



Investigating the effect of Mobile Banking on Productivity and Service Quality: Cases from UAE Banking Sector

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ABSTRACT

"The number one benefit of information technology is that it empowers people to do what they want to do. It lets people be creative. It lets people be productive. It lets people learn things they didn't think they could learn before, and so in a sense it is all about potential." The American businessman Steve Ballmer once said.

Nowadays, being up to date with the changes in the market is a necessity for a successful business as applying mobile banking services resulted in some great changes in the bank's working system. The mobile banking application has improved the working environments for everyone involved including employees and customers; Being able to access the information when is needed and approving the transactions digitally considered an important usage of mobile banking application. However, this paper covers the effect of mobile banking on productivity and quality; it has literature review and research findings from analyzing the responses that supported research hypotheses. It also includes other aspects such as the challenges that banks are facing because of the implementation mobile banking services. However, the results indicated a significant positive impact on mobile banking adoption. Finally, the paper concludes some recommendations to enhance the provided services and improve the customers' satisfaction.

1. INTRODUCTION

Nowadays Mobile banking is a tool launched by different banks locally and globally (Lee and Chen, 2022). As we know, the Internet has a universal widespread usage, which is utilized in different ways. To be specific e-business nowadays became one of the IT applications with the most astounding effect upon the worldwide economy (R. S. Al-Marroof et al., 2021; Chaouali et al., 2020). However, in this paper we are going to shed the light on the effect of mobile banking to improve productivity and quality through the right utilization of the internet to improve business process and enhance

the transactions to serve clients demands. We are going to find out if the mobile banking is supporting the productivity and quality or not within the selected bank for our research, which is Emirates NBD bank and compare it with other banks which, are consider as ENBD competitors within the same sector.

1.1. Identifying the problem

- **Did the productivity and quality increased within the bank?**

Today most of the banks have applied the online

applications as an additional way to offer and promote the quality of delivered services, which will support them to expand their services globally (M. El Khatib et al., 2022a; Oyelami et al., 2020). Banks need to offer a superb service to clients specially those who are sophisticated and will not agree to below average services (Al-Kassem et al., 2012; Blooshi et al., 2023; Frederico et al., 2021). Therefore, IT in general and E-banking in particular have to escalate the competitiveness and provide the services that can differentiate their services from their rivals and enhance the overall access and usage of technologies via smart applications (R. S. Al-Marouf et al., 2021; Aljumah et al., 2023; Hajishirzi et al., 2022).

- **Why do you think this is a problem?**

E-banking plays a major role in contributing to the future of this developed country, however, most of the banks looks in the direction of exploit opportunities and overcome obstacles that might occur to enhance the overall performance and improve the profitability (Bawaneh et al., 2023; Çelikçapa and Emel, 2005; Louzi et al., 2022a). They are working hard to provide efficient, quick and reliable services to satisfy their customers (Ahmad Ibrahim Aljumah et al., 2022a; E. Khatib et al., 2022; Morash, 2001). Therefore, this can be a problem if productivity, quality or both of them decreased within the bank for the duration of using the smart applications, but on the other hand, it can be considered as an improvement way if productivity, quality or both of them increased (Abudaqa et al., 2021; Farrukh et al., 2023).

2. LITERATURE REVIEW

Today's world is changing due to the increased use of online access to the internet services. One very important part is the rapid growth of the Mobile banking. Just through communication, there has been a lot of exchange of finance and retail activities on the internet (Al-Kassem et al., 2013; R. S. Al-Marouf et al., 2021; ELSamen and Alshurideh, 2012). This has led to the simplification of business, increase in the efficiency and improvement of production and quality of business. The electronic banking helped in solving the issue of long queue, reduced the use of papers or ledgers, and the problems of storing information (Akour et al., 2023; Almasaeid et al., 2022; Yasir et al., 2022). This literature review will highlight the discussion of how electronic banking has improved

productivity and quality of services (Ahmed et al., 2022; Muhammad Turki Alshurideh et al., 2022c; Sardana and Bajpai, 2020).

E- Banking involves the use of Mobile Banking. The mobile banking has considered as on the convenient tools that has enabled a twenty-four hour operation and helps customers to access banking services at any time (I. Akour et al., 2022; Alshawabkeh et al., 2021; Arshad et al., 2023). This accordingly improves production and quality because it reduces the overcrowding that customers would experience in the banks. Moreover, it has reduced the cases of robbery because customers can transact at the time they feel they are safe; therefore leading to high production (Amiri et al., 2020; Mubeen et al., 2022).

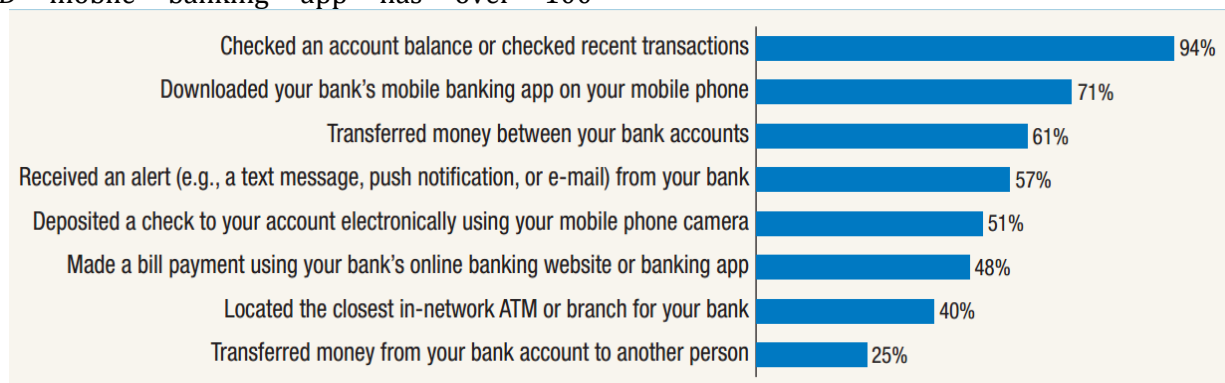
Mobile banking assists customers to make paper check deposits that transfers more money through the business and reduces the amount of expense collection. In this case, one does not have to wait for a month for the payment of services or products delivered. They are paid once the services are complete (Beshir and Zelalem, 2020; Louzi et al., 2022b). In addition, credit and debit card transactions are conducted faster through the smart phone (El Khatib et al., 2021; Varma et al., 2023). These payments are transferred electronically from the customer account into the banks account immediately, which in turn improves production and the quality of the service (Mat Som and Kassem, 2013). Moreover, the customer will be able to check for balances at any place and at any time, which save time greatly as compared to the restricted timings and overcrowding at the banks (M T Alshurideh et al., 2022; El Khatib and Ahmed, 2020; T M Ghazal et al., 2023c; Mohammed T. Nuseir et al., 2022). Therefore it is economical and thus improves production. Finally mobile banking enables payment of bills on due dates (Aityassine et al., 2022; A. Al-Marouf et al., 2021; M. T. Alshurideh et al., 2023a). At any time and place of the customer's convenience; hence, it also saves time thus improving productivity. Mobile Banking can improve productivity and quality of banking services (M. T. Alshurideh et al., 2023b; T M Ghazal et al., 2023b). This is mainly done through smart phones. Accordingly, it saves time and related costs that one has to incur while going into the bank (Alhamad et al., 2021; A I Aljumah et al., 2022;

Muhammad Alshurideh et al., 2022). This saves time for the customer and the bank and therefore the bank or the customers have to do other economical activities to earn more income (I. A. Akour et al., 2022; Sakkthivel et al., 2022). Furthermore, there are other applications that can be done through this type of banking such as credit card application, loan applications, investments and registration of utility billers which result in improving production and quality of banking services (Khan et al., 2022; M. El Khatib et al., 2022b).

According to the annual report 2014 for Emirates NBD, mobile banking services were awarded as the 'Best Mobile Banking App' for the Middle East and Africa region (Saeed et al., 2021). The report highlighted that one-third of eligible customers now are using mobile banking services resulting in digital transactions growing at 20%, leave behind various branch transactions (Akour et al., 2021; H. M. Alzoubi et al., 2022d; Kurdi et al., 2022b). The bank investment in digital banking has continued its success with increased migration of routine transactions to Mobile Banking channels. Emirates NBD mobile banking app has over 100

functionalities including mePay, the first peer-to-peer payment solution in UAE and Shake-N-Save, the first gamify, mobile only savings product in the region (Farrukh et al., 2023; Khatib and Opulencia, 2015; Nuseir and Aljumah, 2020)

Nevertheless, regarding mobile banking productivity, banks will require accurate measurements to control the numerous needed changes, for example, RSF (Required Stable Funding), which focus on long term funding sources and expressly consider the human element in producing income development (Al-Awamleh et al., 2022; Aziz et al., 2023; E Tariq et al., 2022). Consolidated with a detailed understanding of business sector potential, RSF can improve choices in a selection of contexts (H. M. Alzoubi et al., 2022c; T M Ghazal et al., 2023b). Moreover, measuring the traffic into the bank branches, the number of clients that been served through various services such as payments, deposits and loans (T M Ghazal et al., 2023a; Nuseir et al., 2023). The below chart shows some metrics of measuring productivity:



(Federal Reserve Board publications, 2020)

Last but not least mobile banking has improved service delivery extremely in recent years. This has led to the adoption of internet appliances by many customers hence; banking services are quickly moving away from office to the internet (Al-Dmour et al., 2023; El Khatib, 2015; Kurdi et al., 2022a). Besides that, customers have a perception that banking is a 24-hour service, which is a challenging aspect to managers because the internet is shifting the power from managers to customers. Thus, though mobile banking has advantages it has also its own drawbacks (Al-Kassem, 2014; Nuseira and Aljumahb, 2020).

3. METHODOLOGY

The research methods, which have been used in this research, are the qualitative and quantitative methods (Survey& Interview); where primary data has been collected from interviews/questionnaires conducted with employees from different divisions including IT, Business Development and Customer Relations within ENBD and other competing banks such as Al Hilal bank, Citi Bank and ADIB. We supported our findings by data gathered from secondary sources such as websites and journal articles (Al-Marroof et al., 2022; Taher M. Ghazal et al., 2023). However, primary data and secondary

data were combined and analyzed to find the required answers and results for the research hypothesis that are:

- Is mobile banking affecting the productivity?
- Is mobile banking affecting the service quality?

4. RESULTS

Research Findings (Questionnaire)

We conducted a questionnaire about “The effect of Mobile Banking on Productivity and Quality”. The below paragraphs will demonstrate the results of the survey which contained 14 different questions and distributed to 40 participants who are a part of banking society.

Figure No.1 “Question 1”

The first question was very straight forward which was about knowing the gender of our participants for demographic information. As shown in the pie chart figure no.1, 55% of them are males and 45% are females.

The second question was about knowing age groups of the responded participants. We found out that 40% of participants are working at bank from age group (35-44) and 33% of them are between (25 to 34) years old, the 12% from 18-24 years old and the 10% from 45-45 years old. Since most of the respondent from middle age group that indicates to the knowledge and experience they have about banking services. As shown in Figure No.2-

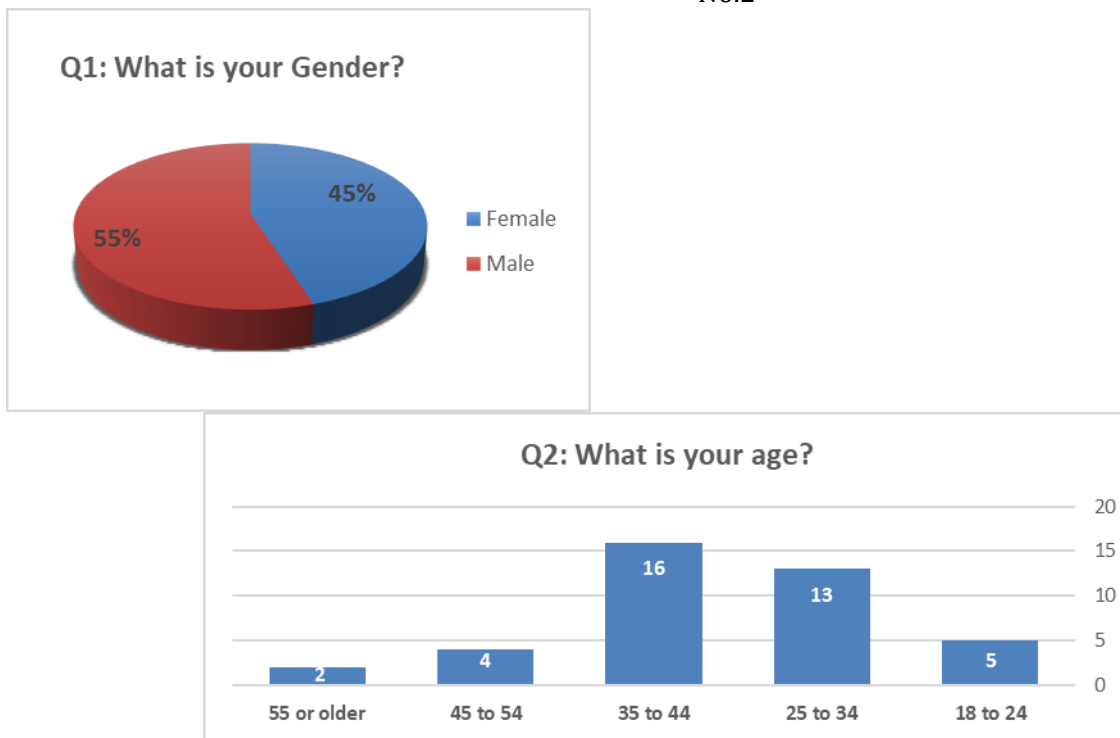


Figure No.2 “Question 2”

The third question describes the working place of our respondents. We found out that 28% of the employed participants working in the Citi bank with a three category such as customer service, business development and Information

Technology while 25% of participants working at ADIB & ENBD. The remaining 22% of participants are working at Al Hilal Bank. As shown in Figure No.3-

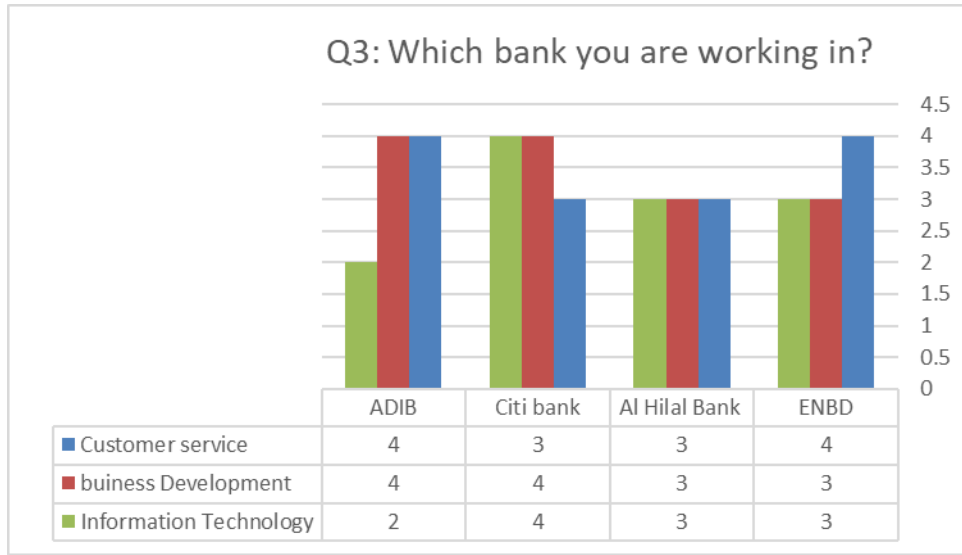


Figure No.3 “Question 3”

The fourth question was about how to assess the reliability of mobile banking services. According to the survey, six of the participants about 55% chose highly reliable of mobile banking services compared to 40% who chose reliable and the third rank shows 2% of unreliable mobile banking

services. Finally, 3% were not sure of assessing the reliability. .-As shown in Figure No.4-.This result was supportive to our research question since most of participants are agreed about the reliability of mobile banking services.

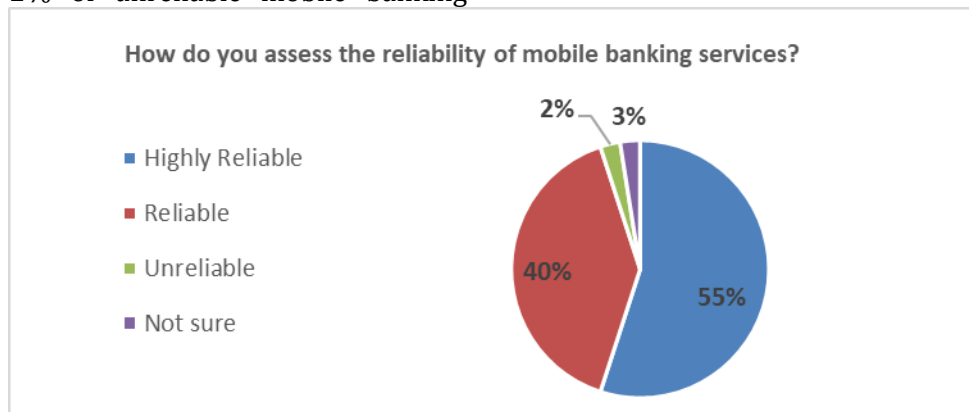


Figure No.4 “Question 4”

Question5, we applied the Likert type where we wanted to know if the respondents agree that using mobile banking services would increase the volume of work outputs in comparison to traditional banking services. Out of the results, 95% agreed on using mobile banking services

while 5% disagreed.- As shown in Figure No.5-. This result was supportive to our research question since most of participants are agreed that using mobile banking services would increase the volume of work outputs.

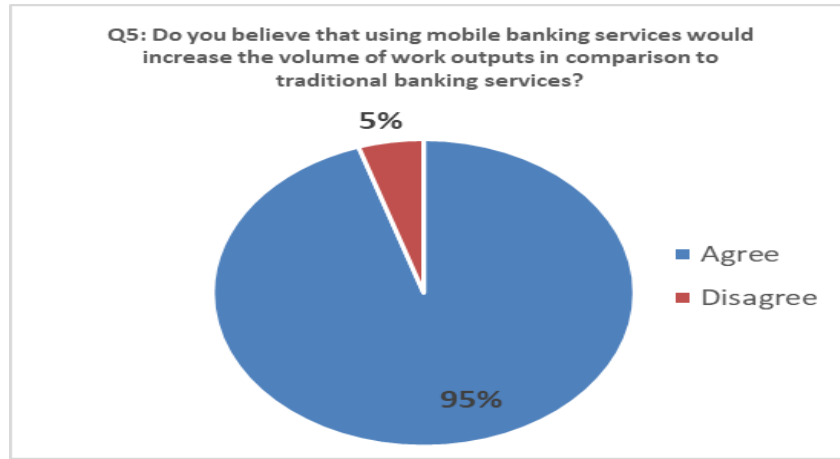


Figure No.5 "Question 5"

Also the below pie chart as shown in figure No.6, highlights the results of question six about do they believe that online transaction such as payment is more secure compared to going to bank with cash. It shows that 90% agree to statement while 10% disagree. This result was supportive to our research question since most of participants are aware of the quality of this application and have high level of trust in their banks.

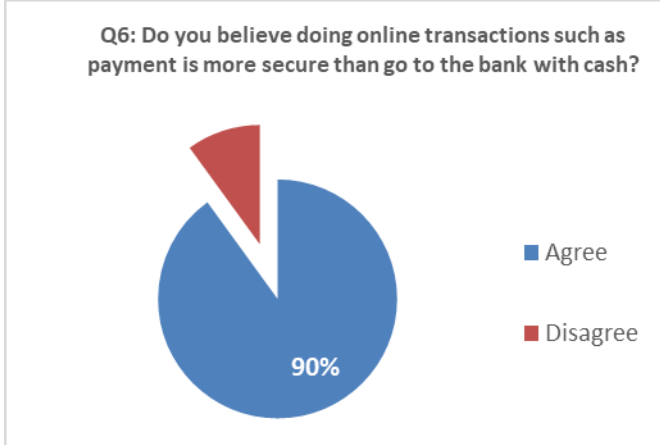
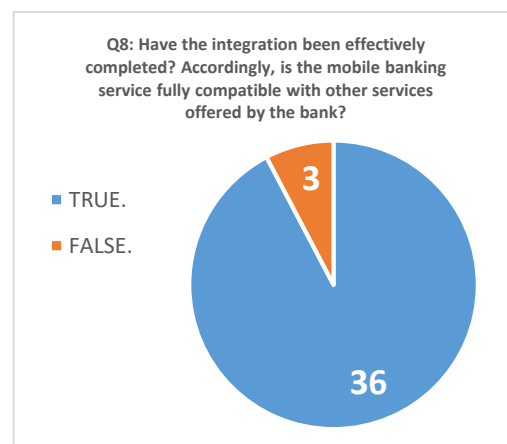
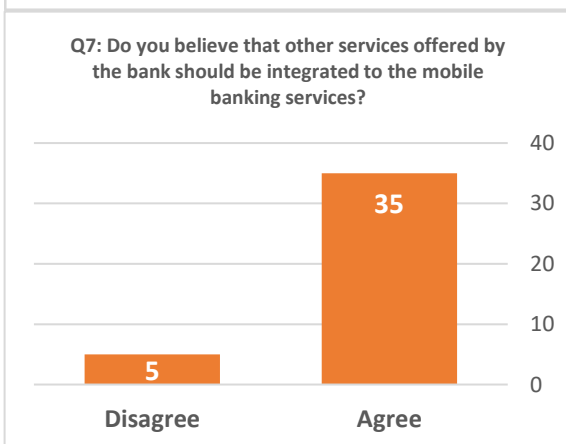


Figure No.6 "Question 6"

The seventh question findings highlight the importance of integrating services to the mobile banking services. The majority of participants 87%, agreed while the rest disagreed claiming that there is no need to integrate others services to mobile banking services and therefore, this agreement helped us to figure out the integration of services would enhance the performance and increase the productivity. Question 8 is inquiring if mobile banking services integration has been effectively completed. The results showed that 36% of participants agreed on that while the rest claimed that integration was not effectively completed. However, most of our respondents understand the application compatibility and the efforts that been undertaken by their banks to satisfy their customers - As shown in Figure No.7-8



Figures No.7&8 “Question 7& 8”

Question nine is about how efficient the use of mobile banking services compared to the traditional banking services. We found that 90% of participants agreed on the efficiency of mobile banking service while 10% only responded that they are disappointed and prefer the traditional banking services and therefore, mobile banking has significant impact on improving efficiency and increasing productivity.

Figure No.9 “Question 9”

In regards to question 10, the bar chart below shows how safe is mobile banking application. We found out that 55% feel very safe and 40% feel sometimes unsafe while 5% feel unsafe. Since more than half of respondent answered very safe that referred to the huge investment that been made by their bank providers to ensure the security of their mobile applications – As shown in figure No.10-

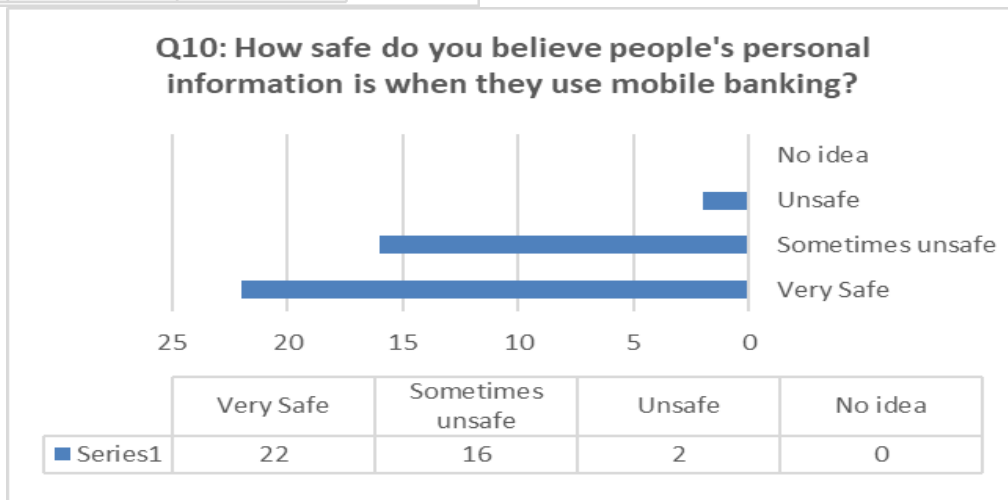
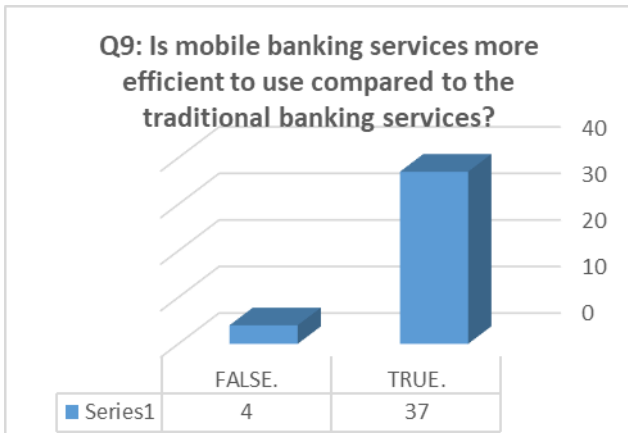


Figure No.10 “Question 10”



Figure No.11 “Question 11”

Question 11 was about assessing the quality of services provided by banks through their mobile banking application. The column chart shows that the majority of participants 52% are enjoying excellent quality of services while 40% said that they are getting good quality and 8% of them are satisfied. That illustrated the vital correlation between mobile banking services and customer satisfaction.- As shown in Figure No.11-

Question 12, we applied the Liker type where we wanted to know if the respondents agree that using mobile banking services is cheaper in comparison to traditional banking services. Out of the results, 85% agreed that mobile banking services is cheaper while 15% disagreed, and therefore mobile banking services are considered inexpensive and convenient channel for customers. - As shown in Figure No.13-

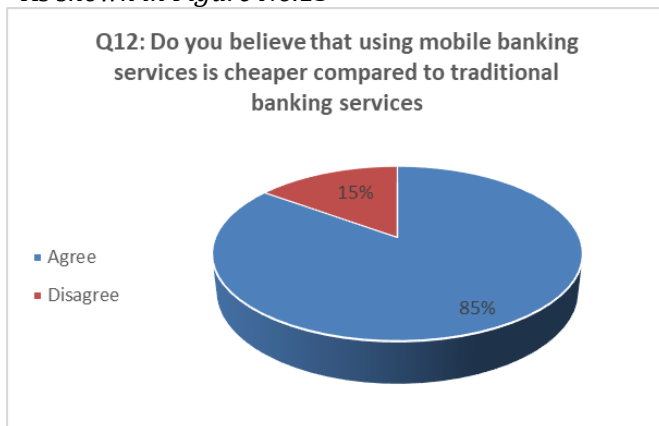


Figure No.12 “Question 12”

Question13 is about the extent risk affecting adoption of mobile banking. We found that 15% of

participants said it has large extents while 22% chose moderate extent and 33% chose small extents of risk. Unfortunately 30% of responded that it is not effecting at all. However, although mobile banking makes life simpler it has dangers.

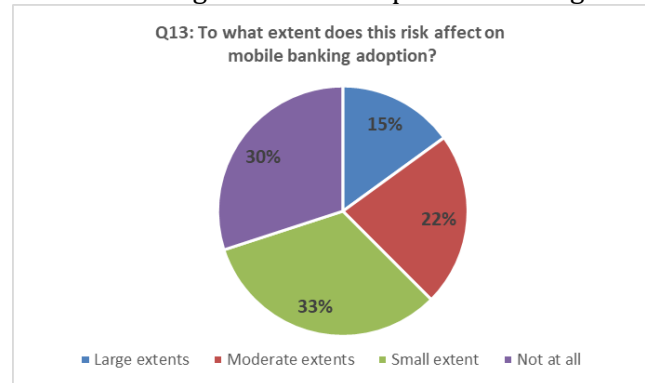


Figure No.13 “Question 13”

From the below results in the pie chart, majority of respondents 43% indicated that the major challenge is different new mobiles introduced in the market and how the Compatibility has a constructive effect on the perceived ease of use of mobile banking. The second challenge is insufficient technology infrastructure with 30% & 25% agreeing that technical issues such as system failure, processing error, software defects and inadequate recovery capabilities are other possible challenges. 2% also chose challenges of poor wireless product quality. Therefore, banks need to consider such challenge while adapting mobile banking services.

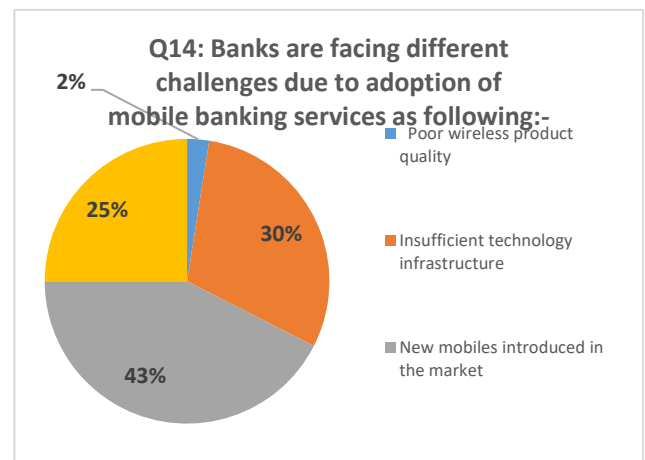


Figure No.14 “Question 14”

4.1. Research findings (interview)

In this research paper, the in depth qualitative data helped us in finding out the reasons of launching

ENBD mobile banking and what are the expected goals, and also if its new channel to the bank or an improvement tool. Therefore, we tried to discover impact of IT on banking industry as well a show it supports the overall bank productivity and quality. However, here are the results after we interviewed the staff from four different banks with different categories (IT, Business Development, Customer Relations)

- Identifying the main objective behind launching Mobile app.
- Mobile app. considered as new channel & alternative way for customers
- The positive impact of mobile app. on improving the bank productivity
- The constructive relationship between having mobile app. and quality
- The current limitations that banks are facing
- The obstacles of introducing the mobile app.
- The current challenges available in the market & if the mobile app. affects this challenge

5. DISCUSSION

The findings will be discussed from three main perspectives where the authors in each perspective will be able to discover the answers of the hypotheses mentioned previously if mobile banking is considered as alternative way, or new channel to be used and if mobile banking will increase the productivity and quality or not? The three main perspectives will be IT perspective, Customer Relation perspective and Business Development Perspective (Aljumah et al., 2021a).

• IT perspective

IT perspective is the first perspective which Mobile banking nowadays is developing very quickly and in that case banks are developing the technologies in speed manner in order to be in the same stage were others are standing on in the mobile banking sector (Abudaqa et al., 2022; El Khatib et al., 2019). Coming up with mobile banking idea assist to make customers' life much easier; if we will monitor the society, we will find that most banks' customers are using the mobile banking application to access to their accounts to manage their important transactions such as paying bills (H. M. Alzoubi et

al., 2020). Moreover, 2.5 billion transactions is the expectation from the payments council that by 2022, which will be done through the mobile banking apps, which are secured with passwords and have the same features of online banking (Aljumah et al., 2021b). Therefore customers will be using it in a safely manner and they can do the same transactions done now while visiting the branches (Al-Kassem, 2017).

• Customer Relation perspective

Moving to the second perspective, which is a customer service relation. Customer service relations can be utilized as a smart strategy because it can be used as competitive advantage as a differentiator from others within the same sector did (Alzoubi and Ahmed, 2019; Khatib et al., 2022). By providing the best service to the customer, the satisfaction level will increase and customer will maintain the loyal relationship with the bank (Gulseven and Ahmed, 2022). Therefore banks need to focus more on increasing the skills of their staffs in order to improve their ways of communication and build relations (Hani Al-Kassem, 2021; Emad Tariq et al., 2022).

Mobile banking can be the game changer in terms of the customer service side, since this facility leads to change the meaning of the service and helping to improve the service offering and enhancing the relationship between the clients and the banks they are dealing with (El Khatib and Ahmed, 2019). Moreover, within UAE specifically the number of mobile banking users keeps on increasing as a new reliable way to do their payments and transfers as it is being used as alternative way (Ahmed and Nabeel Al Amiri, 2022; El Khatib et al., 2020b). This advantage of using mobile banking encourages the employees from customer relations section to recommend their clients to try the mobile and online banking to fulfill their transactions through their application for more benefits (Aljumah et al., 2021b).

• Business Development Perspective

The last perspective is Business Development perspective; Mobile banking from business development side is allowing customers to personalize their banking experience across the smart phones and let customers' feel that they are able to manage and control their balances and financial plans easily whenever and wherever they

want. Moreover, mobile banking provides development solutions to meet society’s needs (Khatib et al., 2016).

- The below table summarized the interviews’ findings after having discussion with the selected samples:

Table 1: Interview Findings

	IT Perspective	Customer Relations Perspective	Business Development Perspective
Purpose of Mobile Banking	<ul style="list-style-type: none"> • Taking the smart technology advantage instead of doing everything manually (M. T. Alshurideh et al., 2023c). • Leading to reduce transactions in the branches and having innovative banking option (Ahmad Ibrahim Aljumah et al., 2022b). • Enhancing the customer experience (Gaytan et al., 2023). • Adding a new secure & convenient channel that would increase the bank’s ability to offer more personalized products and services(AIDhaheri et al., 2023). • A quick access to customer’s basic account information and customer will be able to monitor and check the balances anytime and also it is easy and fast facility which increases the customer satisfaction (H. Alzoubi et al., 2020). • Introducing new ways for customer acquisition in order to ease the process and make new client on boarding as seamless as possible through their journey (El Khatib et al., 2020a). • Ease of use and operates with full support from the bank (Nuseir, 2021). • Helping the bank to be more creative, apply more products, increase offerings and target each segment with offers and alerts based on their location, interests and can be integrated within their own social media channels, all at the customer convenient time (Alzoubi et al., 2019). • Allowing customers to stay up to date with all the activities, requests and suggestion (M. T. Alshurideh et al., 2023a; El Khatib and Ahmed, 2018). • Increasing the business development quality (H. M. Alzoubi et al., 2022a). 		
Term of productivity	<p>- Increasing productivity since it has less cost on the bank side and more returns, as the customers will heavily depend on doing their transactions and most of their requests will be available on the App (Nuseir et al., 2020).</p> <p><i>For example, there will be pop ups for clients if they are interested to have various types of accounts and also some advertisements in regards to loans and credit cards offers ,however, all of that will appear thru login in main page. So in that case we will be in touch with client to provide him/her of what they are interested in (Muhammad Turki Alshurideh et al., 2022b).</i></p> <p>ENBD is one of the most innovative banks in the region according to EMEA Finance. Mobile Banking App is a significant indicator to measure the productivity which is consistently ranked #1 in the Finance category in UAE App Store, over 500,000 downloads and 39% of the customers are using it for daily payments & transfers.</p>		
Terms of quality	<p>- The quality of customers’ services will be high and the errors will be less compare to errors occurred in the physical branches (M. T.</p>		

	Alshurideh et al., 2023d; H. Alzoubi et al., 2022; Nuseir, 2020). - Increasing the bank quality since it helps to finish several things like payments and transfers in efficient manners (Albalooshi, Aisha. 2020).	
Customer satisfaction	<ol style="list-style-type: none"> 1. Mobile banking can affect the customers' satisfaction and the reason is customers are keeping on looking for updated options' which make their lives much easier (Muhammad Turki Alshurideh et al., 2022a). 2. There will be an impact as customers now are having access to all of their banking and transactions details at the comfort of their hands and the majority might not need even to call the bank (H. M. Alzoubi et al., 2022b). 3. Errors will be limited and that would enhance positively customers' satisfaction (M. El Khatib et al., 2021). 4. Leads to satisfy customers needs (Ahmad Ibrahim Aljumah et al., 2022b; Lee et al., 2023). 	
New Channel or alternative way?	Alternative way: Some services and products are still available in the branches and online banking but not yet in mobile banking (El Khatib et al., 2020a).	New Channel that can replace the branches

Highlighting the drawbacks of mobile banking, all selected samples agreed that there are challenges been faced by the banks in term of using the mobile banking. The current main challenges such as:

- Server errors, can lead to unsuccessful transactions and requests and give other banks the privilege of having more features comparing to our mobile App (Ghazal et al., 2021; Nadzri et al., 2023; Nuseir et al., 2021).
- Applications require investments based on business needs, they need to have different functions and services on bank existing platforms and integration with different middle wares to keep all data synchronized. Therefore, having list of benefices added through mobile banking or online channels to ATMs and vice versa requires a strong and secure infrastructure that is flexible enough to accommodate any changes to the application quickly (M T Nuseir et al., 2022a).
- Technical difficulties such as network and system breakdowns (Almarri, Moza. 2020).
- Mobile banking at the moment is limited with certain services only and implanting the horizontal structure of new technology which would help to develop the mobile application (Kassem and Martinez, 2022).

Technology is affecting the risk profile of the banks and leads to increase other risks, which are related to legal and operational risks (E. Khatib et al.,

2021). If technology risk is not well controlled by banks, that would lead to the above mentioned challenges and also increase the opportunity of fraud internally within the bank & externally and cause huge loss. Plus, some difficulties might occur such as lack of flexibility platform; which might hold the bank from being in the lead if a new technology or mobile device is released in the market (Nuseir and Elrefae, 2022). Other difficulties include the immaturity of some technologies such as biometric recognition, some related security concerns and Lack of certain regulations among all banks during applying certain features (M T Nuseir et al., 2022b).

In addition, here we can mention that security risk is the concern of both banks and customers about the secured information while accessing the confidential accounts details through the mobile banking since the information will be in sensitive case. Moreover, the security risk and to avoid fraud cases will end up with big challenges for the banks as mentioned earlier. Plus, by having high percentage of security risk might let customer's feel that their information will be disclosed with others and therefore banks should figure ways to overcome it and ensure the highest level of security (M. Alshurideh et al., 2023).

The challenges that will result for security risks are:

- Banks are facing obstacles of introducing the new mobile application that related to promote

how secure is our application (Al-Kassem et al., 2022; Nuseir and Aljumah, 2022).

- Most of customers are not familiar with mobile banking and some services are not added to the App .

• Recommendations

After highlighting the challenges, which might occur due to technological, and security risks within the bank here are some recommendations:

- 1- Keep on educating staffs about possible fraud cases and how to control the operational system.
- 2- Keep on updating the software and hardware to make sure that the customers' data is under control.
- 3- Follow up the most recent technologies trends specially the security trend to be in safe side.
- 4- Design a system that includes a recovery abilities and control measures in order to overcome challenges.
- 5- Apply a solid and continuously followed-up implementation plan by ENBD group, in order to save money in the long term instead of just spending it on the new system.

6. CONCLUSION

Nowadays, technology plays a huge role in the different aspects of production, trade, financial transactions and daily operations for any organization. However, Information technology is considered as one of active operators that enable the banking industry to improve its performance and enhance the quality of its services. Therefore, in order to maintain a growth, banking industry needs to continually overview the latest technology trends to drive innovation, sustain a competitive position and increase its market shares.

Business and technology are two terms that you cannot separate if you want to succeed in this competitive economy. In general, success is every organization's aim and to be constantly successful is what the employees work for. As a result, businesses that create or get a hold of new creative technology have a greater chance of being one of the economy's leaders. However, we believe that every organization should choose the right option or develop a technology that suits their business objectives.

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