the participants to provide their details, like (Age, education level, income, and work type), then to answer a set of questions, these questions was designed to measure the independent variable (the Service quality) of the banking operation offered to customers and other details related to this topic. As per our theoretical model, the sub-variables of the service quality are simplicity, flexibility, timely manner, and convenience. The dependent variable in this research was the customers' experience improvement.

#### B. Participants

The community of this research was the customers of the Palestinian banking sector, as per the Palestinian monetary authority records; the number of customers for the banking sector in Palestine has reached 1,254,000 in 2021. The survey seeks feedback from the individuals within the banking sector customers from different age categories with different education levels and within different work sectors. A period of two weeks was allowed for the participants to complete the survey. The required sample size is 171; it was calculated using the sample size calculator available on <https://www.calculator.net/>, based on a confidence level of 95% and an error margin of 7.5%.

#### C. Data Analysis

To analyse the data collected by the Survey, google forms analytical features were used to get some results, the rest was analysed using the specialized tools for statistical analysis "IBM SPSS v.19".

The overall outcome of the data analysis reflected the impact of the digital transformation on customer experience for the Palestine banking sector.

#### V. RESULTS AND DISCUSSION

**Survey Results:** The survey was filled by 172 participants, who are customers of the Palestinian-banking sector; from different age groups and different work sectors with different education levels and different income levels. The following graphs show the details.

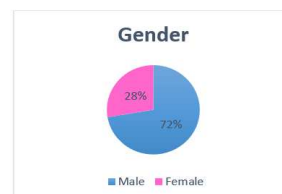


Fig. 2. Gender details

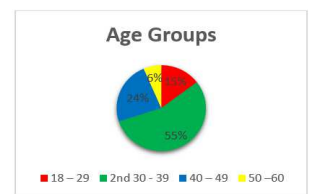


Fig. 3. Age group details

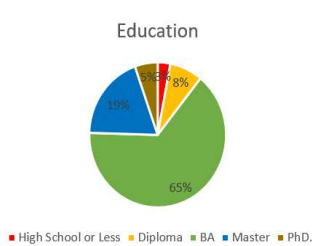


Fig. 4. Education level details

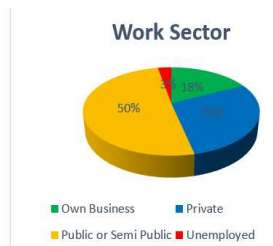


Fig. 5. Work Sector details



Fig. 6. Income level details

**Note:** Currency for income level is the local currency NIS “new Israeli Shekel” which is equivalent to (0.304 USD).

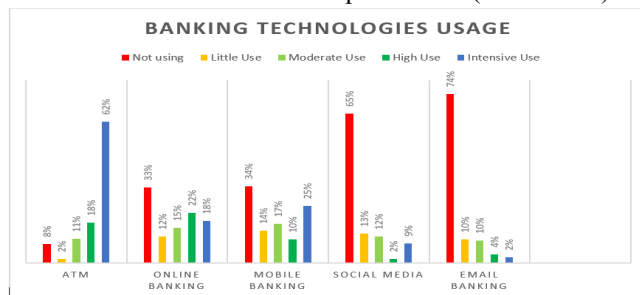


Fig. 7. Banking technology Usage details

The results in Fig. 7 showed that the most used banking technology is ATM, mobile banking, internet banking, social media respectively, and least used is email banking technology.

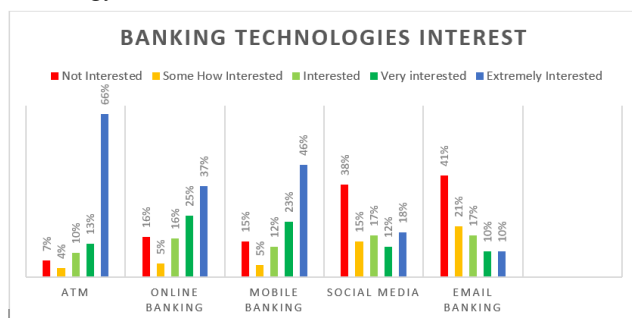


Fig. 8. Banking technology Interest details

The results in Fig. 8 showed that customers are most interested in ATM, mobile banking, internet banking, social media respectively, and least interested in email banking.

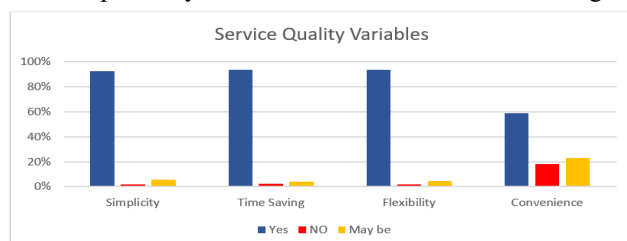


Fig. 9. Service Quality variables

The results in Fig. 9 showed that more than 90% of the respondents feel that digital banking technologies make it easier, faster, and more flexible to perform banking operations but less than 60% feel that it is convenient. Which was Compatible with (H1.1) "Digital banking services make it easier, faster, flexible and more convenient for customers to perform banking operations."

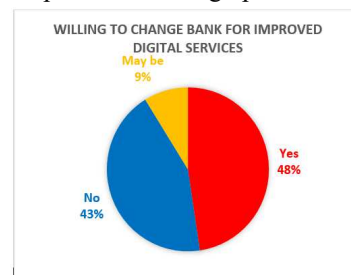


Fig. 10. Percentage of customers willing to change their bank to get improved digital services.

The results in Fig. 10 showed that 48% of the participants are willing to change their banks to get improved digital banking services and 43% of the participants are not willing to change and 9% maybe will change. Which was compatible with (H1.2) "Failure to provide competitive services to a customer may lead to a transfer of the customer to another bank".

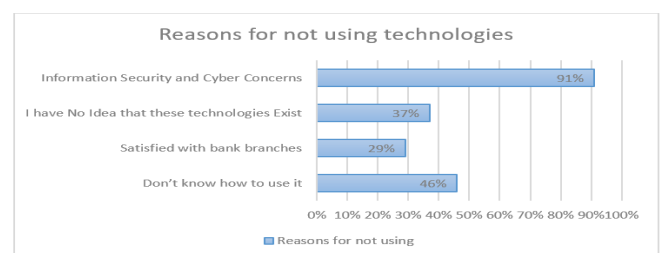


Fig. 11. Reasons for not using Banking technologies.

The results showed that the most common reason was "Information Security and Cyber Security Concerns" with 91 percentage; the second reason was "they don't know how to use the technology" with 46 percentage, 37% of the respondents to this question don't know the technology exit and only 29% are satisfied with visiting bank branches to perform the required operations.

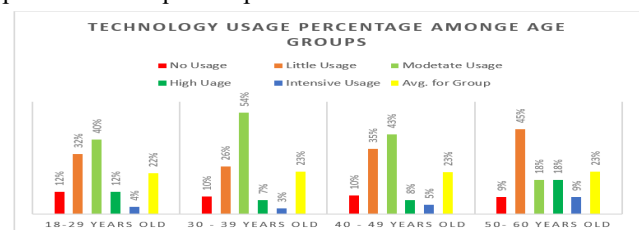


Fig. 12. Shows the percentage of technology usage among age groups. The results in Fig. 12 showed that: Avg. usage percentage for technologies for all Age groups are almost the same.

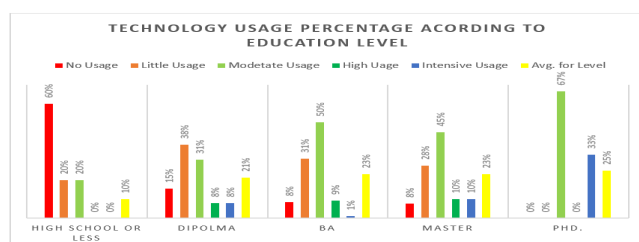


Fig. 13. shows the percentage of technology usage according to education level



The results in Fig. 13 showed that a higher educational level has slightly higher technology usage rates except for customers with "high school or less" has lower usage rates compared to the others.

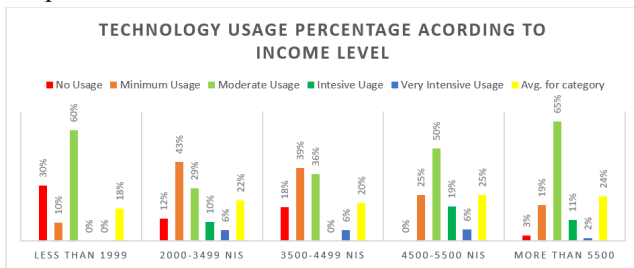


Fig. 14. Shows the percentage of technology usage according to income level

The results in Fig. 14 showed that: the percentage of banking technologies usage is independent of the income level.

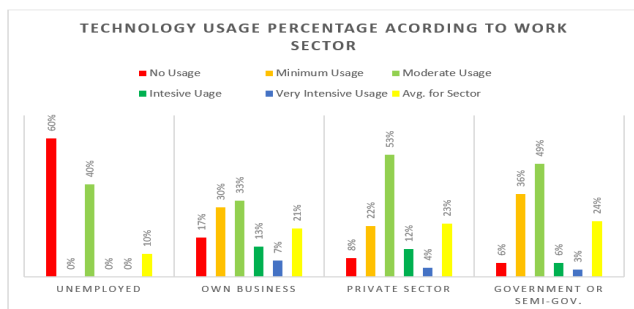


Figure (15): shows the percentage of technology usage according to work sector

The results in Fig. 15 showed that: there is a slight difference among banking technologies usage for work sectors except for unemployed customers.

#### The results in Figures (12-15) showed that:

The Avg. technology usage across age groups, income levels, and work sectors are almost the same. The Avg., even the technology usage for the customers with higher educational levels is slightly higher, which can be ignored, hence the results came opposite to the hypothesis (H2.1, H2.2, and H2.3).

What can be understood from the results: technology usage is no more restricted to the younger generation or even to highly paid people or to people with higher education, it has become a need for all banking customers due to the role that it plays in facilitating the banking operations. What ensures that it has become a measure by customers to distinguish among banks, and a measure for achieving competitive advantage among banks.

#### A. Importance of Digital Transformation

##### 1. Administrative and Operational Cost Saving:

The daily operations of a branch include the following: new accounts creations, cash in / out, check deposit, customers inquiries like account balance, in addition to the loans and facilities services, customer services, most of these services can be actually provided via digital channels, so if it is made available via these channels, which would save a lot of money for banks in terms of operation cost as shown in the following example;

A bank's branch would serve an average of 250 customers per day; the time required for each customer is an average of

5 min. and so the average time saving for this branch is  $250 * 50 = 1250$  minutes per day, which equals 21 hours per day and 458 hours per month.

The cost of an hour is equal to (8) USD as an average for an employee with a salary of 1300 USD.

So the total saving would be around 3664 USD per month, and around 44,000 USD per year for one branch.

Finally, the operation cost saving for banks with 10 branches would reach 440,000USD per year, this is only for operations cost-saving, in addition to that there will be a cost-saving for branch facilities management like rent, electricity and logistics operations and stationary.

#### 2. Improving Performance:

Normally customers can perform banking operations only during the working hours of the bank which is normally 8 hours a day \* 5 days a week, while digital technologies offer 24\*7 easy and fast accessibility to banking operation, which help in improving the performance of banks, and leads to an increase in the effectiveness of providing services, with the least effort and cost, and works to meet the needs of the customers and the banks.

Customers search for the bank that satisfies their needs to complete their transactions and provide information without effort, trouble, or waiting, and they always strive to obtain an accurate and high-quality service. As per the theoretical model adopted in this research, this would increase the customer loyalty and satisfaction to the bank, and thus the continuation of banking operations and activities with the bank. It also helps in attracting more customers who seeking to save effort and time and obtain a suitable service, all of which greatly contribute to achieving more interest and profit to the bank.

Digital banking services and technologies allow an increase in the volume of transactions with broad sectors of customers, which extend over large geographical areas, beyond the borders of the region. As it makes it possible to perform various banking operations and transactions through the use of banking technologies provided by the digital transformations, and this enhanced the banks' capabilities to reach the various areas of their banking activity without the need to open many and expensive branches. Increasing Competitive value and Market share of the bank:

Competitive value can be defined as the good image of the bank that makes it superior in the public eye. Digital transformation provides banking technologies that increase the ability of banks to compete in attracting a greater number of customers. Technology has become one of the basics of life and customers have become dependent on it to complete their various transactions. The results of the survey also showed that 48% of the participants are willing to change their banks for enhanced digital services offered by other banks. Results also showed the increase in reliance on digital technologies and their spread due to the ease of use and availability with the customer in every place.

#### B. Challenges barriers related to banking technology usage

Although digital banking technologies have many advantages, for both the customer and for the banks, still

there are challenges and barriers from the customer's perspective that need to be considered by the banks.

The results showed that; the most common challenge was "Information Security and Cyber Security Concerns" with 91 percentage; the second reason was "they don't know how to use the technology" with 46 percentage, 37% of the respondents to this question don't know the technology exit and only 29% are satisfied with visiting bank branches to perform the required operations.

## VI. CONCLUSION AND RECOMMENDATIONS

Digital Transformation has positively influenced the customer experience in the Palestinian banking sector as it made the banking experience easier and faster, it also gives the customers the flexibility to conduct banking operations anywhere and anytime, which enhances customer satisfaction and loyalty. However, as per the feedback from the participants, some challenges need to be considered by banks' decision makers.

On the other hand, Digital Transformation is important for banks also as it reduces the administrative and operational cost and improves the bank's performance and the ability to handle a higher volume of banking operations and finally, it plays a major role in increasing the competitive value of a bank and attracting more customer, hence increasing the market share.

### Recommendations:

- When comparing the banking technologies usage rates with rates of interest, it was found that the rates of interest are equivalent and sometimes it was a bit higher than usage rates, hence more marketing and advertising are required from the banks' side and more work for improving rates of interest by offering attractive functions and exclusive deals that can only be done via digital banking technologies.
- When comparing the indicators for service quality variables, it was noticed that convenience is less than 60%, compared to other variables (simplicity and flexibility and speed) are higher than 90%, so banks need to work on providing more functionality capabilities to the digital technologies to make it more convenient for customers, to make it possible for it to replace traditional banking via bank branches.
- When checking reasons and challenges for the customer that prevent or reduce technology usage, it was found that banks need to improve security awareness for customers via communication channels available with the customers like social media, SMS, infographics and advertising the new products and providing tips for usage that make it easier for the customer to understand.
- When checking the correlation between the technology usage and the Age, Income, Education and work sector it was noticed that the usage rates were independent, hence technology has become a need for all customers, banks are advised to invest more in these technologies as this will bring back a lot of benefits like improving performance and competitive value for the bank, in

addition to the cost-saving of the operations and administration.

- According to the variables of the theoretical; (simplicity, speed, flexibility, and convenience), mobile banking has an advantage over the other technologies as it fits with all variables, and so, banks are advised to invest in mobile banking technology as the best candidate for improving customer experience.

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