



Digitalization, a Mechanism Improving the Operational Efficiency in Al Salam Bank -Algeria

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Abstract :

The current study aims at revealing how much digitalization can be a mechanism to improve the operational efficiency in Al Salam Bank, by analyzing the principal efficiency indexes and their relationship to digital developments that happened in Al Salam Bank during the period of 2015-2022

The study concluded many findings, the important of which is that the more Al Salam Bank adopts digital technologies the more efficiency increases in achieving profits and controlling the costs components related to the activity of the bank, by and large the efficiency may also be improved through improving the clients experience and the internal operations competency.

Keywords: Digitalization, Operational Efficiency, Al Salam Bank-Algeria, Digital Technologies, Islamic Financial Transactions.

Jel Classification Codes: G20, 033

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1. Introduction

In the light of technological speedy developments and digital innovations majorly reflected on financial and banking sectors; these latter seek effortlessly to catch up with shifts to digitalization. In other words it is considered as a mechanism to improve efficiency and strengthen competitiveness using AI tools and advanced financial applications. Given the fact that Al Salam Bank is one of the pioneering banks in Islamic banking, it aims at improving the internal operations and provides the appropriate services to clients by adopting digital technologies.

This shall enable the bank to decrease the operating costs, improve the speed and facilitate the client service.

From the above, the following problem appears:

1.1. **Statement of the Problem**

How did Al Salam Bank shift to digitalization contributed in improving its operational efficiency?

1.2. **Research Questions**

- Is there any impact of shift to digitalization on improving the internal operational efficiency of Al Salam Bank?
- Is there any impact of shift to digitalization on improving clients' service?
- The years during which Al Salam Bank has adopted new digital technologies, are they the same as the years it achieved higher operational efficiency?

1.3. **Hypothesis**

The study is based on the following hypothesis:

- Digitalization has a positive impact on improving internal operational efficiency of Al Salam Bank
- Digitalization has a positive impact on improving client service in Al Salam bank
- The years during which Al Salam Bank has adopted modern digital technologies, are the same years it achieved a higher operational efficiency.

The study importance of this topic relies in it being one of the current topics, particularly for the continuing developments in technology, and their direct reflection on financial services market. For this reason, it is a must to study the reflection of these digital technologies on the Islamic financial services in Algeria; by studying the digital

shift in Al Salam Bank-Algeria, its impact on the internal operations of the bank, while maximizing profits and reducing costs.

1.4. Significance of the Study

Adopting advanced technologies is no longer an option but a mere challenge to remain on top of competition and to guarantee continuity. In fact, banks and Islamic financial institutions are part of the international financial institutions, they also face challenges to provide innovative financial services that match with Islamic Sharia laws and meet the needs of their clients.

1.5. Objectives of the Study

Through the current study, we aim at analyzing the extent to which Al Salam Bank competency has improved, particularly when adopting digitalization technologies, in addition to studying its impact on improving the operational efficiency of the bank both by fostering the internal operational efficiency of the bank and the clients' service.

1.6. Methodology of the Study

The study method applied is the descriptive method in order to show the importance of the digital shift in the banks generally and in Al Salam Bank-Algeria particularly; all along with using the analytical style to exhibit the impact of digital shift in improving the operational efficiency of Al Salam bank during the period of 2015-2022

1.7. Literature Review

Lots of researchers have contributed to the topic of digitalization in the banking sector, namely *Subrahmanya Bhat* whose study tackled the huge impact of the shift to digitalization on the banking sector, it was entitled “*Exploring the Impact of Digital Transformation on The Banking Sector Opportunities and Challenges*” (Bhat, 2019) it has explored the opportunities it provides such as developing the digital banking services, the positive influence over clients service, and along with the challenges it faces i.e. obsolescence of the technological systems, cybersecurity concerns. The study found that adopting digital strategies is necessary for the banks in order to maintain their competitiveness, yet to satisfy the needs of their clients. From a different perspective, *Rashwan Abd El Rahman and Abd El Hafidh Zineb* proved the significance of shift to digitalization with the performance of Palestinian banks, their paper entitled “*The Role Of The Digital Transformation In Raising The Efficiency Of The Banks' Performance*

And Attract The Investments” (Raswhan, 2020) shed light on the need of banks to adopt digital solutions to maintain their competency and their ability to compete, the study results were as follows; shift to digitalization has a big impact on attracting investments, it has also highlighted the necessity to build a strong infrastructure through investing in information technology, and developing the digital skills inside the banks.

On the mention of skills, *Yongjie Zhu, Shanyue Jin* in their paper entitled *"How Does the Digital Transformation of Banks Improve Efficiency and Environmental, Social, and Governance Performance?"* (Zhu, 2023) tried to answer this question by investigating the relationship between the shift to digitalization with the banks and their own performance, they used a sample of Chinese banks between 2011-2021. In the end they found that shift to digitalization does have a positive impact over the bank's performance through improving clients' service and internal governance, it can also decrease the employment costs.

1.8. Organization of the Study

In order to cover the theme of this paper, it has been divided into three chapters as follows; the first chapter dealt with relationship of the digital shift with the operational efficiency, however the second chapter tackled mechanisms of improving the operational efficiency in Al Salam bank through digital shift, and last but not least the third chapter which we allocated it for analyzing the impact extent of digital shift over operational efficiency in Al Salam bank.

2. Relationship of Digital shift with the Operational Efficiency

2.1. Digital Shift Overview

This widely used term covers many fields, digital shift in other words Digitization is the process of converting analog information, processes, and systems into digital format rather than the traditional papers-lead process; this refers to the integration of digital technology into all areas of life and business and leads to the creation of a digital environment. In addition, Kwilinski emphasize that digitalization has driven new innovations in areas such as artificial intelligence and data. The development of digitalization has also had an increasing impact on workplaces, shifting towards teleworking and flexible working and changing the traditional way of working (Memedovski, 2023)

2.2. Digital Shift in Banking

Significant changes are occurring as customers increasingly use mobile banking (also known as digital platforms and applications) to manage their financial activities. As a result, more customers are choosing to bank from the comfort of their home using digital channels, rather than seeking support from traditional banks. As a result, traditional banks have had to change their strategies to meet market demands. Moreover, due to the development of digitalization, the number of traditional banks in the banking sector is decreasing and being replaced by digital devices (Carbo-Valverde, 2020). Consequently, banks had to compete and cope with the changes, in order to satisfy the needs of clients in one hand and to make profits on the other hand, but one of the main concerns is to operate efficiently as clients can comment and give reviews very fast.

2.3. Impact of Digital Shift over the Operational Efficiency

One of the modern approaches brought up by digitalization aiming at operating efficiently is big data, an example that falls into the first category is cross-channel customer profiles enabled by social customer relationship management systems. Increasing amounts of unstructured external data will enable banks to obtain a more comprehensive overview of their customers and offer new services such as value chain optimization services for corporate customers based on rating profiles (Dos Santos, 2014).

Perhaps even more seriously, the digitization of content disrupts the historically close relationship between types of information and their respective devices, storage media, and forms of transmission, ushering in digital convergence. Digitization (or digital infusion) of objects gives them new properties (programmability, addressability, communicability, memorability, sensitivity, traceability, and relatability) and makes them Together they increase the flexibility of digital products (e.g. digital processes) and open up vast new areas.

3. Mechanisms of Improving Operational Efficiency in Al Salam Bank through Digital Shift

Al Salam bank-Algeria was created on June the 6th, 2006, it started operating on 20/10/2008 aiming at providing innovative and modern banking services, to satisfy the needs of markets, clients and investors. In order to do so, it shifted towards digitalizing the financial and banking transactions

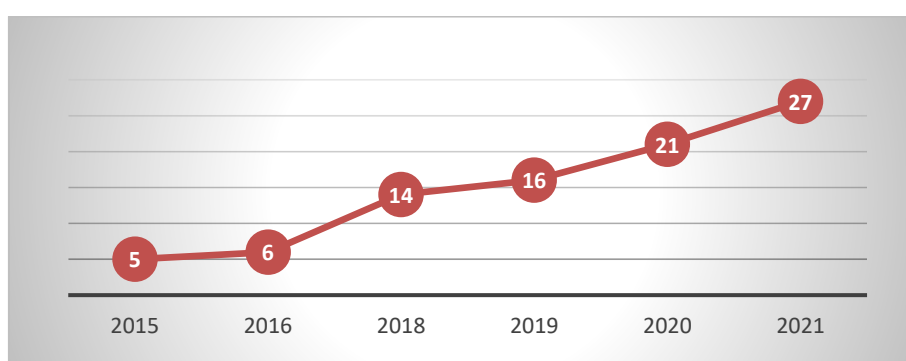
3.1. Shift Towards E-Payment

Al Salam Bank enhanced the use of E-Payment tools via:

3.1.1. Automatic Teller Machines ATM

In order to relinquish manual cash transactions, Al Salam bank has opted for ATMs by installing them, and hereby the number of ATMs has increased during the period 2015-2021, the following figure illustrates that:

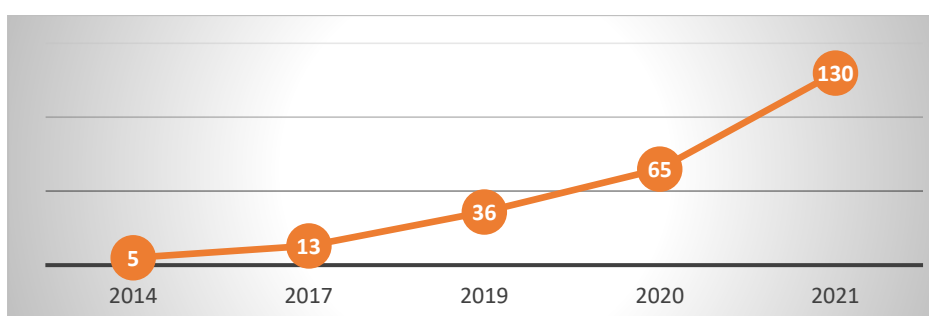
Figure N°01: Increase of ATMs in Al Salam Bank 2015-2021



Source: Al Salam Bank, 2015-2022

3.1.2. TPE: TPE: are mainly exploited to facilitate the use of electronic payment cards in the stores, their number has increased during the period of 2014-2021, according to the following figure:

Figure N°02: The Development of TPE in Al Salam Bank during 2014-2021

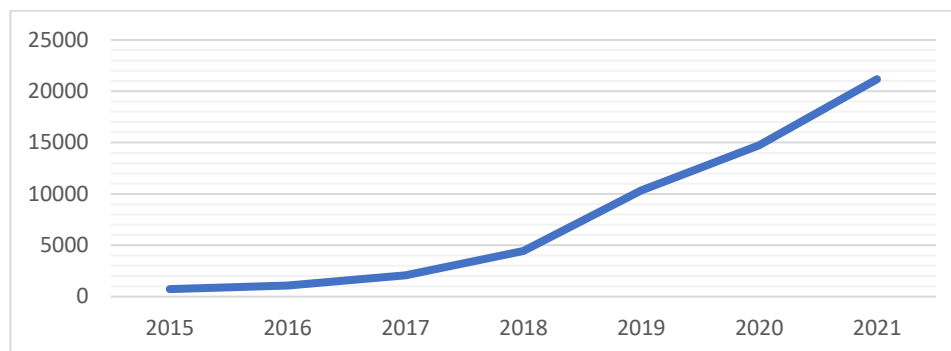


Source: Al Salam Bank, 2015-2022

3.1.3. Payment cards Amina and Omniyeti: these two gave the clients the opportunity to withdraw, to pay for their purchases, and to pay their bills online via their current, or credit accounts (based on the speculation/ Mudaraba contract, the following figure

illustrates the development of the number of these cards during the period of 2015-2021

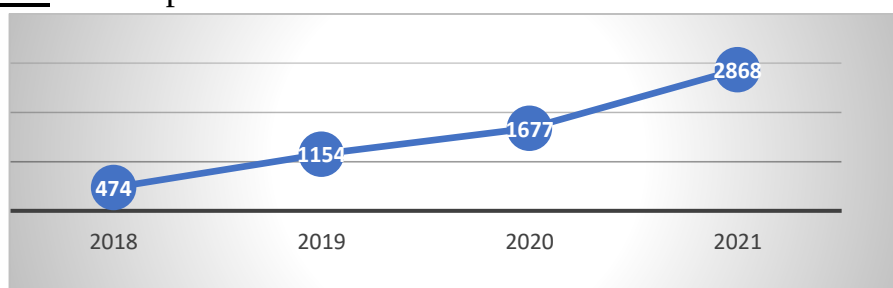
Figure N°03: Development of the number of CIB cards in Al Salam Bank (2015-2021)



Source: Al Salam Bank, 2015-2022

3.1.4. Issuing Visa Cards : this cards are globally designed to pay and withdraw, it allows the clients to book a room in a hotel, pay for purchases, shop in different stores, in fact there are many types of visa card, for instance; Al Salam Visa Tasdir, Classic Al Salam Visa Card, Gold Al Salam Visa Card, Platinum Al Salam Visa Card, Prepaid Al Salam Visa Card

Figure N°04: Development of International Visa Cards in Al Salam Bank 2015-2021



Source: Al Salam Bank, 2015-2022

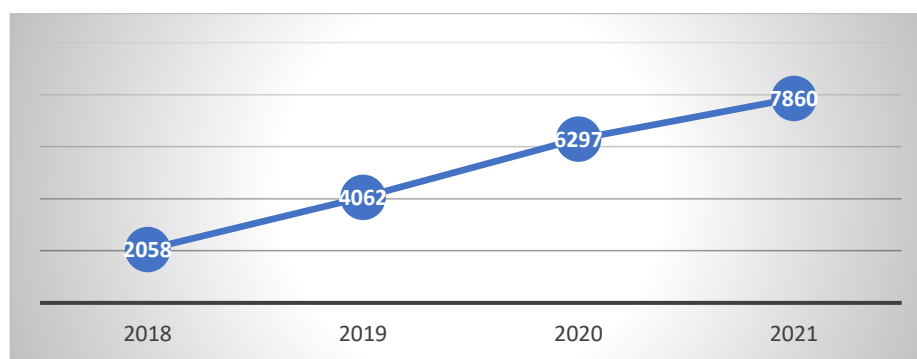
According to the above mentioned information, it is observed that the shift of Al Salam Bank towards electronic payment devices and tools, has contributed to improving the operational efficiency by giving up the cash method, and eventually facilitating and speeding up the financial operations, whether they were inside or outside the country.

3.2. Shift Towards Online Banking Services

Al Salam bank has enhanced its digital existence by providing full banking services on the internet via the “Al Salam Direct” which enables the clients to follow up easily and safely their accounts online, without having to deal with the burden of commuting to

bank; the following figure shows the development of the accounts in Al Salam bank since it started.

Figure N°05: The Development of Accounts in Al Salam Bank between 2018-2021



Source: Al Salam Bank, 2015-2022

Regarding the smartphone applications, Al Salam bank has provided *Al Salam SMART Banking* i.e. making transactions an easy and satisfying experience for their clients.

3.3. Modernizing the technological infrastructure:

During its digital transformation journey, Al Salam Bank has been committed to providing a solid infrastructure, by activating the Workflow System, which is a system for import operations in foreign trade. The Workflow System helps to improve work efficiency, increase transparency and provide better services to customers. Al Salam Bank has also established an advanced data center where large amounts of data and information related to banking and financial operations are stored, processed and managed, which can accommodate all new applications that keep up with the bank's digital transformation process. Al Salam Bank has developed the D Secure3 service in order to enhance online transactions' security and facilitate online purchases. The technological infrastructure has also been modernized by upgrading the t24 information system from the seventh to the seventeenth version, to improve the overall efficiency of the bank's operations (Al Salam Bank, 2015-2022).

3.4. Enhancing Information Technology

Al Salam Bank has taken measures to protect customers' financial data and information by transforming all physical and virtual servers into a new data center that contains a high-flow local network, as well as global protection devices to protect the bank's data from cyber-attacks. The new data center also uses VMware to help the bank improve the efficiency of information infrastructure, meet technical needs, and provide protection for sensitive financial data and transactions. Al Salam Bank has also

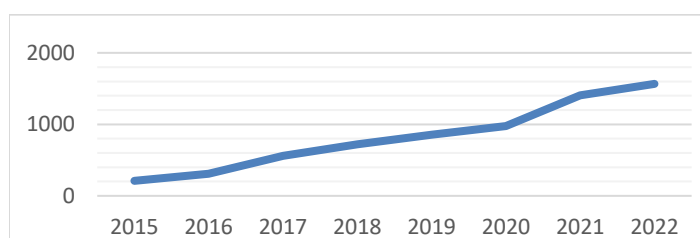
conducted training courses for its employees in the field of digital banking (Al Salam Bank, 2015-2022).

5.3 Improving the customer experience through digital transformation: In order to meet the needs of customers, the Bank has developed digital platforms in the field of foreign trade, namely the pre-localization platform and the documentary credit platform, and has also provided its customers with other digital services, which are (Al Salam Bank, 2024):

- " Tahweel" service for periodic deduction: This service enables the bank's customers to make a savings plan for an amount of money regularly per month and that the transfer is automatic from the customer's current account to his savings account or one of his relatives,
- Online portal «Jibaytok»: Al Salam Bank provides the transfer service through the application of "Jibaytok" for declaration and tax payment.

These digital products contributed to raising the quality and speed of services provided to customers, which was positively reflected on increasing the value of customers' deposits, and the following form illustrates this.

Figure N°06: Evolution of the value of customers' deposits from 2015 to 2022/ Unit Million Dollars



Source: Al Salam Bank, 2015-2022

By comparing the digital transformations carried out by Al Salam Bank, and the evolution of customers' deposits, it was found that the more the bank steps towards digitization, the more this attracted customers by increasing the value of their deposits.

4. Analyzing the impact of digital transformation on the operational efficiency of Al Salam Bank

Based on the available data, we will analyze the impact of digital transformation on the operational efficiency of Al Salam Bank, where we will maintain operational efficiency

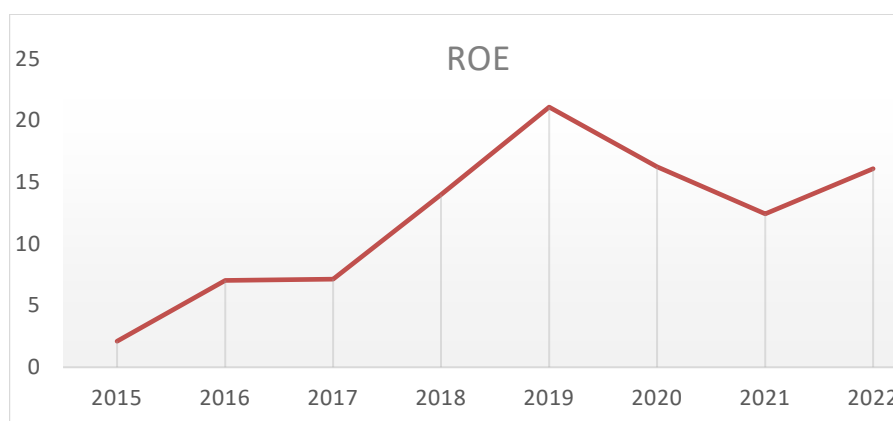
based on financial ratios, through the return on equity (ROE) index, return on assets (ROA) index, in addition to the profit margin index during the period 2015-2022.

4.1. Return on equity (ROE) index

This indicator is used to measure the efficiency of profits, and this indicator was calculated using the relationship:

Return on Equity Index = Net Score/Equity X 100

Figure N°07: Return on equity (ROE) index (%)



Source: Al Salam Bank, 2015-2022

In compliance with the Bank of Algeria Regulation No. 18-03, Al Salam Bank-Algeria raised the first part of its capital in 2020 by 50%, and then raised the second part by 33.34% in 2021 (Al Salam Bank, 2021). At the same time, the Algerian economy recorded a decline ¹ due to the effects of the Covid-19 pandemic, which affected the return index by decreasing due to the rise in property rights.

We also note that the years 2016, 2018 and 2019 recorded a significant improvement in the return on equity index. Among the most important reasons for this improvement are the digital transformation measures carried out by the bank in these years, which were as follows:

- In 2016, the Bank launched new products such as electronic localization of foreign trade operations, opening of documentary credits and enhancing sales of the electronic service. It also activated the tax payment service (Jibaytok), which allows the Bank's customers (large companies) to pay taxes online. 399 electronic payment cards and 20 new electronic payment devices were also distributed through mall shops. In the same year, the Visa international card project began, where the accreditation was obtained by Visa;

¹ - The Algerian economy recorded a contraction rate estimated at 4.9% in 2020, and GDP decreased in 2020 compared to 2019 by 2.21.

- In 2018: The mobile banking application (Al Salam Smart Banking) was launched; Visa International Card was also launched with its three levels: Prepaid, Gold and Platinum. The bank has renewed the digital infrastructure using the latest version of IBM processors, and the project of moving from the seventh version to the seventeenth version of the information system t24 has been completed;

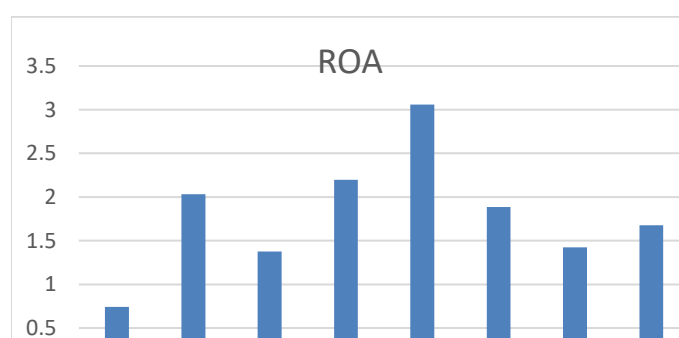
➤ In 2019: The Bank updated the practical procedures for managing and organizing the processing of automated and electronic cash transactions related to the inter-bank card issued by Al Salam Bank; the international Visa card; and the remote banking services "Al Salam Mubasher" and "Al Salam Smart Banking". in addition to the modernization of electronic clearing operations, and the establishment of an advanced information center DATACENTER which accommodates all applications related to digital transformation.

We also note that the year 2022 recorded an improvement after work began to complete digital projects through the development of e-payment services such as **WIMPAY BY AL SALAM and its dissemination to commercial spaces**, as well as the provision of electronic signature of contracts.

4.2. ROA Index

This indicator is also used to measure the efficiency of profits, and this indicator was calculated using the relationship: $\text{Return on Assets Index} = \text{Net Result} / \text{Total Assets} \times 100$

Figure N°08: Return on Assets index (%)



Source: Al Salam Bank, 2015-2022

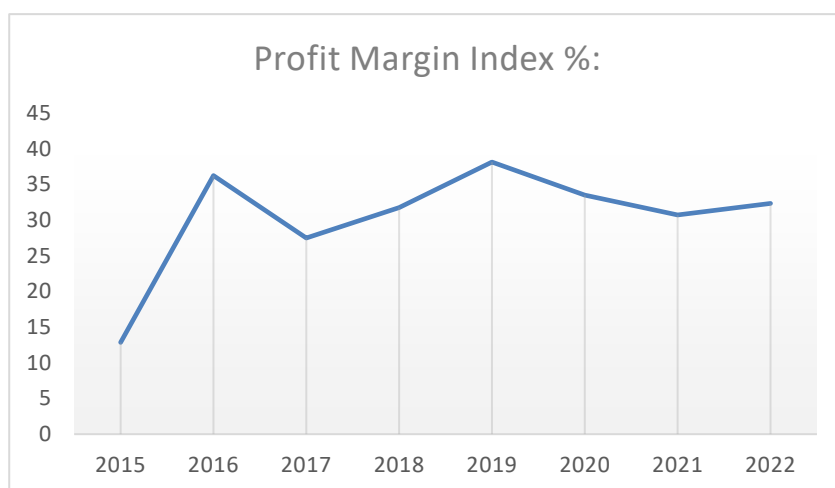
The return on assets index (ROA) shows the efficiency of the management of Al Salam Bank - Algeria in generating profits from the assets of the bank, which is, the ability of one Dinar invested in making profits. We note that the positive change rates in the index were recorded in the years 2016, 2018, 2019 by 174%, 59.5%, 39.28%

respectively, while the year 2022 recorded an improvement of 17.77%. This is associated with the digital transformations that are taking place in Al Salam Bank-Algeria. As for the years 2020 and 2021, the rates of change were negative, due to a slowdown in the completion of the digital transformation process. This is due to the health conditions associated with the Covid-19 pandemic on the one hand (Al Salam Bank, 2021), and the decline in the price of a barrel of oil (OPEC, 2020) in 2020 on the other hand at a value of 34.7%.

4.3. Profit Margin Index

Profit Margin index was used to assess the profit efficiency of Al Salam Bank during the period (2015-2022), which shows the extent to which the bank is able to control its costs, and it was calculated using the relationship:

Figure N°09: Profit Margin Index Ratio = Net Score/ Revenue X 100



Source: Al Salam Bank, 2015-2022

The profit margin index shows the efficiency of Al Salam Bank - Algeria in controlling all elements of costs related to the activity, and we note that the highest rates were recorded in 2016 and 2019, noting the improvement in 2022 after it decreased in 2020 and 2021 due to the repercussions of the Covid-19 crisis on the bank, which led to a severe slowdown in the completion of the digital transformation process. In addition to the challenges of digital transformation outside the scope of Al Salam Bank, which is that the achievement of some digital projects depends on the progress of the work of active partners in the field of automated cash and digitization, and the authorities, the most important of which are the Bank of Algeria, the Automated Cash Pool, the Telecommunications Company, as well as public banks.

5. Conclusion

Continuing the digital transformation in Al Salam Bank is an imperative to enhance the operational efficiency of the bank, improve the customer experience and keep abreast of the accelerating technological developments, which have set new standards for innovation and excellence. Therefore, the digital transformation in Al Salam Bank is a key factor in improving operational efficiency, which enhances the sustainability of the bank and enhances its competitive position. By studying digital transformation as a mechanism to improve operational efficiency at Al Salam Bank, the following results were reached, which proved the validity of all hypotheses, and recommendations were made as follows:

5.1. Results

- ✓ Digital transformation has contributed to improving operational efficiency at Al Salam Bank by improving the customer experience, through its advanced and user-friendly banking services, which have helped to improve communication and interaction with customers in innovative ways through the mobile banking application 'Al Salam Smart Banking' and Internet Banking via 'Al Salam Mubasher'. Al Salam Bank has also promoted the use of electronic payment methods beside increasing the number of ATMs and electronic payment devices (TPE), as well as increasing the issuance of secure payment cards and security of Visa cards;
- ✓ In order to improve its operational efficiency, Al Salam Bank has modernized the technological infrastructure by activating the Workflow System and establishing an advanced Data Center that can accommodate all new applications in line with the digital transformation of the bank;
- ✓ As part of Al Salam Bank's continued digital transformation, the bank has implemented VMware in its new data center, to help it improve the efficiency of its information infrastructure, thereby improving the efficiency of its internal operations, meeting technical needs as well as providing protection for financial data and sensitive transactions; Al Salam Bank has also conducted training courses for its employees in the field of digital banking;
- ✓ Al Salam Bank has promoted innovation to improve operational efficiency, by providing technology platforms that meet the needs of customers in the field of foreign trade, namely the pre-localization platform and the documentary credit platform, which reflected positively on the quality and speed of services provided to customers; and increasing deposits of customers with the bank;

- ✓ The years 2016, 2018 and 2019, which recorded a significant improvement in the return on equity index, are the same years in which Al Salam Bank adopted modern digital technologies, and achieved the highest profit efficiency;
- ✓ The positive change in the return on assets index (ROA), (which measures the efficiency of generating profits from the bank's assets), was recorded in the years 2016, 2018, and 2019 by 174%, 59.5%, and 39.28%, respectively, while the year 2022 recorded an improvement of 17.77%. This is accompanied by the digital transformations taking place in Al Salam Bank-Algeria in those years;
- ✓ The profit margin indicator shows that the improvement in the efficiency of Al Salam Bank - Algeria in controlling all elements of costs related to the activity was recorded in 2016 and 2019, and it was also acceptable in 2018, and this is in line with the digital transformation in Al Salam Bank, with the improvement in profits recorded in 2022 after it decreased in 2020 and 2021 due to the repercussions of the Covid-19 crisis on the bank, which led to a severe slowdown in completing the digital transformation process.

5.2. Recommendations

- ✓ We recommend the Central Bank of Algeria to keep abreast of the digital transformations taking place at the global level, and to facilitate the granting of licenses to work with digital technologies without taking much time, as happened with the electronic signature of contracts technology;
- ✓ Developing the Algerian legislative system to serve Islamic banking in particular, and to enhance the confidence of customers in digital products and services in general;
- ✓ Although the bank has provided several digital products and services, it suffers from several challenges, notably the absence of laws on the digitization of Islamic financing forms, in a manner that does not contradict the foundations of Islamic law.

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