The Impact of Information and Communication Technology (ICT) on Creating Competitive Advantage in Saudi Banks: Al Rajhi Bank Case Study

BEN AMOR Atiyet [1*], OTIBI Sarra [2]

[1] Assistant Professor, Department of Business Administration, College of Sciences and Humanities, Shaqra University, Saudi Arabia. benamoratiyet@su.edu.sa

[2] Researcher, Department of Business Administration, College of Sciences and Humanities, Shaqra University, Saudi Arabia. saraotib55@gmail.com

Received: .31/10/2023 **Accepted:** 31/12/2023 **Published:**.31/12/2023

Abstract:

This study aims to identify the impact of ICT on the creation of competitive advantage in Al Rajhi Bank. The study relied on the analytical descriptive method. As a data collection tool, a questionnaire was used and distributed to Al Rajhi Bank employees in Riyadh. The study sample included 290 employees. The SPSS program was used for data analysis, The results show that ICT has a clear role in creating the competitive advantage in Al Rajhi Bank in its dimensions (quality, delivery, cost, and flexibility). This leads us to the fact that the strength of the competitive advantage stems from ICT, and that there is a direct relationship between ICT and competitive advantage. In the event that the facility uses ICT, it has an increased competitive advantage, the bank must pay attention to ICT and develop it periodically, because of the advantages it achieves for the bank.

Keywords: ICT; Competitive Advantage; Al Rajhi Bank.

JEL Classification Codes: G21,M10 , O30

***Corresponding author**.

1-Introduction :

Nowadays, the world is witnessing tremendous changes and transformations that affect all establishments; public and private. The information revolution has contributed to the creation of this transformation and influenced the performance of most enterprises. Information has become an important strategic resource for organizations, as it is the raw material for any activity. Hence, most developed countries are racing among themselves to develop strategies and plans for the improvement of ICT. In light of these developments, the organizations are facing major challenges that require them to find new ways to absorb these developments and to address the challenges, especially with the spread of economic globalization and the rise of local and global competition. This makes the achievement of competitive advantages of the institution a necessary condition for survival.

On the one hand, competitive advantage is related to achieving efficiency through high productivity. This is related to the input costs necessary to produce certain outputs. Or through high quality that will help in forming a good reputation of the enterprise. Moreover, it is related to creativity, which is achieved by working in a new and different way from other competitors. This difference and excellence depend on the accurate knowledge of the situation of competitors, which cannot be reached by relying on traditional methods of transferring and circulating information. It requires high and advanced technology to obtain and exploit information.

With the rapid developments in the world of technology and the tendency of many governments and enterprises towards digital services, the Kingdom of Saudi Arabia has been keen on the concept of government digital transformation and replaced traditional processes with digital processes. It has developed plans and strategies to ensure that its objectives are achieved with the highest possible efficiency and quality to reach an integrated digital government that provides all services to beneficiaries. The Kingdom of Saudi Arabia has a strong digital infrastructure that contributed to the speed of the digital transformation process, and managed to face the crises that disrupt services in the private and public sectors. The Kingdom of Saudi Arabia is ranked among the top ten developed countries in the world due to its strength in the ICT digital infrastructure index. In 2021[1], Al Rajhi Bank witnessed a significant increase in the bank's digitally active customer base to 9.7 million customers, representing more than 80% of the bank's total active customer base. Digital channels contributed significantly to the core business, with 85% of all remittances and 83% of SADAD payments executed through digital channels, while 80% of all cards issued by the bank were submitted through digital channels. Digital transformation has resulted in 175% growth in e-commerce transactions on a yearly basis, 125% growth in card issuance and 23% growth in e-market transactions.

Hence, the premise of this research was to determine the impact of ICT technology on achieving competitive advantage in Saudi banks, through a case study of Al-Rajhi Bank. By looking at previous studies that dealt with the research problem as (Bouzidi et al., 2021; Murniningsih and Hanafi., 2020; Abdul Jalil et al., 2019, Neirotti and Pescs, 2018 and Gara et al., 2018). It is imperative to highlight ICT, which will play a role in achieving competitive advantage in banks. From the above, the main question to be asked is**: Is there a relationship between the use of ICT and the competitive advantage at Al Rajhi Bank?**

The study aims to define, first, the nature of the relationship between ICT, and the competitive advantage in Al Rajhi Bank. Secondly, to reveal the impact of information technology on the bank's competitive advantage.

[1] - https://www.alrajhibank.com.sa/ir/ar/download/pdf/Al_Rajhi_Bank_AR-2021_Arabic.pdf

The importance of the study lies in identifying the reality of the use of information technology in Saudi banks, and its relationship to competitive advantage. This study came as a call for improvement, interaction with developments, saving time and effort, and improving the quality of services to achieve competitive advantage.

Previous studies varied in terms of research directions that aimed to focus on the role of using and developing information technology. It can be stated that this study is complementary to previous studies, but it is characterized by a number of points. First, by searching in references and sources, it was found that this study was one of the first to be applied in the Kingdom of Saudi Arabia, as far as the researcher knows. Second, this study dealt with Al Rajhi Bank, which is among the largest banks in the world, the first in the Middle East in terms of market capitalization, and the one with the largest customer base in Saudi Arabia. In addition, this study dealt with the concept of information technology and communication in full form and dimensions: hardware, software, databases, communication networks and users. Finally, the impact of ICT on competitive advantage has been studied in the dimensions: quality, delivery, cost and flexibility.

The rest of the paper is structured as follows. Section 2 covers the literature review. Section 3 presents the hypotheses development. Section 4 describes the research methodology. Section 5 discusses the results of the empirical analysis. Section 6 concludes the paper and presents the limitations, contributions and future research.

2. Literature Review and Hypothesis Development

2.1. The impact of ICT on Competitive Advantage:

Bouzidi et al., (2021) conducted a study that aimed at identifying the contribution of information technology in creating a competitive advantage among a group of small and medium enterprises by knowing the opinions of a group of employees and decision-makers. The study showed that there is a significant relationship between information technology and the elements of competitive advantage represented mainly in the efficient and effective use of information technology in the following elements: cost, quality, flexibility and time. This study made it clear that in order to gain a competitive advantage, the organization needs the presence of information and communication technology to help increase efficiency, effectiveness and creativity in order to gain the trust of the customer.

Murningsih and Hanafi (2020) studied the mediating effect of innovation on entrepreneurial leadership and ICT to increase the competitive advantage of SMEs in the Magelang region. The findings of this study suggested that improved information and communication technology can help SMEs gain a competitive advantage. ICT can be used to track profits, maximize return on investment and identify weaknesses in the business that need improvement. In addition, ICT facilitates communication with customers and reduces costs. With this technological facility, employees in an organization can make quick decisions, thereby enhance the competitive advantage of SMEs.

Khalfi (2018) investigated the impact of logistics information technology in its different dimensions; transaction management technology, communication technology, and relationship management technology on the possibility of achieving competitive advantage in its dimensions: a competitive advantage that can be imitated, and a competitive advantage that cannot be imitated. The results showed that there is an adoption of some information technologies related to the logistics of the facility, which contributed to improving its logistics and supporting the competitive advantage that can be imitated, but with a medium to low rating due to the simplicity of the technologies used, and the lack of generalizing them at times. In addition, the facility has many unique characteristics that can be combined with modern technologies to create an advantage that cannot be imitated.

However, the intensity of competition requires those in charge of the establishment to focus more on this aspect to ensure its survival and continuity in the market.

The study of Garah et al (2018) aimed to determine the extent to which ICT contributes to the achievement of the competitive advantage of the banking enterprise. The results concluded that the percentage of the facility's reliance on modern information and communication technology is low, but otherwise, the used information and communication technology contributes to facilitating functional operations and achieving quality and speed in providing services until customer's satisfaction is achieved. In addition to speeding up the exchange of data accurately and efficiently.

Lahsini (2018) studied the role of ICT in competitive advantage in its dimensions of efficiency, quality of services, creativity, and response to client's needs. The results concluded that the adoption of information and communication technology contributes to achieving the competitive advantage in the establishment through its dimensions of efficiency, quality, creativity, and response to the customer's needs.

The study of Ebenezer et al (2017) aimed to understand how banks in new Juabeng municipality use business strategies to gain a competitive advantage. The research concluded that it is the close integration between ICT and business processes that gives organizations the competitive advantage and produce high quality products and services at lower cost. Indeed, the use of ICT enabled banks to gain a competitive advantage through the accuracy and speed of transactions, and therefore, minimizing costs.

Odawa (2017) conducted a study to examine the efficiency of (ICT) in a creating a competitive advantage for hotels in Nairobi. The research concluded that the use of ICT in service delivery, employee empowerment and marketing had a positive and significant impact on competitive advantage.

Amamra (2017) studied the impact of using ICT in the economic enterprises. This study aimed to highlight the importance of ICT in its physical components, software, databases, and communication in the facility under study. The study arrived at a number of results, the most important of which is that ICT is characterized by speed in achievement, high accuracy and efficiency in performance, in addition to flexibility in the exchange and circulation of information. It contributed to a radical change in work patterns, organization and communication.

Zwaghi (2016) studied the importance of adopting and applying ICT, and its impact on improving and developing the competitive advantages of the economic establishment, especially with regard to three dimensions of competitive advantage, the advantage of creativity in human resources, the advantage of quality of products, and the advantage of time. In addition to pushing the establishment to develop its management approaches and administrative methods in line with scientific and technological progress. The results of the study concluded that the use of information technology in the establishments under study is still far from the pace of global developments in this field, and this is due to the lack of some managers' awareness of its importance. Other reasons might be: negligence or not giving it the desired importance in these establishments. In addition, the establishments under study are using a range of specialized means in information and communication technology such as: computers and internal communication systems, but this usage is not enough as they constitute an additional cost to them.

2.2. Hypothesis Development:

2.2.1. The impact of ICT on quality:

The (Quality) dimension is one of the important competitive advantages, which means carrying out the business in a correct manner to meet the needs of customers and provide products and services that match these needs and desires. Products and services that are of high quality, efficiency and effectiveness contribute to improving the reputation of the establishment and achieving customer satisfaction, as well as the possibility of the establishment to impose high fees that correspond to the high quality of customer requirements.

According to Lahsini (2018), the use of ICT and the adoption of modern management contribute to reducing the stages of operations, and reducing the time for the development of new products, and their delivery to the customer in a timely manner with high quality. The role of ICT in improving the quality of outputs and reducing the chances of error becomes clear. According to Garah et al (2018), the application of ICT in banks has led to the creation of new ways of thinking for banks to manage their resources. These technologies have contributed to shortening the stages of operations, shortening the period of development of new products, and presenting them to the customer on time with the required quality.

Kasem (2015) stated that there is a strong and positive correlation between the dimensions of information technology and the quality of banking services. The dimension of devices and equipment has a positive impact on the quality of banking service. That is, the more hardware, software and electronic components that help in the processing and storage of data and information are available, the more this will improve the quality of banking services. The presence of the Internet also improves the quality of banking service, that is, the bank's use of the Internet to ensure a quick response to customers' requests and desires contributes to improving the quality of banking services. In addition, the results of his study arrived at a strong and positive correlation between the telecommunications' dimension and the quality of banking service. This means that the bank's possession of a network system for external and internal communications to meet the needs of customers of all kinds contributes to improving the quality of banking services.

According to Ebenezer et al (2017), the use of ICT has enabled banks to have a competitive advantage and produce high quality products and services.

The following hypothesis can be formulated:

H1: Information and Communication Technology has positive and significant impact on quality services.

2.2.2. The impact of ICT on delivery:

Delivery is one of the most important dimensions of competitive advantage. It is the basis of competition between enterprises in the markets and has its importance in gaining a competitive advantage. This is done by reducing the time and speed in designing new products and services and delivering them to customers in the shortest possible time. This dimension indicates how quickly the organization responds to the needs and desires of customers and provides the final product or service in a short period of time. Today, time is an important resource that contributes to the competitive advantage of enterprises.

Ammara (2017) showed that ICT has an important role to play in the delivery dimension as enterprises benefit most from having access to information in a timely manner. In addition to providing products and services to customers in a short time, as well as the ease of reaching customers by responding quickly to their wishes and aspirations and presenting them in a short period of time.

Fkair's study (2021) made it clear that the institution's use of IT helps in saving effort and reducing time in the institution by ensuring that the information reaches those who request it in a

timely manner on the one hand, and by ensuring that the technical equipment necessary to carry out the work are available on the other hand.

The study of Bouzidi et al (2021) demonstrated that there is a statistically significant relationship between the use of ICT and the time element in achieving competitive advantage. Information technology has been able to limit time and space, and the best proof of this is the Internet, which allows each one to obtain the necessary information in a very short time, regardless of his geographical location.

Lichtsteiner et al. (2022) found that information and communication technology has a positive impact on improving service delivery in customer service centers. The level of technology adoption affects service delivery, suggesting that service delivery efficiency increases with the level of innovation in customer service center operations.

H2: Information and Communication Technology has a positive and significant impact on service delivery.

2.2.3. The impact of ICT on cost:

The cost dimension is one of the basic elements of the success of the organization and its superiority. It enhances its position in front of competitors in the market by having competitive prices that outperform competitors and enhance its competitive advantage. It is possible to reduce the cost of operations through the optimal use of productive capacities. Most enterprises seek to minimize the costs of production and marketing of their services to the lowest possible point compared to competitors, in order to obtain the largest market share.

Garah et al. (2018) found that ICT plays a significant role in saving costs for enterprises due to its use of advanced equipment and machinery. This contributes to improving the financial performance of enterprises, increasing their profitability and reducing their costs.

The study of Bouzidi et al (2021) showed a strong correlation between the use of ICT and cost, creating a competitive advantage between organizations. This is due to the importance of ICT, which helps to reduce cost through the use of advanced tools in production. It also reduces the classic traditional labor and replaces it with sophisticated and accurate capabilities that save time and effort and reduce cost. The study of Khaldi et al (2022) also proved that the new environment of electronic banking has created technical applications and modern means of ICT. This has a positive impact on the role of e-commerce, by improving transactions and deals as soon as possible with less expenses and less risks.

H3: Information and Communication Technology has a positive and significant impact on reducing cost.

2.2.4. The impact of ICT on resilience:

According to Abbas (2017), information and communication technology has a major role in advancing the competitiveness of enterprises, because the capabilities they possess may contribute to various fields of work and organization, which prompted enterprises to consider and adopt information and communication technology. In terms of flexibility, the impact of information and communication technology appears. in two ways. First, information and communication technology contributes to the establishment's adaptation in a timely manner, with regard to developing the ability to respond to initial requirements (speed in performance). Secondly, information and communication technology constitutes a factor of stability and solidity for the development of a number of different procedures.

Bouzidi et al (2021) also found an intermediate relationship between the use of ICT and resilience. This is due to the strategies used in the institution, which information and communication

technology is promoting. According to Alcaraz and Loya (2020) ICT integration in the supply chain enables easier monitoring of the production process and directly impacts the agility and flexibility of the manufacturer. Providing greater transparency between partners in the flow of active materials, enabling agility and shared decisions.

Therefore, the following hypothesis can be presented:

H4: Information and Communication Technology has a positive and significant impact on Flexibility.

3. Methodology and data

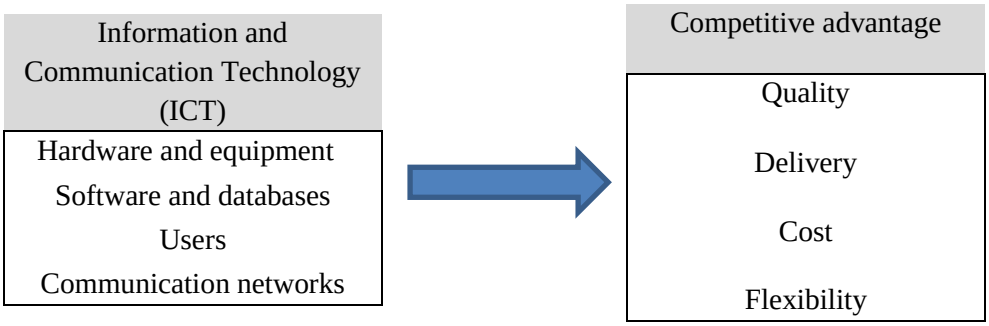
3.1. Data*:*

The population of this study consists of all the employees of Al Rajhi Bank's branches in the Saudi capital Riyadh. Al Rajhi Bank is one of the largest banks in the world by market value, and the largest in Saudi Arabia. This bank has a strong financial position with assets of about $155 billion[2]. The two researchers distributed an electronic questionnaire to the study population. A Simple Random Sampling was selected. The electronic questionnaire was distributed to all respondents. 290 questionnaires were received and approved after being reviewed and found to be valid for statistical processing. In this study, the descriptive and the analytical approaches were adopted to analyze the impact of ICT on the creation of competitive advantage in Al Rajhi Bank.

3.2. Model specification:

Based on the problem of the study and its objectives, a proposed model is designed to represent the relationship between ICT on the one hand and competitive advantage on the other. As shown in Figure (1).

Fig.1. Study Model



Source: prepared by the researcher based on the variables and dimensions of the study

3.3. Research Tool:

A questionnaire was used as a research tool because it suits the nature of the study. The questionnaire was divided into three sections as follows:

- The first: contains the preliminary data information of the study sample, and consists of 4 paragraphs, namely: (gender, degree, years of experience, and age).
- The second: discusses the components of ICT, and consists of 20 paragraphs.
- The third: Contains paragraphs or phrases related to the data of the subject of the study, which is the second variable "competitive advantage".

3.4. Definitions and Measures of Variables:

- https://www.alrajhibank.com.sa/About-alrajhi-bank/Investor-Relations/Fact-Sheet[2]

The study model includes two types of variables

Independent variable: represented by competitive advantage in its four dimensions**:**

Quality: consists of 6 paragraphs related to the study of the impact of IT on quality improvement

Delivery: consists of 6 paragraphs. Related to the study of the impact of IT on the speed of delivery

Cost: consists of 4 paragraphs. Related to the study of the impact of IT on reducing cost.

Flexibility: consists of 8 paragraphs. Related to studying the impact of IT on quality improvement.

Dependent variable: represented by ICT. It consists of 20 paragraphs, and has four dimensions, as follows:

- The first dimension is hardware and equipment and consists of 5 paragraphs.
- The second dimension is software and databases, it also consists of 5 paragraphs.
- The third dimension is users and consists of 5 paragraphs.
- The fourth dimension is communication networks, it also consists of 5 paragraphs.

3.5. Analysis of descriptive statistics

Table (1) provides a summary of the characteristics and features of the study sample; (gender, age, degree, and experience).

Tableau (1) : Characteristics of Demographic Factors of the Study Sample (n = 290)

Demographic variables	Number (n)	percentage
Gender		
Male	149	51.4%
Female	411	%48.6
Age		
Less than 25 years old	15	5.2%
From 25-35 years	130	44.8%
From 36-46 years old	81	27.9%
From 47-57 years old	54	18.6%
Older than 57 years old	10	3.4%
Degree		
Secondary	22	7.6%
Diploma	39	13.4%
BA	219	75.5%
Master's	13	%3.4
Experience		
From 1 - 5 years	77	
From 6 - 10 years	80	28.3 %
From 11-15 years	53	29.3%
More than 15 years	7	18.3%
The sum for each variable	290	100%

Source: Prepared by the researcher according to the results of the statistical analysis.

As shown in Table (1), it indicates that among the 290 samples, the percentage of males amounted to (51.4%) with 149 individuals from the study sample, and the percentage of females reached (48.6%) with 141 individuals. This is a slightly lower percentage compared to male ratio. The table also shows the division of age groups of different sizes in proportion to the size of the study sample. It was found that the largest number of the sample's members are from the middle age groups, i.e. their ages are between (25-35) years, with a rate of (44.8%). With regard to the scientific degree factor for the study sample, Table No. (3) shows that most of the study sample (75.5%) hold a bachelor's degree, i.e. 219 individuals. As for the last demographic factor, which is experience. As shown in Table No. (7), it was found that the largest percentage of people have experience of about (6-10) years with a percentage of (29.3%).

3.6. Validity and Reliability tests

3.6.1. Validity test

Table (2): Correlation coefficients between the rate of each dimension of the study with the total rate of the questionnaire paragraphs

Sections	Dimension address	Correlation coefficient	Probability value
Dependent variable	Hardware and equipment	0.818**	0.000
	Software and databases	0.964**	0.000
	Users	0.906**	0.000
	Communication networks	0.850**	0.000
Independent variable	Quality	0.907**	0.000
	Delivery	0.939**	0.000
	Cost	0.868**	0.000
	Flexibility	0.954**	0.000

Source: Prepared by the researcher according to the results of the statistical analysis

Table (2) shows that the correlation coefficients between each dimension of the study with the questionnaire paragraphs express the strength of the positive relationship between them. We can conclude that it is statistically significant at the level of significance (0.05) and also (0.01), as the value of significance for each dimension is less than (0.05) and also (0.01). The calculated value of r is greater than the tabular value of r, which equals (0.444).

3.6.2. Reliability test

The stability of the study tool means the possibility of obtaining the same results and answers, even if the study tool was re-applied and distributed more than once under the same circumstances, conditions, and controls, and at different times. The stability of the study tool was verified by the method of the Cronbach alpha coefficient, see Table (3).

Table (3): Cronbach's alpha stability coefficient for the questionnaire

Sections	Dimension address	Number of questions	Cronbach's alpha coefficient
Dependent variable	Hardware and equipment	5	0.794
	Software and databases	5	0.864
	Users	5	0.887
	Communication networks	5	0.915
Independent variable	Quality	6	0.938
	Delivery	6	0.895
	Cost	4	0.895
	Flexibility	8	0.892
All axes		44	0.976

Source: Prepared by the researcher according to the results of the statistical analysis

The results of Table (3), show that all Cronbach stability coefficients between the items of the first variable section, ICT, had the lowest value of (0.794) in the first dimension, devices and equipment, while the highest value was (0.915) in the fourth dimension, communication networks. Followed by Cronbach's alpha stability coefficient between the paragraphs of the competitive

advantage variable. The lowest value was (0.892) in the flexibility dimension, while the highest value was (0.938) in the quality dimension. Followed by that the stability factor of all section paragraphs is very high, with a value (0.976). This is greater than (0.70) which is the scientific value for accepting the stability of scientific questionnaire. Therefore, through the results, it is clear how stable the questionnaire is.

3.7. Results and Discussions

3.7.1. Findings related to the description of the study variables.

Table (4): Responses of members of the study sample about the dependent variable Competitive advantage dimensions

Competitive advantage dimensions (Dependent variable)	Average		Standard deviation	Rank
	Value	Degree of importance		
Quality	4.553	Too high	0.632	1
Delivery	4.519	Too high	0.681	2
Cost	4.476	Too high	0.705	4
Flexibility	4.497	Too high	0.670	3

Source: Prepared by the researcher according to the results of the statistical analysis

The results of the descriptive analysis of the variables of this study showed that the competitive advantage in all its dimensions (quality, delivery, cost, and flexibility) was high. The values of the arithmetic averages of the opinions of the study sample on the dimensions of the dependent variable were (4.553), (4.519), (4.476), (4.476) respectively. The dimension of quality obtained the highest arithmetic average for all paragraphs (4.553), then came the dimension of delivery with a mean of (4.519), followed by the dimension of flexibility with a mean of (4.497) and finally the dimension of cost with a mean of (4.476).

Table (5): The results of the sub-hypotheses testing

ICT dimensions (Independent variable)	Average		Standard deviation	Rank
	Value	Degree of importance		
Hardware and	4.352	Too high	0.770	3
Software and databases	4.435	Too high	0.681	2
Users	4.168	high	0.765	4
Communication networks	4.517	Too high	0.589	1

Source: Prepared by the researcher according to the results of the statistical analysis

The results of the descriptive analysis of the study variables showed that ICT in all its dimensions (hardware and equipment, software and databases, users, communication networks) were high. The values of the means of the study sample's opinions on the dimensions of the independent variable were (4.352), (4.435), (4.168), (4.517) respectively. Communication networks variable obtained the highest mean of all paragraphs (4.517), followed by software and databases with an arithmetic mean of (4.435), then came devices and equipment with an arithmetic mean of (4.352), while users came last with an arithmetic mean (4.168). The results proved that Al-Rajhi Bank relies on providing and processing data on an information system, which in turn contributes to the rapid

performance of services. Moreover, the bank has a unified database for customers that can be accessed from anywhere, and it does not overlook the possession of software that contributes to the security and protection of information.

3.7.2. The results of the study hypotheses

To test the hypotheses, the simple linear regression analysis was used, as these hypotheses study the impact of the independent variable on a group of dependent variables. The results of testing these hypotheses are shown in Table (6).

Table (6): The results of the sub-hypotheses testing

Sub-hypothesis	Independent variable	dependent variables	Calculated (T) value	Sig P value	Calculated (F) value	Sig Level	R	R^2
First	ICT	Quality	20.143	0.000	447.027	0.000	0.785	0.617
Second		Delivery	17.019	0.000	310.420	0.000	0.726	0.528
Third		Cost	17.764	0.000	281.037	0.000	0.709	0.503
Fourth		Flexibility	21.102	0.000	400.007	0.000	0.768	0.590

Source: Prepared by the researcher according to the results of the statistical analysis

- The study concluded that there is a significant positive relationship between the use of ICT and the dimension of quality as one of the dimensions of competitive advantage in Al Rajhi Bank. Thus, the first hypothesis was confirmed. The correlation coefficient R was (0.785) at the level of ($\alpha \leq 0.05$), while the coefficient of determination R2 was (0.617).This is in line with the results of the studies of (Bouzidi et al, 2021; Lahcini, 2018 and Garah et al, 2018). These studies found that ICT has a role in improving competitive advantage through improving the quality of products and services. The results of the current study confirmed that ICT contributes to the creation of high quality services at Al Rajhi Bank. This means that the bank applies quality standards in its activities. ICT has a role to play in improving the quality of services provided and accurately performing services, thereby reducing errors. High quality plays a role in building a good reputation and increasing the facility's market share. It is also a way of connecting customers to products or services by satisfying them with the appropriate quality. Al Rajhi Bank was keen to remains the “first choice” for customers, with leadership in the customer voice index in the banking sector in the Kingdom of Saudi Arabia. As well as improving the customer voice index by providing a distinctive customer experience supported by high digital capabilities. The bank is constantly reviewing its digital marketing approach, focusing on creativity, partnerships and technologies for both the retail and corporate banking sectors.

- The study concluded that there is a significant relationship between the use of ICT and the dimension of delivery as one of the dimensions of the competitive advantage in Al-Rajhi Bank, and this confirms the second hypothesis. The correlation coefficient R was (0.726) and the coefficient of determination R2 was (0.528). This is consistent with previous studies in that ICT affects and has to do with the speed of delivery at the bank. The results of the descriptive analysis, in terms of the delivery dimension, were high, with an arithmetic average of (4.519). This indicates that ICT has a role in meeting customer needs, which leads to a rapid response to their needs, reducing the time to services delivery, and meeting service delivery deadlines, which leads to customer satisfaction. In the context of balancing innovation, regulation and risk in the shift towards high-speed transactions, Al Rajhi Bank has launched a 'one-minute approach' to enable end-to-end transactions and services to be completed within one minute. The bank's credit card services, digital wallets and the leading

financing product "Watani 1"[3] were among the first products to which the near-instant one-minute approach was applied.

- The study concluded that there is a significant relationship between the use of ICT and the dimension of delivery as one of the dimensions of the competitive advantage in Al-Rajhi Bank, and this confirms the second hypothesis. The correlation coefficient R was (0.709) and the coefficient of determination R2 was (0.503). The results of the descriptive analysis regarding the cost dimension showed that it was high, with an arithmetic mean of (4.476). This indicates that ICT has a role in reducing the costs of services provided, the operating costs of operations, and the costs of maintenance operations, in addition to canceling unnecessary activities that cause high costs. This is consistent with previous studies (Khaldi et al, 2022; Bouzidi et al, 2021 and Garah et al, 2018) in that ICT affects and has to do with reducing costs in the bank. Al Rajhi Bank is distinguished by its ability to provide products or services at competitive prices and lower than its competitors. This type of advantage arises through the bank's ability to reduce the cost of operations while maintaining the quality of products and services. To have the lowest cost advantage, a number of cost development elements must be followed. The facility cannot have the lowest cost advantage unless it can control these factors compared to competitors in the market. The bank was able to conduct self-assessments and exploit existing tools, technologies and systems to provide optimal business solutions. With updating technology infrastructure business as well as improving the “API” Application Programming Interface and issuing digital certificate. This prudent approach to resource management and better utilization has improved the Bank's cost-to-income ratio.
- The study concluded that there is a significant relationship between the use of ICT and the dimension of delivery as one of the dimensions of the competitive advantage in Al-Rajhi Bank, and this confirms the second hypothesis. The correlation coefficient, R, was (0.768), while the coefficient of determination, R2, was (0.590). This is consistent with previous studies. (Bouzidi et al, 2021; Al caraz et al, 2020; and Abbas, 2017) in that ICT affects and has to do with the flexibility that the bank has. The results of the descriptive analysis regarding the flexibility dimension showed that it was high, with an arithmetic average of (4.497). This indicates that information and communication technology has a role in flexibility. This contributes to the development of provided services, which leads to the generation of new proposals, in addition to managing time with high flexibility in cases of work bottlenecks. Keeping pace with the changes in customers' desires, and changes that affect the services provided by competitors. Moreover, the speed of interaction with customers' notifications when any emergency occurs, and the rapid response to customers' suggestions and needs.

4-Conclusion:

ICT is one of the most important requirements of the current era, in light of the developments we are witnessing. This technology has become of great importance to enterprises in light of its excellence and enhancement of the competitive capabilities of enterprises. Through this study, we realized the importance of ICT and its great role in achieving competitive advantage in Al Rajhi Bank, its contribution to the provision of high-quality products and services, and the delivery of products and services in the shortest possible time. In addition to reducing costs on the bank, the high flexibility that the bank possesses, and the nature of the relationship between ICT and competitive advantage.

Based on the findings, a set of recommendations can be made as follows: First, giving sufficient attention to ICT, and working to develop it periodically as it constitutes an important source

[3]- https://www.alrajhibank.com.sa/ir/ar/business_in_perspective/digital_footprint.html

of excellence for the bank. In addition to the need of paying attention to the level of control over ICT in the banking sector, especially in light of the various financial fraud methods mentioned by the Saudi Central Bank. These led to a difference in the level of quality of services provided, the speed of delivery, and the high costs incurred by the bank than previously in light of technology. Finally, building an operating system that is highly efficient and avoids sudden technical malfunctions while providing electronic services to customers at Al Rajhi Bank. This will contribute to the speed of service delivery, increasing customer satisfaction, and avoiding losing them.

The limitations of the study can be represented as follows: First, the limits of objectivity, which are the independent variable of ICT in its dimensions (hardware, software, databases, communication networks, and users) and the dependent variable of competitive advantage in its dimensions (quality, delivery, cost, and flexibility). Then the spatial limits, which was represented in choosing the branches of Al Rajhi Bank in the city of Riyadh. Finally, the study was conducted within a short period of time (one year).

By reviewing many studies and research related to research concepts, some ideas have emerged that can be proposed as a horizon for future studies, namely: the impact of ICT on crisis management. The impact of ICT on the employment of human

5. Bibliography List :

Abbas Abdullah, (2017), The impact of social responsibility on the competitive advantage of companies: applied to the Sudanese Telecommunications Company for the period 2008-2015, PhD thesis, Omdurman Islamic University. Pp: 1-240.

Alcaraz J. L. G. and Loya V. M. (2020). Effect of ICT integration on SC flexibility, agility and company' performance: the Mexican maquiladora experience. *Wireless Networks*, 26(3), pp:4805-4818.

Amamra, K., (2017), Impact of the use of information and communication technology on economic institutions (In Arabic), *Journal of Human Sciences*, 17 (2), pp: 345-358.

Bouzidi, A., Necira, B. and Mouissi, M., (2021). The role of using information technology in the background of the competitive advantage among small and medium-sized enterprises (El-Oued case study) (In Arabic), *Journal of Development and Applied Economics*, 5 (1), p.p.: 30-42.

Ebenezer K. G., Seth O., Solomon A. , Kwame A. (2017), " The Impact of Information and Communication Technology (ICT) in Improving Business Competitiveness in Ghana ", *International Journal of Science and Research (IJSR)*, 6 (9), p.p.:123-128.

Fkair F. (2021),The role of ICT in improving human resources performance, Case Study of the Operational Directorate of Algeria Telecom in Blida, Review *POIDEX Journal*, 11(1), p.p. 68-84.

Garah, I., Wahba, A., and Hamdani, N., (2018), The role of information and communications technology in achieving competitive advantage, *Al-Makar Journal of Economic Studies*, 2(1), p. p. 236-260**.**

Garti A. and Salah M., (2021), The impact of information and communication technology on the rationalization of the public service, *Magazine of Legal and Political Studies*, 7(2), pp: 16-29.

Hamadi M., Mohamed A. anh hssine W. (2018). Information and communication technology and its impact on the quality of service in the tourism and hotel sector, *Journal of Accounting and Financial Studies*, 13 (45), pp: 139-152.

Ichaoui W. (2018), Information and communication technology and its impact on the institution, *Journal of Human and Society Sciences*, Volume 7, No. 27, pp: 93-106.

Jared, Deya, & Oloko, Margaret, & Orwa, George, (2015), The Relationship between Dynamic ICT Capabilities and Competitive Advantage of Technical, Vocational and Entrepreneurship Training Institutions in Wes tern Kenya Region, *International Journal of Academic Research in Business and Social Sciences*, l.5(8), pp: 114-127.

Kasem S., (2015), The Impact of Information Technology on Banking Service Quality A Field Study on the Branches of the Commercial Bank of Syria- Latakia, *Tishreen University Journal for Research and Scientific Studies-Economic and Legal Sciences Series*, 73(2), p.p. 109-124.

khaldi F. , Guoufi S. , Mehaoua A. (2022), The impact of using information and communication technology on the effectiveness of electronic banking in light of the Corona pandemic (covid19), *Journal of Economic Growth and Entrepreneurship*, 5 (1), pp:94-108

Khalfi, I., (2018), The use of information technology in logistics activities and its impact on achieving a competitive advantage for the organization, master's thesis, Batna University, http://dspace.univbatna.dz/xmlui/bitstream/handle/123456789/433/ec%20ismahane%20khalfi.pdf?sequence=1&isAllowed=y

Kroumi, S. (2018). The impact of strategic agility in enhancing competitive advantage: a case study of Hammadi Complex in Bashar Province, Al-Bashaer Economic Journal, 4 (1), pp: 104-122.

Lahsini, Fatima Al-Zahraa, (2018), The role of information and communication technology in achieving competitive advantage, doctoral thesis, Batna University.

Lichtsteiner A., Karavdic S. D. and Delafrooz F. (2022). Influence of Information Technology on Service Delivery among the Public Customer Care Centers in Switzerland, *Stratford Peer Reviewed Journals and Book Publishing*, 6(1), p.p. 9-18.

Murniningsih, R., and Hanafi, M., (2020), 'The Role of Entrepreneurial Leadership and ICT in Encouraging Competitive Advantage in SME's", *Advances in Social Science, Education and Humanities Research, 436*, p.p.: 756-761.

Neirotti, Paolo, & Pesce, Danilo, (2018), ICT-based innovation and its competitive outcome: the role of information intensity, *European Journal of Innovation Management*, 22 (2), pp. 383-404.

Odawa E. L. (2017), The Efficacity of Information and Communication Technology in Creating Competitive Advantage in 3-5 Star-Rated Hotels in Nairobi, Kenya, master's thesis, Kenyata University. pp: 1-120.

https://ir=library.ku.ac.ke/bitstream/handle/123456789/18447/The%20efficacy%20of%20information%20and%20communication%20technology%20in%20creating%20competitive%20advantage%20in%203%20starrated%20hotels%20in%20Nairobi%2C%20Kenya.pdf?sequence=1&isAllowed=y

Zwaghi M., (2016). The reality of the use of ICT in economic companies and its role in developing competitive advantages - a field study –. Maaref, 11 (21), p.p. : 412-425.

6. Appendices:

Internal validity of the four dimensions items of independent variable: (ICT)

N	Questions	Correlation coefficient	Sig
Hardware and equipment			
1	The bank has enough computers.	0.494*	0.027
2	The bank has equipment that is appropriate to the nature of its activity.	0.775**	0.000
3	The bank has equipment that can process data quickly and accurately.	0.781**	0.000
4	The Bank has equipment that allows it to provide data quickly and accurately.	0.798**	0.000
5	The Bank regularly renews its equipment to keep up with the development of information and communication technologies.	0.843**	0.000
Software and databases			
6	The bank uses an IT system that enables information to be provided quickly.	0.802**	0.000
7	The bank uses an IT system that enables quick retrieval of information.	0.906**	0.000
8	The bank has a uniform database for its customers, to which all the bank's branches have access.	0.697**	0.001
9	The bank has information security and protection software.	0.868**	0.000
10	The bank's database contributes to the rapid provision of services.	0.781**	0.000
Users			
11	The bank's employees have IT and software knowledge.	0.900*	0.000
12	Bank provides training for people, enabling them to acquire skills that qualify them to use software and computers.	0.763**	0.000
13	The bank employs employees who specialize in software development.	0.767**	0.000
14	The Bank offers rewards for exceptional people with creative ideas.	0.828**	0.000
15	Technology-savvy employees contribute to the provision of comprehensive services.	0.886**	0.000
Communication networks			
16	The bank carries out regular maintenance of communication networks.	0.849**	0.000
17	communication contributes to faster service delivery.	0.932**	0.000
18	The bank provides most of its services based on communication networks	0.813**	0.000
19	Carrying out work over communication networks contributes to achieving high efficiency.	0.932**	0.000
20	The bank's use of communication networks contributes to the development of positive interaction relationships between the institution and its customers.	0.813**	0.000

The value of the tabular r is at a significance level of (0.05) and the degree of freedom of "18" is equal to (0.444).
The value of the tabular r is at a significance level of (0.01) and the degree of freedom of "18" is equal to (0.561).
** Meaning the value of the correlation coefficient is significant at the significance value (0.01).
* The value of the correlation coefficient means that it is significant at the significance value (0.05).

Internal validity of the four dimensions items of dependent variable: (Competitive advantage)

N	Questions	Correlation coefficient	Sig
Quality			
1	Reliance on ICT in the bank contributes to improving the quality of services provided.	0.792**	0.000
2	ICT in the bank has a role in applying quality standards in all activities.	0.874**	0.000
3	The use of ICT in the bank contributes to obtaining the necessary information to improve the quality of services.	0.877**	0.000
4	ICT in the bank has a role in developing quality improvement plans.	0.955**	0.000
5	ICT has a role in performing services accurately, which reduces errors.	0.955**	0.000

6	ICT play a role in understanding customer needs and providing services at the required quality.	0.792**	0.000
Delivery			
7	ICT in the bank contributes to the rapid response to customer needs.	0.785**	0.000
8	ICT helps to reduce the time required to provide customer service.	0.778**	0.000
9	ICT used by the bank in its services lead to higher customer satisfaction.	0.882**	0.001
10	ICT helps the bank respond proactively to the needs of its customers.	0.916**	0.000
11	The use of ICT in the banking sector increases customer satisfaction.	0.808**	0.000
12	ICT play a role in ensuring the accuracy of work and timely delivery of services to customers.	0.750**	0.000
Cost			
13	ICT in the banking sector helps to reduce the cost of the services provided.	0.911**	0.000
14	ICT in banks helps to reduce business costs.	0.894**	0.000
15	ICT plays the role in a bank of eliminating unnecessary activities and processes that cause high costs.	0.873**	0.000
16	ICT in a bank helps reduce operating costs**.**	0.858**	0.000
Flexibility			
17	ICT in banking sector helps in generating new proposals.	0.585**	0.007
18	ICT used in the banking sector contribute to the continuous development of the services offered.	0.707**	0.000
19	ICT in a bank help to keep pace with developments that affect competitors' services.	0.817**	0.000
20	ICT helps to keep pace with changing customer wants and needs.	0.832**	0.000
21	ICT helps to manage time flexibly and solve difficulties that arise at work.	0.872**	0.000
22	ICT plays a role in interacting with customer notifications when an emergency occurs within a service.	0.843**	0.000
23	ICT in a bank has the task of responding to customer suggestions and needs.	0.801**	0.000
24	The use of ICT in banking allows customers to access their databases and information about their subscriptions.	0.664**	0.001

The value of the tabular r is at a significance level of (0.05) and the degree of freedom of "18" is equal to (0.444).
The value of the tabular r is at a significance level of (0.01) and the degree of freedom of "18" is equal to (0.561).
** Meaning the value of the correlation coefficient is significant at the significance value (0.01).
* The value of the correlation coefficient means that it is significant at the significance value (0.05).

Arithmetic means and standard deviations for the independent variable

N	Questions	Means	St dev
Hardware and equipment			
1	The bank has enough computers.	4.31	0.839
2	The bank has equipment that is appropriate to the nature of its activity.	4.41	0.842
3	The bank has equipment that can process data quickly and accurately.	4.83	0.965
4	The Bank has equipment that allows it to provide data quickly and accurately.	4.36	0.893
5	The Bank regularly renews its equipment to keep up with the development of information and communication technologies.	3.85	1.230
Total variable Hardware and equipment		4.352	0.770
Software and databases			
6	The bank uses an IT system that enables information to be provided quickly.	4.44	0.810
7	The bank uses an IT system that enables quick retrieval of information.	4.40	0.853
8	The bank has a uniform database for its customers, to which all the bank's branches have access.	4.41	0.859
9	The bank has information security and protection software.	4.445	0.733

10	The bank's database contributes to the rapid provision of services.	4.48	0.780
Total variable Software and databases		4.435	0.681
Users			
11	The bank's employees have IT and software knowledge.	4.43	0.768
12	Bank provides training for people, enabling them to acquire skills that qualify them to use software and computers.	3.66	1.234
13	The bank employs employees who specialize in software development.	4.8	0.865
14	The Bank offers rewards for exceptional people with creative ideas.	3.57	1.271
15	Technology-savvy employees contribute to the provision of comprehensive services.	4.38	0.855
Total variable Users		4.168	0.765
Communication networks			
16	The bank carries out regular maintenance of communication networks.	4.245	0.980
17	communication contributes to faster service delivery.	4.58	0.714
18	The bank provides most of its services based on communication networks	4.57	0.658
19	Carrying out work over communication networks contributes to achieving high efficiency.	4.60	0.654
20	The bank's use of communication networks contributes to the development of positive interaction relationships between the institution and its customers.	4.59	0.676
Total variable Communication networks		4.517	0.589

N	Questions	Means	St dev
Quality			
1	Reliance on ICT in the bank contributes to improving the quality of services provided.	4.60	0.643
2	ICT in the bank has a role in applying quality standards in all activities.	4.56	0.658
3	The use of ICT in the bank contributes to obtaining the necessary information to improve the quality of services.	4.54	0.712
4	ICT in the bank has a role in developing quality improvement plans.	4.54	0.727
5	ICT has a role in performing services accurately, which reduces errors.	4.53	0.718
6	ICT play a role in understanding customer needs and providing services at the required quality.	4.55	0.799
Total variable Quality		4.553	0.681
Delivery			
7	ICT in the bank contributes to the rapid response to customer needs.	4.540	0.687
8	ICT helps to reduce the time required to provide customer service.	4.520	0.738
9	ICT used by the bank in its services lead to higher customer satisfaction.	4.503	0.748
10	ICT helps the bank respond proactively to the needs of its customers.	4.532	0.723
11	The use of ICT in the banking sector increases customer satisfaction.	4.520	0.743
12	ICT play a role in ensuring the accuracy of work and timely delivery of services to customers.	4.500	0.799
Total variable Delivery		4.519	0.681
Cost			
13	ICT in the banking sector helps to reduce the cost of the services provided.	4.52	0.752
14	ICT in banks helps to reduce business costs.	4.48	0.803
15	ICT plays the role in a bank of eliminating unnecessary activities and processes that cause high costs.	4.50	0.733
16	ICT in a bank helps reduce operating costs.	4.41	0.829
Total variable Cost		4.476	0.705
Flexibility			
17	ICT in banking sector helps in generating new proposals.	4.54	0.702

18	ICT used in the banking sector contribute to the continuous development of the services offered.	4.49	0.790
19	ICT in a bank help to keep pace with developments that affect competitors' services.	4.48	0.766
20	ICT helps to keep pace with changing customer wants and needs.	4.53	0.677
21	ICT helps to manage time flexibly and solve difficulties that arise at work.	4.48	0.821
22	ICT plays a role in interacting with customer notifications when an emergency occurs within a service.	4.49	0.790
23	ICT in a bank has the task of responding to customer suggestions and needs.	4.46	0.802
24	The use of ICT in banking allows customers to access their databases and information about their subscriptions.	4.52	0.728
Total variable Flexibility		4.497	0.670