

# **The Effect of Digital Transformation on the Strategic Flexibility**

## **Applied to the Bank Sector**

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### **Abstract:**

The main goal of the study is to test the effect of digital transformation on the strategic flexibility of the bank employee, and this is an attempt to reduce the knowledge gap in interpreting the nature of the relationship between these factors through the usage of a survey for a chosen sample from the central bank. To achieve such a goal, we used the survey to collect data from a random sample, as the researcher distributed (204) surveys among some employees from the central bank, and then the collected data was analyzed by using the SPSS.

The study has reached to the following conclusions:

- The encouragement and motivating the bank employees to exchange ideas and knowledge to solve problems and improve the performance
- Working on spreading the motivation culture and encouraging employees to share experiences

- Motivating employees for fast achievement, solving problems, and developing the workflow

Keywords:

Digital transformation, strategic flexibility, electronic management, information system quality

Chapter one - search methodology and framework

### **Introduction:**

The fast advancement in the technology nowadays in communication and information, one of the most important challenges that faces organizations, that made changes in different in all its position, status and relationship, therefore the change in today's world toward the digital transformation in all organization in the country is essential to deal with the challenges that the globalization and the open market have settled, and organizations are not far from that, as the organization have to change and change the community to electronic management community to answer the community challenges. (Boghani:2007,1)

To face the turbulent environment and its needs in information system quality to use the strategic flexibility that practice thinking and doing from a strategic perspective, and leading with innovation specifications that have the vision, the advanced culture, and the diversified electronic management, the importance of the strategic flexibility lies in all over the

organization and in different levels is used as a base to face the challenges that faces the organization. (Mpofu, 2010, 107).

The strategic flexibility has flexible nature and it is very sensitive, and organizations can't frame and execute their strategy without having a good and effective strategic leadership. (Hitt et al, 2007, 376).

Strategic flexibility also affects the competitive advantages for the organization, creates value to it, and help it to get out of chaos situations and dealing with challenges, and provide the vision, and the path to the employees through power sharing to encourage them to work in the complicated and turbulent environment. (Kiragu, 2015, 24-25).

From what we have stated, the researcher will focus on knowing the effect of the digital transformation over the strategic flexibility by applying on the bank sector

Second: survey study:

The researcher has established a survey to study the phenomenon that will be studied, and collected data about it, to make a precise study and it aim to identify the most important hypothesis that should be tested, the survey sample were made of (50) employees that has been chosen randomly in the banking sector to test the hypothesis of the study, the researcher has used the following questions:

**Table (1)**  
**Exploring Study**

The first element: digital transformation		agree	disagree	Percentage of disagreeing
1	Personal computer in the bank is suitable for the Human resources program	40	10	20%
2	Servers in the bank are suitable for human resources program	42	8	16%
3	Information system in the bank is suitable to execute the program	41	9	18%
The second element: strategic flexibility by				
1	I make my decisions to be suitable for the bank goals, vision and mission	25	25	50%
2	I have a good information system that help me to take fast decisions to face emergencies	7	43	86%
3	I make sure that executing the decision is the same as planned	5	45	90%

**Source: the researcher based on the data from the exploring study**

The researcher has reached the following:

- Most employee in the bank that answered the survey have different opinions about the quality of the information system for the digital transformation in the bank management.
- Most of the samples that have been tested agreed that there is no interest in continually developing the employee performance

- There is a human resources program and working with this program periodically have raised the need to study such difference in executing the human resources program and take it into consideration when testing on the field for this sample.
- Most of the sample employees feel that they do not cooperate when making a decision from the management which leads to making them unmotivated to take responsibilities and makes them less innovative and creative.
- Most of the sample employees under the test have the feeling that the management doesn't have the ability for effective strategic flexibility.

### **Third: Literature Review**

:(Ensour & Alinizi, 2014) study:

Study title: The Impact of Management Information Systems (MIS) Technologies on The Quality of Services Provided at The University of Tabuk (From the Perspective of Staff: A Case Study)

Study goals:

The study has aimed to find out the effect of the information management system technologies on the quality of the introduced services, in Tabouk university in KSA from the perspective of employees.

### **Study results:**

The study has proved the following:

- The employees' perspectives at Tabouk university of information system technologies were at high levels. After the convenience of use firstly, then comes the software dimension, then after the safety, and after the equipment in the last spot. And that can be used to enhance the usage of new information systems to make the procedures easier, increase the efficiency among employees, enhance the outputs, and save cost and money.
- The following sub-variables (equipment, safety, and suitable for use), have an effect on the introduced services in Tabouk university in KSA.
- There is a significant difference that is statically significant at the significant level of (0.05) in the perspective of employees of the sample about the dimensions of information system techs, which is related to the characteristics changes and job changes for employees (education, the job hierarchy system, age), in Tabouk university in KSA.

#### **1) (Gharaibeh & MalaKawi, 2013) study:**

Study title: The Impact of Management Information Systems on The Performance of Governmental Organizations – Study at Jordanian Ministry of Planning.

### **Study Goals:**

The study aimed to identify the effect of information systems on governmental organizations in, a case study of the ministry of planning in Jordan.

### **Study results:**

The study has proved the following:

- There is no significant statically relationship between the equipment and the performance of the ministry.
- There is a statically significant relationship between webs and the performance of the governmental organizations, and there is a significant relationship between webs inside the organization and delivering the work in good quality.
- There is a statically significant relationship between procedures and governmental organizations and it has a vital role in the governmental organizations.
- There is a statically significant relationship between information systems and the performance of the governmental organizations and improving the performance as well.

### **2) (Sasvári, 2013) study:**

Study title: The Impacts of Using Business Information Systems on Operational Effectiveness in Hungary.

Study Goals: the study is aiming to identify the background of the decisions that are related to the information system and the challenges that faces the entry-level, analyze how

well the user of the data in the information system for the bank volume, and study the relationship between the usage of information system with operational effectiveness or banks gain.

**Study results:**

The study has proved the following:

- For most of the survey results, the usage of the information system is to improve decision making.
- Business information system lies in how to use in control and report making.
- Organizations especially can have an advantage of support for the business information in planning, planning to analyze, and finding out how to reduce cost and thus improve internal communications
- Big organizations and the middle one has achieved almost the same score (4.35 and 4.04) when they were asked to evaluate the information system as a prerequisite to be able to compete with their competitors.
- The positive changes in the quality of the relationship with customers and suppliers results in making it less predictive for small organizations, however, this was especially in middle to big organizations.



**(Kornkaew & May 2012) study:**

Study title: Management Information System Implementation Challenges, Success Key Issues, Effects, and Consequences: A Case Study of Fenix System.

Study goals: the main aim of this study is to test the challenges of implementing the information system or the problems while pointing out the main results for successful implementation. Through the study of the (Fenix) system, the data has been collected through interviews with people that cooperate in the (Fenix) system with inside documentation.

**Study results:**

Analyze the study and the elementary results have been a help to describe the challenges and the main results for the successful implementation of managerial information systems and the results have proved the following:

- Managerial information system implementation that has challenges that are related mainly to the management and individuals that involves in implementing the managerial information system.
- The main results that the implementation project of a managerial information system can offer should be introduced with the concentration on teamwork and effort.
- Implementation of managerial information system is mainly effecting the activities that lead to change, for instance, jobs, routine, .....

### **3) (Yeoh & Koronios, 2010) study:**

Study title: Critical Success Factors for Business Intelligence Systems

Study goals: this study has aimed to reduce the gap between academics and practitioners, through achieving the main critical factors that affect the success of the business intelligence system, and that is through a case study.

#### **Study Results:**

The main results of the study were:

- The not technical factors, that are related to the regulatory factors for the whole process, are the most important and effective compared with the technical factors that are related to the data.
- Business intelligence systems rarely have an effect on the business without clear business goals, Meaning that business intelligence system has a huge potential for success when setting clear goals for the business in the beginning.

### **1) (Luftim, 2014) study:**

Study title: the effect of strategic management of human resources on organizational performance

Study goals: this study aimed at pointing out the effect of strategic management of human resources on organizational performance, and the researchers have used descriptive method

through a survey to collect data, in addition of the literature review, and the study took place in Morris in Albania, which is the second-largest city in Albania in terms of importance in the economy of Albania, and the sample of the study contains two main sectors, services, and transformative industries, and the sample was formed from general managers and human resources managers in (30) organization where there was (16) organization in the service sector and (14) in transformative industries.

And the main goals of the study were:

- Organizations have knowledge of the main conceptions of organizational performance and strategic management of human resources, and that theory of electronic management leads to implementation in practical application as the study showed that (26) out of (30) organization which almost (87%) of the sample are well known of the organizational concepts and their implementations, and these organizations have a specific strategy for human resources management, however, (13%) of the sample doesn't have the knowledge nor strategic human resources.
- There is an effect of strategic management of human resources on organizational performance in (21) organizations in which almost (70%) of the sample have changed their performance positively after using strategic human resources, but in (5) organizations that represent (16.7%) have low effect over the performance, however, the

remaining percentage (13.3%) does not have any effect of strategic management of human resources on organizational performance.

**2) (Yee, 2013) study:**

Study title: the impact of strategic management of human resources on the results of the employee in public and private limited shareholding companies in Malaysia.

Study goals: the study aimed to verify the effectiveness of two business strategies and they are (excellence strategy, and low-cost strategy through strategic human resources management practices (recruitment and selection, training and development, compensation, performance management, job security, and the balance between job security and career life) and their effect on the productivity of the employee (organizational commitment, job rotation, employee engagement, and job satisfaction) and this study has a sample of 200 organizations that from public and private limited shareholding companies in Malaysia, as the researcher has selected 100 companies from public organizations and 100 from private organizations for the study, and the data were collected through two methods, the first is to select five employees randomly that do not work in human resources management and secondly to select managerial employees that work in human resources management through the descriptive method.

### **Study results:**

The study has reached the following conclusion:

The practices of human resources management have a mediator effect between business strategy and employee productivity, as it showed that there is not much difference between the effect of the human resources management and business strategy whether excellence strategy or low-cost strategy on the employee productivity in public and private sectors.(Rose, 2012) study:

Study title: the adaptation of strategic human resources management practices in affiliated companies with the ministry of transport in Kenya

Study goals: the study has aimed to highlight the practices of human resources management that the state companies in the department of transportation in Kenya have adapted. And the sample of the study was formed from all companies in the department of transportation in Kenya they are seven companies where the executive of the human resources management in these companies are the target of the study, and the author has used the survey method and has created a survey to collect data, and the results were as follows:

- There are some strategic practices with a high percentage that depends and they include (planning practices for the strategic human resources management, the job development, and performance management) and some practices with low

percentages and they include (selecting, recruitment, compensation, and employee relations)

- The practices of strategic management of human resources support each other when they implementation happen in the same time.

### **3) (Sani, 2012) study:**

Study title: strategic human resources management and organizational performance in the Nigerian insurance industry: the impact of the organizational climate

The study has tested the human resources practices of the Nigerian insurance industry on its performance, and also to find out the relationship between the effectiveness of human resources management and the performance of the organization and its organizational climate. The study has tested (18) insurance organizations in Nigeria and the author have used the descriptive method and created a survey the study has covered the strategic human recourses management through (training, job planning, and job identification) as it is the main key for the strategic human recourses management of the Nigerian insurance industry, in addition to the CEOs that are responsible for implementing the practices of strategic human recourses management in the middle level of training and that means that the electronic management from the human resources management to the employee is very limited, another result of the study that the relationship between

human resources management and organizational performance, is affected by some degree from the organizational climate

#### The comments on the previous study

After the previous show of different studies and the literature reviews in the following fields:

- Digital transformation
- Strategic flexibility

These studies have proved the following:

- Digital transformation has a positive effect on employee performance
- Implementing information system has a positive effect on a business process that leads to change, for instance, jobs, and routines.
- The organization gains more effectiveness and competition when applying the HRIS and to support its existence there should be the internet.
- Applying support to employee performance has a visible effect on developing employee performance and the organization's performance.
- There is a negative effect when evaluating the performance without financial consequences to the employee, and in case there is a consequence they have a negative effect on productivity.

- Most studies have assured the importance of a supportive environment for continuous learning in organizations to be able to compete in 21st century.
- There are some strategic practices that highly depend on and it includes (human resources management planning practices, technology, and information system) and some other low dependence practices such as (selecting, recruiting, compensation, and employee relationship)
- The practices of strategic human resources management support each other when they are implemented together.

**The main benefits of literature review:**

- Learn about the dimensions of digital transformation
- The veracity of using information systems
- Learn more about the main dimensions that have an effect on strategic flexibility
- Making use of some surveys, creating and formulating some items for the research tools
- The formation of the theoretical framework
- Defining variables
- Formulating the problem of the study

**The difference between literature review and this study:**

This study will feature the following:

- The mainstream of this study will be on the effect of digital transformation on the strategic flexibility.



- This study is focusing on valuing the effect of digital transformation and strategic flexibility on bank employees and that is something none of the literature review have done before
- Focusing on the effect of strategic flexibility on technology usage.
- Making suggestions that can help improve the effectiveness of training, motivating, and learning for employees leads to higher performance for banks employees.
- This study chaptalized by using a sample in the banking sector.

#### **Fourth - study problem:**

From the results of the exploring study that the researcher has done and the results of the literature review that the study covers, the importance of using digital transformation in the banking sector are one of the most important factors for decision-making that the management follows, as they have the burden of drawing a road through the vision, mission, and goals, and this from taking initiatives and building bridges of trust, affection, and listening to employees which leads to empathy and acceptance from employees and motivating them to do their best, in addition to, the leader uses his own vision to help create a vision for the future and increasing the electronic management through strategic flexibility, in addition to the low interest in training and developing bank employees for using software which is considered crucial in the modern era.

Based on these indicators the research problem can be formulated in the following questions:

- 1) To what extent are the dimensions of digital transformation available to the employees of the banks under study?
- 2) Is there a relationship between digital transformation and managers' ability to make decisions?
- 3) Where is the defect in management and employees as a result of lacking the ease in using the software (in different management levels, in all managements, or in some known managements)?
- 4) How is using strategy affecting bank employee turnover?

**Fifth: study goals:**

This research is aiming mainly to study digital transformation and its effect on strategic flexibility as an intermediate variable in the bank under the study, and this through reaching the following goals:

- 1) Identifying the dimensions of digital transformation for banks in study
- 2) Identifying the performance of the bank employees and the program that is applied in the banks in the study and its effect on the employee performance and improving decision making by managers.
- 3) Making suggestions for officials and decision-makers in the banking sector to have the ability to make a decision that is

capable of taking over the negative points of the phenomena under the study and is taking from the results of this study

- 4) Reaching some results and recommendations that can help the bank sector to reach a group of politics and procedures that can help understand the importance of digital transformation which may contribute in reaching the bank goals.

### **Sixthly: study importance:**

#### **Theoretical framework:**

The importance of the study can be summarized in

- 1) The importance of the variable that has been chosen
- 2) The topic of digital transformation is one of the most interesting topics in the last decades, which increase the interest in making researches, especially in the current era.
- 3) The great interest by organizations for strategic flexibility that can help improve the development process, productivity, motivation, and improving relationships within the work environment.

#### **The application side:**

- 1) Information system is considered one of the requirements for success in the banking sector as the leading organization is adding special training programs to develop the skills of its employees and managers.
- 2) The importance of this study comes from its study of the banking sector as one of the main factors for financial reform programs using electronic collection, not only for its

important role in the economy but because it supports new technical and technical means, and that comes through achieving sustainable development for all affiliated branches of the bank and to introduce special services to banks' customers and the local area.

**The personal side:**

The importance of this study comes from that it tries to reach results that shed the light on the study variables, regarding digital transformation and managers' ability to measure strategic flexibility as local and Arabic organizations need such scientific contribution in such a field and it is expected that this research will open the gates for many researchers and others who are interested in this field.

**Seventh- study hypotheses:**

This study is testing the following hypotheses:

H1: there is a statistically significant relationship between the dimensions of digital transformation on strategic flexibility.

And this leads to the following hypothesis:

H1a: there is a statistically significant relationship between the quality of information system and strategic flexibility

H1b: there is a statistically significant relationship between electronic management and strategic flexibility

H1c: there is a statistically significant relationship between speed completion and strategic flexibility

H1d: there is a statistically significant relationship between system integration and strategic flexibility

**Sixth - study variables:**

According to the hypotheses that we previously discussed the current study has adopted a hypothetical model that expresses the relationship between the independent variable and the dependent variable, where several dimensions are branched from these

**variables as the following:**

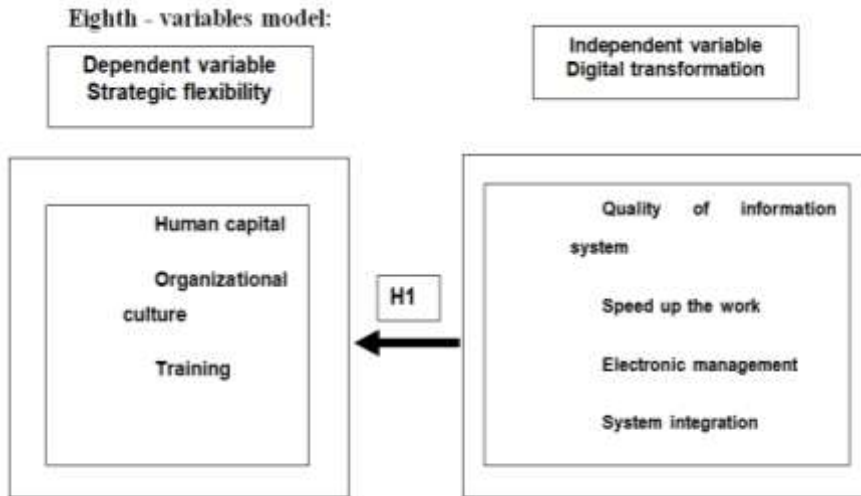
- 1) The independent variable (digital transformation) and it includes the following dimensions:
  - The quality of the information system
  - Electronic management
  - Speed up the work
  - System integration
- 2) The dependent variable (strategic flexibility) and it includes the following dimensions:

**Digital transformation:**

- Empowerment
- Training
- experience

**Organizational culture:**

- Organizational values
- Work procedures and rules



**Source: the author**

### **ninth: data collection and sample**

The data is presented in the central bank employees and managers and they are (3000), and that to collect data for the study through the usage of a survey for employees and interviewing managers, and the study will use descriptive methodology and field methodology.

#### **1) Sample size:**

The sample size was calculated according to the following:

- The allowable error limits  $\pm 7\%$
- The confidence coefficient is 95%
- The characteristics of the research subject are 50% (to cover the largest possible sample size)

And the sample size has been calculated using the following formula:

The allowed error = standard score  $\times \sqrt{\frac{M(1-M)}{N}}$

And by applying the equation = 0.07 = 2  $\times \sqrt{\frac{0.50 \times 0.50}{N}}$

N = 204

### **Eighth: methodology:**

The author has used two methods in this study and they are:

#### **A) Theoretical methodology:**

The author has followed the descriptive method in the theoretical methodology in the literature review for Arabic and English, and articles on the internet, and that for collecting the scientific article related to the research topic.

#### **B) Field methodology:**

The author has collected the data by using a survey to study the effect of organizational rhetoric on achieving competitive advantage for entrepreneurs

### **Ninth: statistical data processing methods:**

- 1) Descriptive Methods:
- 2) Inferential Methods:

## **The Second Chapter: theoretical methodology**

### **First: digital transformation:**

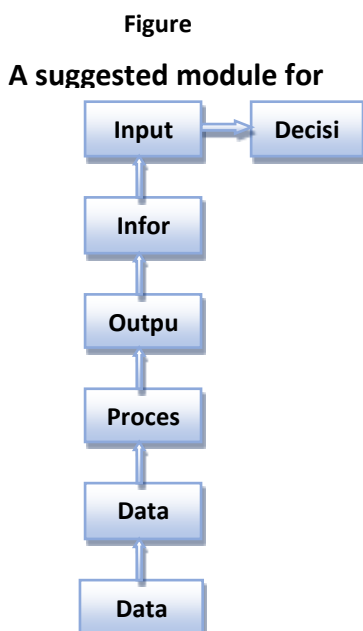
When studying any definition, it's natural that we suggest a definition or couple of definitions to it, and what we can

observe in information system, that there are many definitions that's why some academics thought that it has been misused (Vidal et Petit, 2009:4)

### 1) Information system definition

With different definitions of information systems (Vidal et Petit, 2009: 4), and among these definitions we mention the following:

(Lucas, 1990: 55) defines an information system as: “a set of organized procedures through which it is possible to provide information to support decision-making and control processes in an organization”. Lucas expressed his concept of the information system through Figure (1-1):



**Source:** (Lucas, 1990: p. 16).



(Laudon & Laudon, 1996: 9) defines an information system as: “a set of interrelated elements for collecting (or retrieval), processing, storing, and distributing information to support decision-making and control in organizations, in addition to assisting managers and workers in analyzing problems, visualizing Complex topics, creating new products.”

And Vidal et Petit, 2009: 5 suggested a primarily functional definition: “The function of information systems is to produce and store information displays for the activity of the operational system, and then put them at disposal, in general also in an interactive way to the decision system.”

(Reix et al., 2011: 4) tried in their book Information Systems and Organization Management, to propose a more modern definition:

An information system is a set of social actors that store and transform information displays and operational methods.

(Deixonne, 2012: 29) gave a more classical definition, of an organizational type: « An information system is an organized set of resources: hardware, software, people, data, and procedures that allow the acquisition, collection, organization, processing, and distribution of information (in the form of text, image, voice, or encoded data in organizations) »

As for (Alter, 1990: 43), his definition of the information system included the distinction between information technology, information system, and work system, and this is as follows:

### **Information system:**

It is a special type of business system that uses information technology to collect, transfer, store, retrieve, manage and display information to support one or more business systems.

The human element is one of the basic components of information systems, and this was indicated by (Deixonne, 2012: 29; Reix et al., 2011: 4; Alter, 1990: 43). The human element in information systems cannot be ignored. Information is produced and used by humans in organizations, and they also make decisions and carry out daily work activities, based on the information they have from these systems, and it cannot be ignored that the best information systems can never work in the absence of the human element.

All the above-mentioned definitions indicated that the information system consists of a set of procedures for converting data into information that can be used, represented in the processes: collection, processing, storage, and then broadcasting it to the beneficiary.

An information system includes an organized set of resources: hardware, software, people, data, and procedures. So, the information system affected the rest of the components of the organization. The information system cannot be adopted without questioning the organization of the institution, human resource management, integration, and especially the acceptance of the

information system, as it cannot be ignored that the best information systems cannot work against the will of employees. The purpose of the information system is to support decision-making and control within the organization (laudon & laudon, 1996:9; lucas, 1990:55; Vidal et Petit, 2009: 5), and added (laudon & laudon, 1996:9) analyze problems, visualize topics and creating new products.

Technological advances in each of the major functions have allowed the identification of new business fields of information systems, such as previously mentioned data warehouses, which cannot be understood without the enormous capabilities of storage. This growth in performance in key functions has revealed new ways of expressing (semantic) information systems: feedback, and mediation. (Vidal et Petit, 2009: 38).

**Feedback:**

It is the activity of transferring output information to the appropriate users, to help them evaluate the input stage (input), and re-enter when needed (for an update, for example) (laudon & laudon, 2010:19). This activity is not new, but technological developments have led to a very significant increase in the number and breadth of applications related to feedback.

**Mediation:**

It is the principle by which participants in the decision process use a common paradigm, called an intermediate goal, that allows them to construct their own perspectives, to counteract decision-

making. As indicated earlier, this activity is not new: physical designs also consist of tools for intermediate objectives in the concept of complex structures. But, here too: the technological advances achieved, contribute today to the use of information systems as the main source of mediation in the concept of complex products, or in the representation (perception) of social interaction (Vidal et Petit, 2009: 40-41).

**Secondly: strategic flexibility:**

Real resilience is embodied in people who are able to face adversity and overcome adversity, learn in the most difficult circumstances, and emerge stronger and more committed than before. Exit difficult circumstances without losing hope (Bennis and Thomas, 2002, 2-8).

Flexibility is a complex phenomenon that affects many parties related to organizational, social, and personal processes, and it emerges in the mechanism of influence, as it inspires individuals to work to achieve group goals with personal motives away from coercion (Bolden, 2004, 5).

Flexibility is a process directed at motivating individuals to work together and cooperate to achieve great things. Among the effects of such a concept are the following:

(Vroom and Jago, 2007, 17).

Flexibility is an ongoing process, not personal property.

The process involves a specific form of an effect called stimulation.

The nature of incentives, whether external or internal, constitutes something of the concept of flexibility.

Impact results are cooperation to achieve a common goal.

Great things are in the minds of the leader and followers, and they are not necessarily desired by others.

In the same context, it can be said that flexibility is the ability to influence employees, and it enables leaders to direct their behavior in the desired direction to reach the desired goals.

Flexibility means upgrading the vision of subordinates, their needs, and motives in order to advance the outputs of the work to be achieved, so flexibility is a desirable effect of the leader on the subordinates.

Flexibility works on coordinating trends, investing efforts, and stimulating achievement motives, as well as overcoming the problems that limit the effectiveness of the group's performance. Flexibility is a pattern of human behavior that depends on the leader's relations with the group he leads, and in order for the leader to be able to face challenges, he should care about expanding the group's perception Increasing their culture, and developing their expertise and skills.

Flexibility is the art or process of influencing individuals and motivating them to work voluntarily and enthusiastically to achieve common goals by investing the maximum number of existing capabilities, and the leader in this process is a source of

inspiration and moral support for individuals to reach the goals set by the organization for itself. (Malik et al, 2014, 170).

Based on the foregoing, we see that flexibility is one of the basic pillars of the organization, which is responsible for developing all its practices to be at the level that suits its orientations. The leader is a source of strength, inspiration, and influence in the followers and their guide to reach the desired goals in various situations.

In order to complete the preface to entering the concept of strategic flexibility, it was necessary to mention some important positions within the framework of the strategy, according to the opinions of a number of researchers in this field.

An organization needs a strategy to mitigate environmental complexity, unpredictability, and incomplete knowledge, as well as enhance its ability to exploit its resources and opportunities to the fullest extent possible (Mintzberg, 1987,30).

The responsibility for formulating the strategy lies with all officials in the organization and at various organizational levels, and it is not limited to the strategic flexibility in the organization, because in large organizations the strategy is divided into four strategies (organization strategy, personnel strategy, functional strategy, operational strategy), and in small organizations are divided into (organizational strategy, functional strategy, operational strategy) (David, 2011, 138).

The strategy is a series of coordinated actions that allocate resources to anyone who has access to them in order to achieve a specific end (White, 2004, 5).

The strategy is also an integrated and coordinated set of actions and commitments aimed at exploiting core competencies and gaining a competitive advantage (Hitt et al, 2007, 4). Strategy is a set of interrelated actions that managers take to increase the performance of their organizations (Hill and Jones, 2008, 3).

Chapter three: statistical

Discussing the results of the field study of the organizational rhetoric variable:

First: Measuring the degree of credibility and reliability of the **study tool (survey):**

In order to determine the degree of credibility and reliability of the results achieved by using each of the internal consistency coefficients depending on the correlation coefficient between the items of the survey list, as well as using the reliability coefficient for each section of the survey list.

**Measuring the reliability of the results:**

Table No. () shows the results of measuring the degree of validity of the vocabulary responses of the Central Bank employees' sample to the variables of digital transformation, and strategic flexibility, depending on the simple correlation coefficient between the items of the survey list, in addition to the significance of the correlation (P).

**Table No. (2)**  
**Internal consistency coefficient for digitization variable items**  
**(N = 190)**

Statement No.	Correlation coefficient	p-value	Statement No.	Correlation coefficient	p-value
Quality information system			Electronic management		
1	.554**	.000	5	.583**	.000
2	.602**	.000	6	.643**	.000
3	.741**	.000	7	.656**	.000
4	.742**	.000	8	.681**	.000
System integration			Speed up the work		
9	.608**	.000	13	.450**	.000
10	.659**	.000	14	.642**	.000
11	.789**	.000	15	.663**	.000
12	.737**	.000	16	.698**	.000

(\*\*) p-value .01

It is clear from the previous table the significance of the correlation coefficient for all items at the level of.01

1) Measuring the degree of reliability of the results

Table No. (2) shows the results of measuring the degree of reliability on the achieved results for each variable of the study, as well as the dimensions included in each variable, using the reliability coefficient of the sample of workers



**Table No. (3 )**  
**The degree of reliability of the results achieved for the two variables**  
**and dimensions of the survey list**

Variables/dimensions	Statement	Stability Coefficient
First	Quality of information system	761.
Second	Electronic management	752.
Third	Speed up the work	705.
Fourth	Work integration	688.
Digital transformation		810.
Strategic flexibility		877.

**The previous table showing:**

- All stability coefficients for the dimensions of digital transformation range between 68.8% and 76.1%.
- The stability coefficient of the two variables (digital transformation - strategic flexibility) exceeds 87%.
- Based on the foregoing, it is possible to rely on the criteria used in the survey list.

**Third: discussing the results:**

The researcher discusses the following the results of the applied study of the two research variables, namely digital transformation

and strategic flexibility at the level of bank employees, as follows:

This part presents a discussion of the results of the applied study related to digital transformation, in addition to strategic

**flexibility, as follows:**

**1) Digital transformation:**

The researcher measured the vocabulary responses of a sample of workers to the independent variable digital transformation

According to the following steps:

- A) Conducting descriptive statistics using arithmetic means and standard deviations at the level of central bank employees.
- B) Conducting inferential statistics to show the significant differences between the values of the arithmetic means, using a one-way analysis of variance.
- C) Conducting a Tukey test for multiple comparisons to determine the source of differentiation between the administrative levels in the bank, in case the results of the discrepancy are significant.

**A) Descriptive statistics:**

Table No. (3) shows the results of measuring the vocabulary of a sample of Central Bank employees of the digital transformation variable, using arithmetic means and standard deviations.

**Table No. (4)**  
**Means and standard deviations of the digital transformation variable**

	Statement		Number	Mean	Standard deviation
Digital transformation	Quality of information system	Top-level management	9	4.3148	.42853
		Middle-level management	49	3.7993	.54218
		Low-level management	132	3.8106	.58275
	Total		190	3.8316	.57403
	Electronic management	Top-level management	9	4.2963	.43123
		Middle-level management	49	3.7109	.54938
		Low-level management	132	3.8359	.62835
	Total		190	3.8254	.61010
	System integration	Top-level management	9	4.2963	.37986
		Middle-level management	49	3.7007	.68379
Low-level management		132	3.7740	.56289	
Total		190	3.7798	.59902	

Examining the data in the previous table, it becomes clear that:

- The values of the arithmetic means converge to a large extent for the vocabulary responses of the Central Bank sample to the dimensions of the digital transformation variable from each other in a way that does not achieve any distinction between the dimensions in this variable.
- The values of the arithmetic circles for the senior management category exceed their counterparts in all dimensions (the quality of information systems - electronic management - speed of completion - system integration) than the rest of the departments, followed by the executive management at the end of the arrangement, the middle management.
- The standard deviations values express the extent of homogeneity/dispersion in the responses of the study sample items around the arithmetic circles, where the homogeneity in the responses is located around the arithmetic mean of the executive management sample vocabulary responses after the speed of completion from the rest of the dimensions, and the responses around the arithmetic mean are also homogeneous for the vocabulary of the senior management sample Compared to the middle and supervisory managements

**Inferential statistics:**

To identify the significance of the previous results, a one-way analysis of variance was conducted, the results of which are shown in Table No. (4).

**Table No. (5).**

**One-way analysis of variance to remove the variable digital transformation between administrative functions**

Statement	Constraint source	Freedom degree	Sum of squares	Mean of squares	Calculated F	P	indication
Quality of information system	Between groups	2	2.211	1.105	3.441	.034	significant
	Inside groups	187	60.066	.321			
	All	189	62.277				
Electronic management	Between groups	2	2.653	1.326	3.664	.027	significant
	Inside groups	187	67.697	.362			
	All	189	70.349				
Speed up the work	Between groups	2	1.714	.857	2.222	.111	Not significant
	Inside groups	187	72.153	.386			
	All	189	73.867				

System integration	Between groups	2	2.712	1.356	3.895	.022	significance
	Inside groups	187	65.105	.348			
	All	189	67.817				

By studying the components of the one-way analysis of variance model to identify the significance of the previous results, it is clear that there are no significant differences between the values of the arithmetic circles for the dimension of the speed of completion at the level of the administrative jobs under study, and that the differences are due only to the effect of chance.

- There are statistically significant differences at the level of significance.01 between the functional levels of the dimensions (quality of information systems - electronic management - system integration) where the arithmetic mean of the senior management increases from the rest of the functional levels, which indicates the presence of an effect of the higher functional level on the quality of information systems.

In order to determine the source of differentiation between functional levels and to determine whether this distinction is due to certain characteristics from any other characteristics or distinguish them from all departments, the researcher conducted a Toki test for multiple comparisons.

**B) Tukey test for multiple comparisons:**

Tables (6) present the results of Tukey's test for multiple comparisons between job levels.

**Table No. (6)**

**Tukey's test results for a variable of the quality of information systems between functional levels**

Statement	High-level management	Mid-level management	Low-level management
High-level management	(1) 4.3148	(2)* .51550	(2)* .50421
Mid-level management		(1) 3.7993	.01129
Low-level management			(1) 3.8106

(\*) It indicates the significant differences between job levels.

(1) Indicate the mean values of the sample vocabulary responses.

(2) It indicates the value of the differences between the arithmetic means.

By reading the data of the previous table, it is clear that the significant differences revealed by the one-way analysis of variance are due to the distinction of the top management from the middle management, the executive management.

By reading the data in the previous table, it is clear that the significant differences revealed by the one-way analysis of

variance are due to the distinction of each of the top management from the middle management.

System integration:

Table (6) presents the results of Tukey's test for multiple comparisons between job levels.

**Table No.( 7 )**

**Tukey's test results for a variable of the system integration dimension between functional levels**

Statement	High-level management	Mid-level management	Low-level management
High-level management	(1) 4.2963	(2)* .59562	(2)* .52231
Mid-level management		(1) 3.7007	.07331
Low-level management			(1) 3.7740

(\* ) It indicates the significant differences between job levels.

(1) Indicate the mean values of the sample vocabulary responses.

(2) It indicates the value of the differences between the arithmetic means.

By reading the data of the previous table, it is clear that the significant differences revealed by the one-way analysis of variance are due to the distinction of the top management from the middle management, the executive management.



## 2) strategic flexibility:

This part presents a discussion of the results of the applied study related to the strategic flexibility variable, as follows:

- A) Conducting descriptive statistics for the research sample vocabulary responses using arithmetic means and standard deviations at the level of personal and functional characteristics of the sample vocabulary.
- B) Conducting inferential statistics to show the significant differences between the values of the arithmetic means, using a one-way analysis of variance.
- C) To determine the source of the differentiation if the results of the variance were significant

### A) descriptive statistics:

Table No. (7) shows the results of measuring the sample's awareness of the strategic flexibility variable using arithmetic means and standard deviations.

**Table No. (8)**

### Means and standard deviations of the strategic flexibility variable

Variable	Statement		Number	Mean	Standard deviation
Digital transformation	Sex	Male	170	3.8374	.46953
		Female	20	3.8300	.42717
	Total		190	3.8366	.46420
	Age	Younger than 35 years old	106	3.8420	.46633

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 Dr/Karim Abdel Megid Mohamed

		35 - 45 years old	59	3.8610	.44325
		45 - 55 years old	20	3.7275	.47336
		55 - 60 years old	5	3.8700	.69964
	Total		190	3.8366	.46420
	Years of System integration	Less than 5 years	99	3.8208	.46728
		From 5 - 10 years	35	3.9314	.41588
		From 10 to 15 years	44	3.7795	.45944
		More than 15 years	12	3.9000	.59084
	Total		190	3.8366	.46420
	Education level	Diploma	98	3.8118	.46989
		Bachelor	70	3.8386	.41661
		Master	21	3.9143	.57904
		PHD	1	4.5000	-
	Total		190	3.8366	.46420
	Job level	High-level	9	4.0278	.63498
Mid-level		49	3.8224	.48100	
Low-level		132	3.8288	.44592	
Total		190	3.8366	.46420	

By reading the data in the previous table, the following becomes clear:

- The values of the arithmetic means of the central bank sample's vocabulary responses to the strategic flexibility variable converge to a large extent from each other in a way that does not achieve any distinction between the personal traits in this variable
- The values of the arithmetic means for the traits: males - age group (from 55 to less than 60 years) - system integration period (5 years to less than 10 years) - doctorate - senior management category than their counterparts in the corresponding features for each of them
- The values of the standard deviations express the extent of homogeneity / dispersion in the responses of the study sample items around the arithmetic circles, where the homogeneity in the responses is located around the arithmetic mean of the responses, the age group (from 55 to less than 60 years) from the other age groups, in addition to the educational level of the Master of the levels The other educational levels, and the system integration period (more than 15 years) compared to the rest of the system integration categories, and the responses about the arithmetic mean are also homogeneous for the vocabulary of the senior management sample compared to the middle and supervisory managements.

B) Inferential statistics

To find out the significance of the previous results, a one-way analysis of variance was carried out in Table No. (8) shows its results.

**Table No. (9)**  
**One-way analysis of variance for the strategic resilience variable**

statement	Constraint source	Freedom degree	Sum of squares	Mean of squares	Calculated F	P	Indication
Sex	Between groups	1	.001	.001	.005	.947	Not significant
	Inside groups	188	40.725	.217			
	All	189	40.726				
Age	Between groups	3	.282	.094	.432	.730	Not significant
	Inside groups	186	40.444	.217			
	All	189	40.726				
Experience	Between groups	3	.531	.177	.819	.485	Not significant
	Inside groups	186	40.195	.216			
	All	189	40.726				
Education	Between groups	3	.627	.209	.970	.408	Not significant
	Inside groups	186	40.099	.216			
	All	189	40.726				
Job level	Between groups	2	.347	.173	.803	.450	Not significant
	Inside groups	187	40.379	.216			
	All	189	40.726				

By studying the components of the one-way analysis of the variance model to determine the significance of the results, the following becomes clear:

There are no significant differences between the arithmetic mean values of the sample vocabulary responses (gender - age - years of system integration - educational qualification - job level), and the differences are due only to the effect of chance.

#### Hypothesis test

In this chapter, the researcher presents the hypotheses tests as follows:

First: Preparing the correlation matrix between the research variables represented in digital transformation - strategic flexibility, in addition to the dimensions covered by the variables.

Second: To test the main hypotheses of the research and the sub-hypotheses emanating from the main hypotheses using simple regression analysis and multi-graded regression analysis.

Below is an overview of these two aspects:

First: the correlation matrix between the search variables:

Table No. (9) presents the correlation matrix between the study variables and the dimensions included in each variable, depending on the simple correlation coefficient, along with a statement of the significance of the correlations (P).

**Table No. (10)**  
**Correlation matrix for study variables**

statement	Quality of information system	Electronic management	Speed up the work	System integration	Digital transformation	Strategic flexibility
P of Quality of information system		** .389 .000	** .171 .000	** .194 .000	** .661 .000	** .274 .000
P of Electronic management			** .338 .000	** .148 .000	** .714 .000	** .324 .000
P of Speed up the work				** .319 .000	** .662 .000	** .279 .000
P of System integration					** .629 .000	** .306 .000
P of Digital transformation						** .445 .000
P of Strategic flexibility						1

The data from the previous table shows the following results:

- All the correlation coefficients between the research variables and the dimensions of these variables are significant at the level of statistical significance .01
- The correlation coefficient between these variables and each other is as follows:
- Between the quality of information systems and strategic flexibility 27.4%

- Between electronic management and strategic flexibility. 32.4%
- Between the speed of achievement and strategic flexibility 9.27%
- Between system integration and strategic flexibility 6.30%
- Between digital transformation and strategic resilience 5.44%

The previous correlation coefficients reflect, on the one hand, the relative strength of the correlations between the variables, and on the other hand, the significance of these relations at the .01 level. The researcher believes - in light of what was previously presented - that if the previous results confirm - in principle - the validity of the sub-hypotheses, and therefore the validity of the main hypotheses of the study, the matter requires measuring the extent of the significant impact of the dimensions of digital transformation on strategic flexibility, according to the sub-hypotheses of the main hypothesis. First, in addition to measuring the degrees of impact of all these dimensions on strategic flexibility, and determining the priorities and significance of the impact of each dimension on strategic flexibility, according to the main hypothesis.

The first sub-hypothesis test (H1a):

H1a: there is a statistically significant relationship between the quality of information system and strategic flexibility

To test this hypothesis, the researcher performed a simple regression analysis, the results of which are shown in Table No. (10).

**Table No. (11)**

**The results of a simple regression analysis of the quality of information systems on strategic resilience**

variables	B Value	Standard error	Beta Standard error	T Value	P	indication
Fixed	2.986	.220		13.591	.000	significant
Quality of information system	.222	.057	.274	3.913	.000	significant
Correlation coefficient = 0.274 <span style="float: right;">(<math>R^2</math>) = 0.075</span>						
Standard error = 0.44756						
F value = 15.315 <span style="float: right;">freedom degree = (1, 188)</span>						
level = .000 at 0.01 <span style="float: right;">significance</span>						

The data in the previous table reflects the following:

- The existence of a significant impact on the quality of information systems as one of the dimensions of digital transformation on strategic flexibility.
- The correlation coefficient between the quality of information systems and strategic flexibility was 27.4%, which is a statistically significant result at the 0.01 level.
- According to the coefficient of determination ( $R^2$ ), the quality of information systems explains 07% of the total change in the dependent variable represented in strategic flexibility, and the remaining 93% is due to the value of the random error in the equation, or perhaps the lack of other independent variables in the regression model.



- The calculated value of (F) was 15.315, which is a statistical function at a significant level of 0.01, and indicates the quality, validity, and reliability of the model, and that the previous relationship model can be applied in predicting the quality of information systems through strategic flexibility.
- Based on this result, the first sub-hypothesis can be accepted and the null hypothesis rejected.

**The second sub-hypothesis test (H1b):**

**The second sub-hypothesis states:**

that there is a statistically significant relationship between electronic management and strategic flexibility

To test this hypothesis, the researcher performed a simple regression analysis, the results of which are shown in Table No.(11).

**Table No. (12)**

**The results of a simple regression analysis of electronic management on strategic flexibility**

variables	B Value	Standard error	Beta Standard error	T Value	P	indication
Fixed	2.892	.203		14.225	.000	significant
Electronic management	.247	.052	.324	4.703	.000	significant
Correlation coefficient = 0.274		$(R^2) = 0.105$		Standard error = 0.44026		
F value = 22.117		freedom degree = (1, 188)		significance level = .000 at 0.01		

The data in the previous table reflects the following:

- There is a significant impact of knowledge as one of the dimensions of digital transformation on organizational change management
- The correlation coefficient between electronic management and strategic flexibility was 27.4%, which is a statistically significant result at the 0.01 level.
- According to the coefficient of determination (R<sup>2</sup>), electronic management explains 5.10% of the total change in the dependent variable represented in strategic flexibility, and the rest of the ratio 5.89 percent is due to the value of the random error in the equation, or perhaps to the lack of other independent variables in the regression model.
- The calculated (F) value amounted to 22.117, which is a statistical function at a significant level of 0.01, and indicates the quality, validity, and reliability of the model, and that the previous relationship model can be applied in predicting electronic management through strategic flexibility.
- Based on this result, the second sub-hypothesis can be accepted and the null hypothesis rejected

**The third sub-hypothesis test (H1c):**

**The third sub-hypothesis states the following:**

there is a statistically significant relationship between speed completion and strategic flexibility

To test this hypothesis, the researcher performed a simple regression analysis, the results of which are shown in Table No. (12).

**Table No. (13)**

**The results of the simple regression analysis, the speed of achievement on the strategic flexibility**

variables	B Value	Standard error	Beta Standard error	T Value	P	indication
Fixed	3.086	.191		16.148	.000	significant
Speed up the work	.207	.052	.279	3.982	.000	significant
Correlation coefficient = 0.279 <span style="float: right;">(<math>R^2</math>) = 0.078</span>						
Standard error = 0.44696						
F value = 15.860		freedom degree = (1, 188)			significance level = .000 at 0.01	

The data in the previous table reflect the following:

- There is a significant impact of speed of completion as one of the dimensions of digital transformation on strategic flexibility.
- The correlation coefficient between fluency and achievement speed was 27.9%, which is a statistically significant result at the 0.01 level.
- According to the coefficient of determination ( $R^2$ ), the speed of completion explains 7.8% of the total change in the dependent variable represented in strategic flexibility, and the rest of the percentage, 3.92%, is due to the value of the random error in the equation, or perhaps because other independent variables are not included in the regression model.

- The calculated value of (F) reached 15.860, which is a statistical function at a significant level of 0.01, and indicates the quality, validity, and reliability of the model, and that the previous relationship model can be applied in predicting the speed of achievement through strategic flexibility.

Based on this result, the third sub-hypothesis can be accepted and the null hypothesis is rejected.

#### **Fourth sub-hypothesis test (H1d):**

#### **The fourth sub-hypothesis states the following:**

there is a statistically significant relationship between system integration and strategic flexibility

To test this hypothesis, the researcher performed a simple regression analysis, the results of which are shown in Table No. (13).

**Table No. (14)**

#### **The results of a simple regression analysis of system integration on strategic flexibility**

variables	B Value	Standard error	Beta Standard error	T Value	P	indication
Fixed	2.941	.206		14.282	.000	significant
System integration	.237	.054	.306	4.403	.000	significant
Correlation coefficient = 0.306 (R <sup>2</sup> ) = 0.093						
Standard error = 0.44315						
F value = 19.384 freedom degree = (1, 188)						
significance level = .000 at 0.01						

**The data in the previous table reflects the following:**

- There is a significant impact of system integration as one of the dimensions of digital transformation on strategic flexibility.
- The correlation coefficient between system integration and strategic flexibility was 30.6%, which is a statistically significant result at the 0.01 level.
- According to the coefficient of determination ( $R^2$ ), the integration of the system explains 9.3% of the total change in the dependent variable represented in strategic flexibility, and the remaining 90.7% is due to the value of the random error in the equation, or perhaps because other independent variables are not included in the regression model.
- The calculated (F) value amounted to 19.384, which is a statistical function at a significant level of 0.01, and indicates the quality, validity, and reliability of the model, and that the previous relationship model can be applied in predicting system integration through strategic flexibility.

Based on this result, the fourth sub-hypothesis can be accepted and the null hypothesis is rejected.

**First main hypothesis test:**

**The first main hypothesis states the following:**

there is a statistically significant relationship between the dimensions of digital transformation on strategic flexibility.

To test the hypothesis, the researcher conducted a multi-gradient regression analysis to show the degrees and priorities of the impact of the dimensions of digital transformation on strategic flexibility, while determining the significance of the effect, the results of which are presented in Table No. (14).

**Table No.(15)**

**The results of a multi-step regression analysis of the dimensions of digital transformation on strategic resilience**

Variables	B Value	Standard error	Beta Standard error	T Value	P	indication
Fixed	1.892	.290		6.517	.000	significant
Quality of information system	.109	.058	.135	1.873	.063	
Electronic management	.152	.057	.200	2.673	.008	
Speed up the work	.090	.054	.121	1.654	.100	
System integration	.164	.054	.211	3.014	.003	significant
Correlation coefficient = 0.448 <span style="float: right;"><math>(R^2) = 0.200</math></span>						
Standard error = 0.41959						
F value = 11.583 <span style="float: right;">freedom degree = (4, 185)</span>						
significance level = .000 at 0.01						

The data in the previous table indicate the following results:

- There is a statistically significant effect of the dimensions of electronic management and system integration on strategic flexibility, although the degree of influence of each differed

according to the calculated (T) values, where the order of the **degrees of these two skills was as follows:**

1) System integration 3.014

2) Electronic management 2.673

- It did not appear to remove the quality of information systems, the speed of achievement, any significant effect on the management of organizational change, and this result coincides with the small value of the coefficient of determination for each of them, which was previously referred to in the simple regression analysis.
- The two skills that have a significant effect on strategic flexibility (system integration - electronic management) according to the coefficient of determination (R<sup>2</sup>) explain 20% of the total change in the dependent variable represented in strategic flexibility, and the rest of the 80% is due to the random error in the equation, or perhaps for not including Other independent variables should have been included in the model.

Therefore, the main hypothesis can be accepted - in part - in terms of the effect of the dimension of system integration and electronic management statistically as an independent variable on strategic flexibility, a dependent variable, and rejecting the hypothesis with regard to the dimension of information systems quality and speed of achievement.

**Chapter four: suggestions:**

No.	Suggestions	The responsible for the implementation	Implementation mechanisms
1	<p>Encouraging and motivating the bank's employees to exchange ideas and experiences in solving common problems and improving performance.</p> <p>Working to spread a motivating and encouraging culture to share experiences among employees.</p> <ul style="list-style-type: none"> <li>- Motivating employees to use the speed of achievement in solving problems and developing business.</li> </ul>	top-level management of the bank	<p>Organizing internal seminars to which employees in a specific job specialization are invited. Individuals who participated in conference activities or attended training courses transfer skills and experiences to their colleagues and direct superiors, which contributes to the exchange of system integration.</p> <ul style="list-style-type: none"> <li>- Follow a mechanism that contributes to sharing the skills of employees, which is the emptying of experiences, where each employee is required to submit a monthly report that includes all his experiences, knowledge, and experiences about the work he performs, the problems he faced, and the methods and methods he used to treat these problems.</li> </ul>



2	<p>- Gathering the knowledge of employees and trying to store using the latest technology.</p> <p>Work to create an atmosphere of confidence, tranquility, and safety for employees in the services provided by the bank, and to provide all banks affiliated with the Central Bank with all the knowledge that the employee possesses about the bank's services.</p>	the Development sector	<p>Preparing and implementing training programs in quality and interpersonal skills.</p> <p>- Preparing periodic questionnaires about the opinions of the banks affiliated with the Central Bank on the level of services provided by the bank, in addition to the problems they face in dealing with customers.</p> <p>Providing an information desk to guide and assist banks in performing their transactions.</p>
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**Suggestions:**

- 1) Knowing the impact of digital transformation on workers in government sector companies.
- 2) The relationship between strategic flexibility and employee behavior in organizations.
- 3) Conducting the same study between the private and government banking sector.

## Attachment

### First: personal data

1. Sex

Male

Female

2. Age

20-29

30-39

40-49

50+

3. Education

Ph.D.

Master

Bachelor  less than bachelor

4. Experience

less than 5 years

5 - 15 years

15 - 25 years

25 +

5. Management level

top-level management

middle-level management

low-level management

not in management

**Second: Phrases related to digital transformation:**

Please respond to the following items by ticking (√) according to your personal opinion

No.	statement	Totally agree (5)	Agree (4)	Natural (3)	Disagree (2)	Totally disagree (1)
Quality of information system						
1	The strategic planning of the information systems in the bank is carried out before starting the development process					
2	The strategic plan for information systems aligns with what is specified in the strategy					
3	Top-level management continuously supports the application of information systems					
4	Information and electronic management are viewed as an important resource in the Bank.					
Speed up the work						
5	Department heads are involved in selecting the manager or nominating a potential leader in the management of the bank					
6	The Bank takes care of those you choose by giving them the opportunity to prove their skills and abilities					
7	The bank has no problem finding a replacement when the service period of one of the managers expires					

8	The annual performance reports contributed to the development of my abilities and skills at work					
Electronic management						
9	Banks management is keen to provide advanced devices and equipment to facilitate work.					
10	The Banks Department is constantly updating the hardware and software necessary for the system to function					
11	The bank's information systems have extensive and easily accessible databases					
12	Databases contain operational and tactical data from within the organization					
System integration						
13	Banks regularly rely on management information and transaction processing systems.					
14	Workers are involved in planning and designing information systems in banks					
15	The Bank encourages activities and programs designed to improve the creativity of human resources					
16	The Department is keen to provide security requirements related to protecting the confidentiality and integrity of customer information.					

Second: Phrases related to digital transformation:

Please respond to the following items by ticking (√) according to your personal opinion

No.	statement	Totally agree (5)	Agree (4)	Natural (3)	Disagree (2)	Totally disagree (1)
Human capital						
1	My superiors give me ample opportunity to express an opinion on business matters.					
2	My superiors give me multiple powers to act upon the tasks entrusted to me.					
3	Training programs contribute to raising the efficiency of performance and the level of quality of work.					
4	Senior leaders are interested in transferring electronic management and expertise to employees to develop their leadership capabilities.					
Organizational culture						
5	The Bank supports leadership candidates who are proactive and challenging.					
6	The bank encourages employees to own all kinds of electronic management tools.					
7	The bank's management places young talent in middle and executive leadership positions with the aim of preparing them for future senior leadership.					
8	The bank's management is keen on attracting cadres with various skills (such as speaking foreign languages and skills to deal with modern technology).					

## RAFERANCE:

- Delmond, Marie-Hélène., Petit, Yves. & Gautier, Jean- Michel. (2007). **Management des systèmes d'information.** (2 édition). Paris : Dunod.
- Denisi, Angelo S., & Griffin, Ricky W. (2008). **Human resource management.** ( 3<sup>rd</sup> Edition). USA: Houghton Mifflin Company.
  - Akhtar, Syed & Daniel,R.Z.Ding, and Gloria L,Ge(2008) Strategic HRM practices and their impact on company performance in Chinese enterprises, human rrsource management,Periodical ,vol.47,no.1.
  - AL- Gharaibeh, Shehadeh M.A. & Malakawi, Wazem M.M. (2013, December). The impact of management information Systems on the performance of governmental organizations – study at jordanian ministry of planning. **International Journal of Business and Social Science**, 4 (17).
  - Bennis, Warren G., & Thomas, Robert J., (2002), Crucibles of Leadership, **Harvard Business Review.**
  - Boghani, Ashok B, and Taborzki Maria 2007, "Physical to Digial Transformation Any New Opportunities ", New York, Monitor Group,P.1.
  - Bolden, Richard, (2004), What is Leadership?, [www.leadershipsouthwest.com](http://www.leadershipsouthwest.com).
  - David, Fred R., (2011), **Strategic Management Concepts and Cases**, Publishing as Prentice Hall, One Lake Street, Upper Saddle River, New Jersey, USA
  - Deixonne, Jean-Luc. (2012). **Piloter les systèmes d'information.** Paris : Dunod.
  - Despoina Isychou , Panos Chountalas , Anastasios Magoutas , Irene Fafaliou,(2016):"Human Capital And Performance Appraisal In The Public Sector: An Empirical Investigation From Employees And Senior

- Managers Perspective”, Hellenic Open University, University of Piraeus , Munich Personal RePEc Archive(MPRA), Paper No. 72405, pp87-101
- E. W. T. Nagi & F. K. T. Wat, **Human Resource Information Systems : A Review and Empirical Analysis**, Personnel Review, Vol. 35, No, 3, 2006.
  - Ensour & Alinizi, 2014\_The Impact of Management Information Systems (MIS) Technologies on The Quality of Services Provided at The University of Tabuk (From The Perspective of Staff: A Case Study)
  - Gassemi, Karim. (2008). Les facteur incitant a l'utilisation des Systèmes d'Information Ressources Humaines dans les Entreprises Marocaines. **Communications du IBIMA? 6.**
  - Hills, Gerald E. & Hultman, Claes M., (2006), Entrepreneurial Marketing, <https://es.scribd.com/document>.
  - Hitt, Michael A. & Haynes, Katalin Takacs & Serpa, Roy, (2010), Strategic Leadership for the 21<sup>st</sup> Century, **Business Horizons**, No. (53), PP (437-444).
  - Hitt, Michael A. & Haynes, Katalin Takacs & Serpa, Roy, (2010), Strategic Leadership for the 21<sup>st</sup> Century, **Business Horizons**, No. (53), PP (437-444).
  - Kiragu, Rose Nyawira, (2015), Strategic Leadership and Sustainable Competitive Advantage of Commercial Banks in Kenya, Master's thesis, **School of Business, University of Nairobi**
  - Kornkaew, Artit. (2012, May). **Management information system implementation challenges, success key issues, effects and consequences: a case study of fenix system.** (Unpublished Master's Thesis), Jönköping International Business School, Jönköping University.
  - Lovel, Ken(2009) Strategic Human Resource Management: What dos it mean in practice, A Research Thesis to the Graduate College of

- Management, Southern Cross University, Australia, for the degree of Doctor of Business Administration , University of New South Wales.
- Lucas, Henry C. (1990). **Information systems concepts for management**. (4<sup>th</sup> Edition). USA: the Mc Graw- Hill Companies, Inc.
  - Luftim, cania(2014) The Impact of Strategic Human resource Management on Organizational performance, Europaen University of Tirana,Albania, *Economia, Seria Management* (2014), Volume(17) Issue(2).
  - Malik, Sikandar Hayyat, & Aziz, Shamsa, & Hassan, Hamid, (2014), Leadership Behavior and Acceptance of Leaders by Subordinates: Application of Path Goal Theory in Telecom Sector, **International Journal of Trade, Economics and Finance**, Vol. (5), No. (2).
  - Mashhour, Ahmad. & Zaatreh, Zakaria. (2008, April). A framework for evaluating the effectiveness of information systems at jordon banks: an empirical study. **Journal of Internet Banking and Commerce**, 13 (1), An Open Access Internet Journal: [Http://www.arraydev.com/commerce/jibc/](http://www.arraydev.com/commerce/jibc/).
  - Maziyar Ghasemi a \*, Vahid Shafeiepour b , Mohammad Aslani c , Elham Barvayeh. 2011. The impact of Information Technology (IT) on modern accounting systems. / *Procedia - Social and Behavioral Sciences* .
  - Mintzberg, Henry, (1987), The Strategy Concept I: Five Ps for Strategy, **California Management Review**, Vol. (30), No. (2), PP 11-24
  - Mpofu, Stanley, (2010), Strategic Leadership Challenges in the Management of Projects in the Parastatals, Doctor Dissertation, **The Faculty of Commerce, Law and Management, University of the Witwatersrand Johannesburg**.
  - Muhammad Naeem And Waseef Jamal ,(2017).: “The Relationship Of Employees’ Performance Appraisal Satisfaction With Employees’



Outcomes: Evidence From Higher Educational Institutes” FWU Journal Of Social Sciences, Vol. 11, No.2, p p 71-81.

- Patrick Kampkötter,(2014),:” Performance Appraisals And Job Satisfaction”, University Of Cologne, German Institute For Economic Research, Econstor, Soeppapers On Multidisciplinary Panel Data Research, No. 672.pp1-27.
- Ramila Ram Sing & Dr. S. Vadivelu ,(2016),: “Performance Appraisal In India – A Review”, International Journal Of Applied Engineering Research ISSN 0973-4562 Vol 11, No 5 pp 3229-3234 .
- Rani Ramaswamy ,(2014),:” Self Performance Appraisal And Its Effectiveness In Performance Management: An Empirical Study In Saudi Arabia, Pacific Academy Of Higher Education And Research University, Udaipur , Management Convergence , Vol.5 , No 1& 2 ,pp60-72
- Reix, Robert. Fallery, Bernard., Kalika, Michel. & Row, Frantz. (2011).  **Systèmes d’information et management des organisations.** (6 Édition). Paris : Magnard- Vuibert .
- Reix, Robert. Fallery, Bernard., Kalika, Michel. & Row, Frantz. (2011).  **Systèmes d’information et management des organisations.** (6 Édition). Paris : Magnard- Vuibert .
- Sani, Abdulkadir d (2012) SHRM and organizational performance in the Nigerian insurance industry, the impact of organizational climate, business intelligence journal –january,2012.vol.5.No.1.
- Sasvári, Péter. (2013, April). The impacts using business information systems on operational effectiveness in hungary.  **International Journal of Emerging Research in Management & Technology, 2** (4).
- Shahzad, Khurram& Bashir,Sajid & Ramay,Mohammed,I (2008) impact of HR practices on perceived performance of university teachers in Pakistan, international review of business research, papers, Vol.4, N.2.

- Shaik Peerla Sher SHAWH, G. Sunitha, ( 2017):” A Study On Performance Appraisal System In India”, School Of Management, NIT Warangal Telangana, India, International Journal Of Research In IT And Management (IJRIM), Vol. 7, Issue 4, pp. 54-60.
- Solomon Mekonnen, ,(2016),”Assesment Of Employee’s Performance Appraisal Practice: The Case Of ABAY BANK S.C”, A Research Thesis Submitted To Addis Ababa University School Of Commerce For The Partial Fulfillment Of The Requirement For Masters Of Art Degree In Human Resource Management, Addis Ababa, Ethiopia.
- Stewart,T (2006) Towards the Organization of the Future, Journal of looking ahead,Vol.16.N.2.
- Tarafdar, Monideepa. & Gordon, Steven R. (2007). Understanding the influence of information systems competencies on process innovation: a resource – based view. **Journal of Strategic Information Systems** 16, 353- 392, Available Online at: [www. Sciencedirect.com](http://www.Sciencedirect.com).
- Vidal, Pascal. et Petit, Vincent. (2009). **Systèmes d’information organisationnels**. (2 Édition). Paris : Pearson Éducation, Ins.
- Vroom, Victor H. & Jago, Arthur G., (2007), The Role of the Situation in Leadership, **American Psychologist**, Vol.(62), No. (1), PP. 17-24.
- Wasike, Rose,N (2012) strategic human resource management practice adopted by state corporation in the ministry of transport in Kenya, requirements for the award of the degree of master of business administration (MBA) school business, university of Nairobi.
- White, Colin, (2004), **Strategic Management**, Editing and Origination by Aardvark Editorial, Mendham, Suffolk, Printed and Bound in China.
- Yee,Koon Vui(2013) the impact of strategic human resource management on employee outcomes in private and public limited companies in Malaysia, Sunway University Kuala Lumpur, Malaysia.

- Yeoh, William. & Koronios, Andy. (2010, Spring). Critical success factors for business intelligence systems. **Journal of Computer Information Systems**.
- Zafrullah Khan, Abdul Sattar Khan, Irfanullah Khan,(2017),:”Impact Of Performance Appraisal On Employee’s Performance Including The Moderating Role Of Motivation”, A Survey Of Commercial Banks In Dera Ismail Khan, Khyber Pakhtunkhwa , Department Of Public Administration, Gomal University, Pakistan, Universal Journal Of Industrial And Business Management No.5, pp. 1-9.