

Investment in Human Capital in Light of Digital Transformation

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Summary: Given the significant advancements in communication and information technology, the modernization of economic institutions in the digital era necessitates the preparation of human capital, the core component of these institutions. Investing in human capital through education and training creates a skilled workforce, facilitating the transition from commodity-based to digital production. Thus, this research aims to highlight the role of digital transformation in enhancing investment in human capital.

Keywords: Human Capital, Investment in Human Capital, Digital Transformation, Training, Education.

Jel Classification Codes : J24, I29, M15, E22.

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1. Introduction:

The late 20th and early 21st centuries have seen a surge in knowledge due to significant developments in communications and information technology, shifting the economy from traditional to digital. This shift has moved the focus from traditional competitive advantages to human capital, which is now a key determinant of competitive advantage in the digital economy. Recognizing human capital's role in business rejuvenation, innovation, and technology adoption, many countries have prioritized enhancing and developing human capital.

Economic aspects of human capital in digital transformation include effectively utilizing human resources to strengthen the links between science and business, improve scientific research, develop individual creativity, and adopt innovative digital solutions.

Problematic: Based on the above, the following key question is proposed:

-How does digital transformation contribute to improving investment in human capital within economic institutions?

Through the following problematique, the following sub-questions rise

- Does digital transformation enhance investment in human capital in banking and insurance?
- Does digital transformation enhance investment in human capital in industry?
- Does digital transformation enhance investment in human capital in commerce?

Significance of the Study:

The significance of the study lies in the importance of digital transformation within economic institutions; in addition to the need to use ICT to improve investment in human capital, and the development of human resources capabilities germane to improving the functions of institutions.

Objectives of the Study:

The key objective of the study is to realize the extent to which digital transformation contributes to improving investment in human capital. The study also covers other sub-goals such as:

- The contribution of improving investment in human capital to the performance of economic institutions;
- The impacts of digital technology on investment in human capital;

Methodology:

Descriptive and analytical approach has been adopted for being the most convenient approach for such class of studies. It is based on collecting and presenting the data set through the use of various tools available to familiarize with all theoretical aspects. Analytical approach has also been adopted for the applied study of data analysis and to realize how digital transformation has contributed to improving investment in human capital.

I.1.First Subtitle

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2.Literature Review:

2.1. A study conducted by KhaledHashemHanafi: **Investment in Human Capital and its Role in Improving the Performance of the Egyptian Digital Economy**. This study aimed at addressing investment in human capital and its role in improving the performance of the Egyptian digital economy. The study concluded the positive impact of human capital development in improving the

performance of the Egyptian digital economy, expressed in increasing Egyptian exports of ICT products as a percentage of total Egyptian exports.

2.2. A study conducted by SalehZabi, Mustapha Mekki, ShabanBaitish: **Investment in Human Capital as a Mechanism to Achieve Digital Transformation at the University of Algiers**. The study aimed at highlighting the role that investment in human capital can play as a mechanism to achieve digital transformation at the University of Algiers. For such purpose, the correlation and impact relation between the independent variable- represented in investment in human capital (to recruit, develop and maintain)- and the dependent variable of digital transformation has been studied. The descriptive analytical approach has been adopted in such regard. Interviews and the observation of documents were relied on as data collection tools; in addition to a questionnaire that was given to all 63 frameworks of Mohamed Boudiaf University. As for data analysis, it was carried out by the -26Spss program. The study also reached a number of conclusions, the most important of which is the presence of a strong correlation and impact relationship between the two dimensions of investment in human capital (recruitment and development) and digital transformation at Mohamed Boudiaf University in M'sila.

2.3. A study conducted by MuhammedAbdulhamidAbdulfattah Al Saghir: **The Role Played by Human Capital in Activating Digital Transformation Mechanisms in the Light of Financial Inclusion Initiatives Applied to the Egyptian Government**. The study aimed at identifying the role played by human capital in activating digital transformation mechanisms in the light of financial inclusion initiatives applied to the Egyptian government by analyzing the impacts of investment in human capital on the application of digital transformation mechanisms in its various aspects; while focusing on the financial inclusion initiatives carried out by the Egyptian government within all sectors and services. To achieve the objective of the study, a social survey approach was adopted in a sample manner for a number of managers of government institutions seeking to invest in human capital to apply digital transformation mechanisms. The study community was represented in a number of managers of government bodies along with their deputies, where the total of the research community reached 35 individuals selected through a comprehensive inventory. The study reached a number of conclusions:

- The accomplishment of the application of digital transformation mechanisms as an IT innovation requires changing teaching and learning systems to produce human capital with an ability to achieve excellence in digital field; and achieve the set goals of the institutions.
- The accomplishment of digital transformation as an IT innovation is based on the establishment and maintenance of digital communication infrastructure; and ensuring its effective management. This basically requires human capital with experience in building stable infrastructure, which improves the quality of services provided by government units.

First: Theoretical Framework of the Variables of the Study:

1. Conceptual Significance of Investment in Human Capital:

1.1. The Concept of Investment in Human Capital:

Investment in human capital is one of the most valuable forms of capital, as it contributes to the progress and development of nations through the development of human capital.

- **Human Capital:** is defined as "the sum of knowledge, skills, experiences, and all capacities that enable a particular individual or group to increase productivity." (Boushua, Nazir, & Bouwaqfa, Abdul Haqq. (2010). P.149)

The American economist Schultz is widely known for laying the first foundations for the general concept of human capital through his famous lecture entitled "Investment in Human Capital"; delivered during the 73rd American Economic Association Forum held on December 28th.

Roos 1997 defines human capital as the essence/spirit of the institution. It covers all the intangible knowledge and information found in the mind of the individual working for the institution, such as experience, creative and innovative skills and abilities. He also considers it an important and critical base for the innovative and strategic sustainability of the institution. (Adel Boumjan, Nadia Adila, & Rushdie Qarairi. (2019). P. 133)

As for the International Experts & Consultants Association (INTEC) for the year 2004, human capital represents the deep-seated and acquired capabilities of individuals, which, if well-invested same as the rest of the assets, will increase the added value of all areas of business. (Reza Bahyani, & Farid Bakhti. (2021). P.58)

- Aspects of Human Capital:

- The aspects of human capital are demonstrated through the following elements (LailaBouhddid, ElhamYahyaoui. (2013). P.35).
- Recruiting human capital: It is recruited through the search for expertise and the availability of an information system that facilitates the task.
- Creating human capital: It includes strengthening the capabilities of employees, reducing opposition amongst them and forming intellectual grounds.
- Activating human capital: It involves using brainstorming amongst employees, encouraging enthusiastic groups and paying attention to the opinions of employees.
- Maintaining human capital: It focuses on continuous training, development and material and moral motivation
- Customer care: It includes documenting customer requirements, providing an information system to provide services to the customer, and seeking to keep old customers.

1.2. Investment in Human Capital

Definitions of investment in human capital have varied and include the following:

The Organization for Economic Cooperation and Development (OECD) has emphasized that the goal of investment in human capital is to develop the skills and capabilities of individuals to raise the economic value of the institution. (IssaKhalifi, RabihaQawadriya. (2014). P. 175)

Investment in human capital has been defined as: the method or mechanism through which the institution can allocate a certain amount with the aim of equipping its human capital scientifically, which contributes to achieving its objectives within a certain period of time (Hassan Ajlan Hassan. (2008)

It is also defined as: "Organizations' investment in enhancing human resources and upgrading and developing skills. In other words, investment in employees' education is a new way to build the internal labor market on which organizations rely in building their human resources. (Reza Bahyani,&FaridBakhti. (2021). P. 59)

It is also defined as: Spending on areas that contribute to building an individual physically, mentally and skillfully through his early life up to his productive life. One of the most significant aspects of such investment can be traced in spending on health services and education- in general- and vocational training and technical education centers -in particular. (ReemAmmam. (2018). P. 9)

1.3. Human Capital Investment Theories

Human capital investment theories are categorized into classical and modern theories. (LailaBouhddid&ElhamYahyaoui. (2013).

1.3.1. Classical human capital investment theories: These theories are sub-categorized into:

A/Schultz'theory of investment in human capital education: Schultz focused his attention on the process of education as a fundamental spread for the development of human resources and as a form of capital as long as it achieves a productive service of an economic value. Schultz has identified two types of resources that go under education, namely:

- Lost income per capita
 - The resources necessary to complete the education process itself, such as schools and teachers' salaries. Hence, it is necessary to study both the cost and the revenues associated with education.
- Schultz grounded his concept of human capital on three basic hypotheses:
- Economic growth that can be explained through the increase in material inputs is mainly due to an increase in the accumulated stock of human capital.
 - The variations in revenue can be explained according to the difference in the amount of human capital invested in individuals.
 - Income equality can be achieved by adding the ratio of human capital to traditional capital necessary to complete the education process itself, such as schools and teachers' salaries. Hence, it is necessary to study both the cost and the revenues associated with education.

B/Baker and Mincer' theories of investment in human capital training:

When investment in human capital, both Becker and Mincer focused on the training process. The contributions of each shall be delineated as follows

➤ **Baker's:** Baker focused his research on the aspects and forms of human investment including: migration, education and health care, while turning the spotlight on the training element, which Baker divided into two types: general training and specialized training. The first benefits the trained organization as well as the rest of the organizations, while the second benefits the trained

organization more than it may benefit other organizations. Becker has also touched on the relationship between work turnover and the cost of training quality.

➤ **Mincer's:** Mincer's contributions were reflected on the construction of a model aiming at explaining deviations in revenues distribution. Mincer has identified three objectives that should be achieved through research in the field of human investment:

- Determining the volume of resources allocated for trainings
- Determining the rate of return on investment in training
- Determining the benefit based on setting the cost and returns on training in explaining some characteristics of the behavior of individuals.

In addition to the above, Mincer's training concept covered formal training and experiential education. By studying the impact of investment in training on the income and behavior of individuals, he concluded the following:

- The higher the individual's educational levels, the more likely they are to receive more training in the work field.
- The higher the turnover, the higher the cost of investment in training.
- The greater the investment in training- notably of specialists, the greater the likelihood of the individual remaining in the organization and employment stability.

C/Modern theories of investment in human capital: According to all economists; especially those who have conducted field studies, modern theories of investment in human capital have all criticized the findings of previous authors on spending on education.

Some recent contributions shall be illustrated as follows:

➤ **Fisher's:** Through his study conducted back in 1994, Fisher concluded the following:

The variations in wage levels associated with the level of personal education are significant; the wage level associated with the educational level is influenced by several factors such as social level, gender, ethnicity...etc.

- The age of the worker and the work hours should be used to explain some of the variations in the wage level. Hence, investment in long-term education achieves its return after a period of time. The older an individual, the less spending on education.

- Jorgenson and Greliches': Through their field study conducted back in 1967, Jorgenson and Greliches concluded that the remaining factor was probably due to the inaccuracy in the measurement of production inputs; and that the indirect impact of knowledge advancement over economic progress does not exist i.e., they decline the theory of the remaining factor.

➤ **Gents':** Gent's theory of attitudes states that schools improve the productivity of individuals not only by providing them with knowledge, but rather by developing their behaviors and attitudes that are appreciated by productive institutions. These attitudes are demonstrated through compliance, docility and acceptance of working within a group subject to the hierarchical system where each individual finds his spot. A study has concluded that the impact of education spending on economic growth is very limited. On the contrary, it concluded that the impact of national income on education expenditures was very strong, as national income is distributed to education, health and defense, Etc. Hence, the greater the national income, the greater the spending on education.

1.4. The Significance of Investment in Human Capital

The significance of investment in human capital can be traced in the following (Samir Salhawi. (2018). P. 78):

- Most statistics indicate that unemployment rates are higher among less qualified and less educated workers compared to their counterparts. These high rates pose a threat not only to the individual, but also to society; since social benefits strain economy. Moreover, unemployment is a factor that can lead to criminality.

- Intergenerational benefits: Families in which parents are educated provide more positive circumstances for their children, providing them with better health care and informal education (i.e., education outside schools). Studies also indicate that higher-educated individuals have an impact that goes beyond the family to include the whole community. There is a positive relationship between the high level of education and the degree of political openness in societies, and the extent to which individuals contribute and engage in political decision-making.

1.5. Forms of Investment in Human Capital

Forms of investment in human capital include the following: (Firoz Girard, Firoz Bozoren. (2021).)

❖ **Motivations:** Motives are the forces emanating from within the individuals and provoking their desire to work. They are of chief significance to the working individuals- in particular- and the organization- in general. The benefits resulting from this include:

- Motivations form the basis or the factor influencing the performance of individuals.
- Positive motivations lead to increased cooperation amongst individuals as well as between individuals and management.

❖ **Incentives:** The tool used by the institution to raise the productivity of the individual, and to increase his enthusiasm to carry out his duties to the fullest. In such regard, incentives are defined as the feeling that generates individual's desire to carry out a specific activity or behavior that seeks to achieve specific goals. Incentives are of chief significance to individuals and can be highlighted as follows:

- Increasing the returns achieved in the institution when the incentive systems are efficient, by raising the productive efficiency of working individuals.
- Reducing the volume of the workforce required by the organization, through the contribution of incentive systems in pointing out the capabilities and energies of workers, and benefiting from such as much as possible.

❖ **Education:** Well-developed education policies form the main pillar in the development of human resources, as they aim at providing individuals with the broad basis or starting points from which each proceeds according to their different specialization of work. Intellectual property education is intended to develop structured curricula to be taught at the pre-university and university stages.

❖ **Training:** Organizations shift towards training to raise the capabilities and skills of working individuals; and to provide them with updates and new experiences that help them achieve the set objectives. From this standpoint, training can be defined as the organized process through which the behaviors and feelings of workers are changed in order to increase and improve their effectiveness and performance.

Training focuses on providing workers with specific skills or helping them to address shortcomings in their current performance. Training holds a great significance that can be shown as follows:

- Increasing the productivity of the trainee worker as a result of increasing his knowledge and developing his skills
- Raising the morale of workers as a result of raising their skills and abilities to reach the level required to perform their jobs, which leads to a reduction of work turnover and absence rates.
- Improving trust between the employer and the employee; and strengthening relations between them.

❖ **Formation:** The institution finds a great interest in forming human capital; since what is spent in such process reflects an investment in human resources. This process has a return in the form of an increase in total productivity. It also aims at creating a relatively permanent change in the capabilities of the individual, which helps him to perform the job with heightened effectiveness.

1.6. Objectives of Human Capital Investment:

Investment in human capital has two main objectives:

- **Direct objectives:** Such category of objectives is limited to increasing production through increasing education that- in return- increases the productivity of individuals working within organizations; qualifying them technically to be the backbone of modern production based on modern technology while achieving income equality. This is deemed to be the most critical objective of investment in the human element, as it brings the rich and the poor classes closer to one another. Education and health care are the tools that can help reduce the variations between the incomes of individuals; and achieve employment by finding suitable job opportunities for individuals as well as providing them with the skills and competencies they need. It can be granted to individuals by investment in the human element, whether through education, training or otherwise. Therefore, the labor required in the market will become highly-skilled leading to productivity increase. (Osama Al-Feel. (2001). P. 97-98)

- **Indirect objectives:** Although such objectives do not lead to a direct increase in productivity, they still contribute to such increase indirectly. The most critical of such objectives is to develop the economic motivations for individuals, i.e., to create the constructive economic qualities required by the nature of work. The desire to master work, create stability at work, show respect for deadlines, and other motivations have a significant role in increasing productivity and achieving development by creating suitable job opportunities for individuals and by providing them with the skills and

competencies they need. It can be granted to individuals by investment in the human element, whether through education, training or otherwise. Therefore, the labor required in the market will become highly-skilled leading to productivity increase and economic development. It can also lead to a social change necessary for the development process; since the source of change is not based in systems and laws only as much as it exists within individuals. (Mohamed Moussaoui. (2015). P. 65)

1.7. Scopes of Investment in Human Capital

Scopes of investment in human capital are as follows: (Issa Khalifi, Rabiha Qawadriya. (2014). P. 175)

Table (1): Scopes of investment in human capital

Scope	Concept	Mechanism of expenditures
Recruiting human capital	- The ability of the institution to reach out for advanced expertise and subtle skills; and recruit them to work for it.	- Seeking advanced expertise; - Recruiting high-tech skills; - Availability of an information system that facilitates the task of recruitment
Developing human capital	- A set of methods applied by the institution to develop the knowledge and skills of its working individuals	- Education - Training.
Maintaining human capital	- The institution's ability to retain its scarce resources, who are able to generate new products.	- Material and moral incentives; - Application of an administrative empowerment policy; - Maintaining the health of employees; - Reducing absences.

Source: (Issa Khalifi, Rabiha Qawadriya. (2014)

2. Conceptual Significance of Digital Transformation

2.1. Digital Transformation

There is a set of definitions provided for digital transformation, including:

Digital transformation is defined as a new business model based on the application of digital technologies in the creation of new products and services and the way such are distributed and oriented and focused for the user/customer (Jamila Salimi. (2019).

Digital transformation is also defined as the integration of digital technologies into the business world. It is a radical and total shift in the way value is delivered to the end user. In addition, it is a cultural shift that we must adapt to. (Yahyaoui. (2019)

It is also defined as the innovation achieved through total change and inclusion of available digital technology in the way of making and producing value and leading business, especially the way it thinks. (Sadouki Grissi, Sy Tayeb Al-Hashmi Reda, Ali Al-Absi. (2021)

Hence, we conclude that digital transformation is a mechanism based on the application of digital technology, modern electronic technologies in order to develop institutions.

2.1.1. Drivers of Transformation to Digital Economy:

There are three main drivers for digital transformation: (Lakhdar bin Said, Mustafa Radeef. (2022).

- **Increasing costs and pressures on budgets:** The significant decline in the revenues of many countries; especially oil-producing ones after 2014, made digital transformation a must. Digital transformation has become an indispensability for all banks, whose spending volume is a top priority, so they resorted to measures to save costs and implement government operations more effectively. They found in digital technology an opportunity to do so.

- **Requirements of citizen customers:** The spread of media, social media and communication technology means amongst the people has led to the rise of demands for a higher level of government services and products. This has also created new channels of communication for

institutions and governments to know the requirements of citizens and customers and their opinions, which led to the development and upgrading of their digitization perception.

- **Government directives:** As the government adopts a vertical planning approach in its decision-making, and in order to activate its plans more quickly and effectively, it becomes obliged to include digital transformation programs within its list of priorities covered under strategic visions and national plans.

2.1.2. Significance of Digital Transformation:

The significance of digital transformation lies in the fact that it has become an indispensability for all banks seeking to develop and improve their services; and facilitate beneficiaries' access. Digital transformation does not only imply the application of technology within the bank; However, it is a comprehensive program that affects the institution and its method of work internally- mainly- and externally, by providing services to the target audience to make services faster and easier. It has become more important and compelling than before. This is mainly due to the rapid development in the application of information technology means and tools in all aspects of life, whether related to transactions concluded with the public or the private sector; or with individuals. Therefore, there is clear pressure from all segments of community on banks to improve their services and make them available over all government, private or individual digital channels. Therefore, there is clear pressure from all segments of community on banks to improve their services and make them available through all digital channels. (Ismail Osman Sharif Ishaq. (2022).

2.1.3. Obstacles Facing Digital Transformation:

There are many obstacles that hinder the process of digital transformation within banks, including: (Rashwan, Abdul Rahman, et al. (2020)

- Lack of competencies and shortage of ability to lead the digital transformation process;
- Lack of data on digital transformation;
- The fear of information security risks, resulting from the application of technological means, is one of the biggest challenges facing the successful implementation of the digital transformation process in banks;
- Lack of an infrastructure capable of achieving information technology transformation;
- Lack of skilled staff to deal with ICT.

Second: Practical Framework

1. Study Model

Figure (1): Study Model



Source: Prepared by Researchers

2. Study population and sample:

The study population consists of Algerian institutions. The study sample was limited to 30 Algerian economic institutions as follows (10 institutions working in the field of banking and insurance, 10 institutions working in the field of commerce, and 10 institutions working in the field of industry).

3. Study tool: A 10-question questionnaire has been applied as a tool to collect information. The 3-Point Likert Scale has been applied to analyze these questions.

Table No. (2): Distribution of the scores of the questionnaire statements

Agree	Neutral	Disagree
3	2	1

Source: Prepared by Researchers

4. Presentation, analysis and discussion of the responses to the study statements.

4.1. The descriptive analysis of the responses from institutions in the banking and insurance sectors: This is aimed at elucidating the views of institutions operating in these sectors regarding the question of whether digital transformation aids in the enhancement of investments in human capital, the frequencies and proportions of the paragraphs of the questions were calculated as shown in the following table:

Table (3): Descriptive analysis of the response of the sample of institutions working in the field of banking and insurance

No.	Questions	Average	Percentage	Question Rank
01	Have you ever invested- even once- in the training of your institution's employees	3	100 %	1
02	Have you formed your institution' staff remotely (use of ICT)	2.6	86,6%	4
03	Have you formed your institution' staff in person (inside the institution or the formation center)	2.2	73,7%	8
04	Do you prefer to form your institution's employees remotely	2.7	90%	3
05	Do you prefer to form your institution's employees in person	1.8	60%	9
06	Would your institution 'staff like to be formed remotely	2.5	83,3%	5
07	Would your institution 'staff like to be formed in person	1.8	60%	9
08	Are you satisfied with the formation of your institution' staff remotely	2.4	80 %	6
09	Are your institution 'staff satisfied with being formed remotely	2.3	78,6%	7
10	Are you ready to invest more in your institution' staff remotely	2.9	96,6%	2

Source: Prepared by Researchers

Based on the detailed information provided in the above table, it is apparent that the institutions operating within the insurance and banking sectors have a clear opinion on how digital transformation aids in boosting their investments in human capital. The commitment of these institutions to the development of their human capital is strongly supported by the unanimous response from all surveyed entities, with 100% affirming that they have invested at least once in the training of their employees, as indicated in their response to the question, "Have you ever invested—even once—in the training of your institution's employees?" Among the various inquiries, question number 10 ranked second in agreement, with question number 4 following at a close 90%. These responses highlight a distinct preference for digital technology applications in training processes within banking and insurance institutions, compared to traditional in-person training methods. Employees of these institutions favor digital training due to its enhanced convenience, facilitating smoother communication between trainers and employees, and providing readily available communication tools that negate the necessity for physical travel.

4.2. Descriptive analysis of the response of the sample of institutions working in industry: To elucidate the perspectives of a sample of institutions operating in the industrial sector, an analysis was conducted regarding their responses to the question: "Does digital transformation contribute to improving investment in human capital?" This analysis aimed to determine how these institutions perceive the impact of digital transformation initiatives on the enhancement of their human capital investments, the frequencies and ratios of the paragraphs of the questions were calculated as shown in the following table:

Table (4): Descriptive analysis of the responses of the sample of institutions working in industry

No.	Questions	Average	Percentage	Question Rank
01	Have you ever invested- even once- in the formation of your institution's employees	2,7	90%	2
02	Have you formed your institution' staff remotely (use of ICT)	1,7	56,6%	7
03	Have you formed your institution' staff in person (inside the institution or the formation center)	2.5	83,3%	3

04	Do you prefer to form your institution's employees remotely	2,3	76,6%	4
05	Do you prefer to form your institution's employees in person	2,1	70 %	6
06	Would your institution 'staff like to be formed remotely	2,5	83,3%	3
07	Would your institution 'staff like to be formed in person	2,1	70 %	6
08	Are you satisfied with the formation of your institution' staff remotely	2,2	73,3%	5
09	Are your institution 'staff satisfied with being formed remotely	1,7	56,6%	7
10	Are you ready to invest more in your institution' staff remotely	2,8	93,3%	1

Source: Prepared by Researchers

Referring to the table above, the viewpoints of institutions in the industrial sector regarding digital transformation's impact on enhancing human capital investment are evident. Industrial institutions have demonstrated a commitment to investing in their human capital. This is supported by 90% of the surveyed sample affirming their investment in employee training, as queried in the first question, "Have you ever invested- even once- in the training of your institution's staff?" Furthermore, 93.3% of respondents indicated a readiness to further invest in their staff remotely, reflecting a keen interest in leveraging information technology for employee development. The question, "Have you trained your institution's staff in person (inside the institution or at a training center)?" received affirmative responses from 83.3% of the sample. Similarly, 83.3% responded positively to "Would your institution's staff prefer to be trained remotely?" highlighting the employees' preference for remote training methods that offer the convenience of accessing training anytime and anywhere, without the need to travel to training centers.

4.3. Descriptive analysis of the responses of the sample of institutions working in commerce: To elucidate the reactions of a sample of institutions engaged in commerce regarding their opinions on whether digital transformation aids in enhancing investment in human capital?, repetitions and percentages of question paragraphs were calculated as shown in the following table:

Table (5): Descriptive analysis of the responses of the sample of institutions working in commerce

No.	Questions	Average	Percentage	Question Rank
01	Have you ever invested- even once- in the formation of your institution' staff	3	100 %	1
02	Have you formed your institution' staff remotely (use of ICT)	1,7	56.6%	4
03	Have you formed your institution' staff in person (inside the institution or the formation center)	2,5	83,3%	2
04	Do you prefer to form your institution' staff remotely	1,7	56,6%	4
05	Do you prefer to form your institution' staff in person	2,5	83,3%	2
06	Would your institution 'staff like to be formed remotely	1,7	56,6%	4
07	Would your institution 'staff like to be formed in person	2,7	90%	1
08	Are you satisfied with the formation of your institution' staff remotely	1,5	50%	5
09	Are your institution 'staff satisfied with being formed remotely	1,7	56,6%	4
10	Are you ready to invest more in your institution' staff remotely	2,3	76,6%	3

Source: Prepared by Researchers

Table 5 elucidates the perspective of a sample of commercial institutions regarding the impact of digital transformation on the enhancement of human capital investment. It reveals a unanimous consensus among the sample—100% affirm that they have invested at least once in the development of their staff's capabilities. This underscores the commitment of these institutions to fostering their human capital.

Furthermore, the data highlights a strong preference for in-person training over remote methods. A significant 90% of the respondents indicated that their employees favor in-person training sessions. This preference is further supported by 83.3% of the respondents who consistently affirmed engaging in in-person training, either within the institution itself or at a dedicated training center. This indicates a clear trend towards favoring traditional, face-to-face methods of staff development in the commercial sector.

3. Conclusion:

digital transformation represents a significant qualitative leap for many institutions, primarily due to its capacity to expand job opportunities and foster creativity and innovation. The pivotal element in this transformation is the strategic investment in human capital. By prioritizing training, skill development, and resource enhancement, institutions can significantly boost the innovative and creative capacities of their workforce. This focus on human capital is essential not only for improving performance but also for achieving the broader objectives of the institutions, ensuring that they remain competitive and relevant in a rapidly evolving digital landscape.

3.1. Findings of the Study:

The study concluded some findings, including:

- Digital transformation facilitates managerial work to achieve institutional goals.
- Digital transformation improves human capital performance.
- Investment in human capital is crucial to adapting to environmental changes.
- Investment in human capital uncovers hidden competencies.
- There is a positive correlation between digital transformation and human capital investment.

3.2. Recommendations:

1. Human Capital Development: Invest in comprehensive training programs to elevate the digital proficiency of the workforce. Emphasize continuous learning and upskilling to adapt to evolving technological trends, thereby enhancing overall performance in the digital domain.
2. Digital Infrastructure Enhancement: Prioritize the development of robust digital infrastructures that support scalable and efficient operations. This includes upgrading existing technologies and investing in state-of-the-art systems to facilitate seamless digital transitions.
3. Leadership in Digitization: Cultivate a pool of human talent with the competencies required to spearhead digital initiatives. Focus on leadership training that equips individuals with strategic decision-making skills and a thorough understanding of digital ecosystems.
4. Support for Digital Adoption: Ensure that all institutional levels are equipped with the necessary tools and resources to successfully implement digital strategies. This involves not only technological tools but also policies and frameworks that promote an inclusive and progressive digital culture.

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