

**The Influences of Information Technology in Banking System**  
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**Abstract:**

Due to the widespread misunderstanding among many technology users who believe that the impact of information technology is minimal or rare on business performance and competitiveness, many scholars have sought to clarify the impact of this technology, its dimensions, and its current and future results. Therefore, the current research has shed light on the role of information technology and analyzed its effects. On the labor market and the user through the study questionnaire and statistical analysis using the Chi-square test and writing the results according to the specially prepared tables that were presented in this research.

Keywords: information technology, banking transactions, competitive advantage, banking services.

**1. Introduction**

Despite the increasing number of users of information technology and those benefiting from it to improve the functional performance of many institutions, researchers and scholars interested in this field have noted the scarcity of research concerned with evaluating the performance of information technology in institutions [1, 4]. And the banking sector. Therefore, we believe that it is necessary to encourage and motivate researchers to increase interest and study this. The effect also expands the researcher's horizon when conducting research to look at the worksheet through the eyes of the beneficiary of the service, not the student. Greater emphasis is placed on increasing customer satisfaction, responding quickly to their needs, and improving the quality of services provided to them.

The increasing human use of modern technology, including the use of computers, has attracted the attention of many scientists and researchers [5] who have conducted many researches and studies that have enhanced the development of many fields, including the economic, productive, and industrial fields, the most important of which are the banking sector and banks, which are no less important than all of the above. It is worth noting that the impact of information technology is no less important than the importance of land and work and their impact on the necessities of modern life. Therefore, information technology and its impact on labor and capital were highlighted. Our era is the time of information technology that is changing at a rapid pace that must be kept up with effectively and periodically so that every corporate entity can continue to survive and follow the path of revolutionary and rapid development in the most accurate ways.

The most important of which is the banking and financial institution, because the absence of technology leads to the failure of businesses and transfers, the cessation of many banking and financial transactions, and leads to the failure of the societal system consisting of companies and customers. Therefore, these institutions communicate and link their services through fast and secure applications programmed with a high degree of accuracy and security, which facilitates customer service and achieves their satisfaction. So, most research highlighted the necessity of meeting the high expectations of customers who need immediate banking facilities at any time and in any place [6]. And, banking institutions have provided many channels of communication with customers, including: providing ATMs and electronic personal bank cards, providing banking consultations, and even speculation in stocks and the labor market through programs linked to the customer's personal computer or mobile phone.

In general, first, the rapid development of information technology has become a decisive factor, because of its impact on economic activity and the creation of a highly competitive environment among customers, which has prompted banking institutions to strive to provide banking facilities and achieve abundance in banking transactions. Secondly, in addition to the above, the development of information technology has an impact. And on the national economy, as providing fast and safe services to customers has a significant impact in moving the economy forward and encouraging investors to invest from outside the country, as well as promoting internal investment to achieve growth, progress and competition. Third Information technology has an impact on the level of competition in work and banking activity, as a type of industry, as information technology provides many technical products and benefits from them at the same time, some of which can be summarized as follows:

- Electronic credit cards
- Electronic financial transfer
- Book a travel ticket

- Recharge cell phone
- Postal orders
- Transferring money from one card to another
- Online shopping
- And other services provided via social media.

\* This research paper relied on several hypotheses, including:

- 1- The existence of a close relationship between information technology and service development in banks.
- 2- There is a tangible and actual impact that indicates that information technology has a high-level impact on the development of services in banks and banks.

## 2. Mathematical Method

The method of the study that was adopted in this research relied on the use of raw data to achieve descriptive statistics for the samples taken (collected) from 20<sup>th</sup> May to 30<sup>th</sup> August 2023 from bank customers in Iraq, this research depends mathematically on taking samples from a population (non-probability samples) and pulling a group of them randomly, and because the number of residents in the area of conducting the research is uncertain, it was based on the level of confidence and the maximum error, which was estimated as 0.06 and the formula for sample size  $n = z^2 / 4 \epsilon^2$  where: [7]

.  $n$  : It is the sample size.

$z$ : Z score for the confidence interval 1.96.

$\epsilon$ : Error allowance 0.06

So our sample would be  $(384.16) \cong 384$  questionnaires, where was collected from managers and employees in selected banks, as well as data was taken from customers visiting the same banks and the distribution of questionnaire forms that include their satisfaction with the services of technological banks and whether they are adopted by them, as well as taking into account the culture of the customer. (290) questionnaires were filled completely. Now according to Mugenda and Mugenda (2003) [8], a response rate of 50 percent is adequate for data analysis and reporting; a rate of 60 percent is good and a response rate of 70 percent and over is excellent, so percent of 75.5 response rate for this research was good see (Table 1).

The second objective in the study was to determine the relationship between the cultural level of the customer and his use of technology, and the approved education indicators were as follows: SSCE, NCE, OND, HND/BSc, and data on banking transactions applied using information technology and repeat transactions were collected in Table No. 2. And

this data analyzed with Chi-Square test (See Tables 2 and 3). Due to the fact that these samples that were approved are non-probability samples, in other words, the population sample available in the banking area at the time of managing the questionnaire is not sure of their number, so a permissible error rate was used from the researcher's point of view, which is based on the researcher's estimate.

### 3. Results and Discussion

The Chi distribution (symbolized by the symbol  $\chi^2$ ) is a statistical mathematical distribution that generally depends on the null hypothesis and assuming that the variables are independent and the elements used are distributed in a square manner. Therefore, the Chi square test will be used in this research to test the relationship between the variables as it is based on the null hypothesis (there is no relationship between the variables classification in society), meaning that there is no relationship between an individual's academic achievement and his or her use of information technology [9, 11]. The independence test assesses whether there is an association between two variables by comparing the observed pattern of responses in cells to the pattern that would be expected if the variables were truly independent of each other (Adeniran, 2018) [12].

In the same vein,  $\chi^2$  statistic appears quite different from the other statistics because it can be used for achieving the goodness of fit test and the test of independence. For both of these tests, the data obtained from the sample are referred to as the observed numbers of cases. These are the frequencies of occurrence for each category into which the data have been grouped (Adeniran, 2018) [12]. At 0.05 critical regions (significance level), determine the table value when the Degree of Freedom is (R-1) (C-1). Where R is the row and C is the column. Degree of freedom = (4-1) (3-1) = 6. At 0.05 significance level, the degree of freedom 6 gives a table value of 12.59. To compute the test statistics using Chi-square test;  $\Sigma [(O - E)^2 \div E]$ .

**Table 1.** Response rate of questionnaires administered to respondents.

Banks	Questionnaires Administered	Questionnaires Retrieved	Percentage Retrieved
<b>Total</b>	<b>384</b>	<b>290</b>	<b>100</b>

**Table 2.** Contingency table showing the cross tabulation of education level and usage of IT on bank transactions.

Education / Usage	HND/BSc (%)	NCE/OND (%)	SSCE(%)	TOTAL (%)
<b>Frequently</b>	<b>10.4</b>	<b>3</b>	<b>1.6</b>	<b>15.0</b>
<b>Occasionally</b>	<b>12.3</b>	<b>16.8</b>	<b>9</b>	<b>38.1</b>



Rarely	2	23.2	8	33.2
No	2.4	6	5.3	13.7

Table 3. Chi-square test.

Observed (O)	Expected (E)	$(O - E)$	$(O - E)^2$	$(O - E)^2 \div E$
10.4	1.22	9.18	84.2724	4.6416
12.3	3.09	9.21	84.8241	6.8963
2	2.69	-0.69	0.4761	0.23805
2.4	1.11	1.29	1.6641	0.69338
3	7.35	-4.35	18.9225	6.3075
16.8	18.67	-1.87	3.4969	0.1899
23.2	16.27	6.93	48.025	2.9518
6	6.713	-0.713	0.51	0.076
1.6	3.59	-1.99	3.9601	1.1031
9	9.106	-0.106	0.01124	1.2344
8	7.935	0.065	0.004225	5.325
5.3	3.27	2.03	4.1209	1.2566

Now, when we look at the results obtained, we find that the chi-square test is 24.02 and that value calculated from the table is 12.59, so this test shows that there is a definite and effective correlation between the cultural level of the customer and his dependence in banking transactions on information technology.

#### 4. Conclusions

What has been concluded in this research paper is summarized in general that technology has an impact on the administrative strategy in all sectors, especially the banking sector, and this spread led to the reform of many companies, industries and banking facilities, so we find that most banks and banks in all countries relied on information technology in their daily business transactions, as well as facilities for the need of the customer, which led to the creation of a competitive environment. Information technology has radically changed the old traditional banking system, and it has been proven that the adoption of technology in the banking mechanism is very important for the

survival and continuity of these banks, especially since bank users are aware of the time and prefer electronic banking services to the old banking system.

Conduct research through which unambiguous and implementable solutions are provided to problems facing the banking sector such as discrepancies in IT terminology. Exploiting technology better and more broadly because this leads to increased investments, and the researcher when conducting research must look at the research work from the point of view of the practitioner and not the student.

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