



(RESEARCH ARTICLE)



# The importance of using technology systems in improving human resource activities: A case study of Internet service and software development companies in Herat Province

Sayed Mukhtar Sadat\* and Mostafa Shakibani

*Lecturer of computer science faculty, Network Engineering, Jami University, Herat, Afghanistan.*

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## Abstract

In today's world, the use of technology can be used in various aspects of life and has brought about dramatic changes in all aspects of human life. Changes in organizational structures and optimization of department management are one of the areas that have been affected by this topic. Current technologies in the present era have facilitated work, implemented activities, improved performance, reduced costs in advancing work, and increased flexibility in the work process. Despite all these advantages, the challenges facing human resource activities are still being discussed by analysts and experts in this field. Security concerns in systems and the need for system training for organization employees are among these discussions. Considering all the facilities and problems of using technology in the human resource system leads to great goals that prove the human resource system to be a valuable and powerful solution. In this study, by studying and addressing the challenges and opportunities for the resource unit figures by using technology, I have achieved very valuable results by analyzing the existing information and conducting a field survey. The statistical population is 100 people and the information has been collected through an online questionnaire. The collected information has been examined considering components such as: system selection for convenience, technological knowledge of employees, data analysis and transparency in access to information, data analysis has been discussed by SPSS program and correlation and regression analysis.

**Keywords:** Human Resources; Technology; Ease; System; Skill; Performance; performance

## 1. Introduction

Today, technological advancement has not only affected our normal lives, but also discussed all aspects of economic, social, political, educational, etc. One of the most important components of modern life is the advancement and use of technology. The use of technology has played an important role in all matters, which can be studied in areas such as medicine, economics, education, industry and other areas. In this area, technology is used for treating diseases, data analysis, access to information, online training, automation, etc. And today, technology has an inseparable relationship with organizations. This relationship is visible in all aspects of organizations, including human resources, which can be considered a part of this relationship. The process of electricizing human resources is an applicable function that manages the needs of an organization well. And also, the use of this technology in human resources shows the improvement of management and organizational activities, which is a good factor for progress and advancement in the organization. This article also tries to discuss the importance of using technology systems in improving human resources activities; a case study of Internet service companies and software development in Herat province, and to conduct its research in a descriptive and field research manner.

\* Corresponding author: Sayed Mukhtar Sadat ORCID ID: 0009-0007-4778-1798

Having appropriate human resources management is very essential for an organization that can help improve human resources activities with new technologies, and this technology requires a strategy that performs well in creating and implementing in the field of human resources and does not cause problems in the organization, implementing this technology requires time, capacity building, and other components. (Shamsi, Imtinan, & Imtinan, 2010)

Using the benefits of technology and information technology in the field of human resources to improve the management system and improve the performance of this field is also great. These benefits include improving the efficiency of this system, reducing costs in carrying out management tasks, increasing flexibility in the work process and human resources activities. Despite all these benefits, its challenges can also be mentioned, such as security concerns in systems and the need for system training for organization employees. (Mohammad Mehdi Farahi, 2019)

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## **2. Basic concepts of information technology**

In essence, information technology is a set of tools, capabilities, and methods that are used to solve problems of life issues and also to improve the quality of human life. In general, technology is divided into different types, of which several widely used types can be mentioned.

### **2.1. Manufacturing Technology**

This type of technology refers to the process of producing and supplying goods, which includes the following:

- Industrial machinery: tools and machines used to produce products.
- Automation: The use of technology to automate the production program.

### **2.2. Medical technology**

This section includes technology that is used in cases such as diagnosis, treatment and prevention, and includes sections such as:

- Medical devices: tools and machines that can be used to diagnose and treat diseases, such as MRI, CT scan
- Medical software: programs that help diagnose patient records and also diseases.

### **2.3. Nanotechnology**

This technology discusses working with materials on a scale of one billionth of a meter, which has many applications in various fields such as:

- Pharmaceuticals: In the pharmaceutical industry for the development of drugs or the discovery of new drugs
- New materials: In this regard, it discusses all technologies that can cause creation, discovery and even invention, which includes all fields.

### **2.4. Geographic Information Technology (GIS)**

This technology discusses topics such as the analysis and display of geographically analyzed data, such as:

- Digital mapping: Using different technologies to create geographic maps.
- Spatial model building: Creating simulation scenarios through data analysis.

### **2.5. Communication and information technology**

In the type of technology, the activities that are performed include: transmitting, processing, collecting and storing information, which are divided into three main parts.

- Software: All specific programs that are used to perform a specific task.
- Hardware: All physical devices that can be used to perform work and activities, such as computers, servers, switches, etc.
- Network: It refers to the system through which we can establish communication.

Today, technology is used in all areas, and organizations are no exception, and it is widely used in all dimensions such as management, finance, culture and human resources.

The use of technology in the field of human resources, especially EHRM, is important. Technology in human resources promotes, facilitates, and improves the work process of human resources. At the end, some of its advantages and disadvantages are discussed.

### **2.6. Improving efficiency and effectiveness**

The use of technology in human resources can have its effects on most organizational issues, which can be said to play an important role in reducing time, improving efficiency, and improving organizational activities. The organization can also better organize information about its employees, such as work history, present and absent days, salary information, etc.

### **2.7. Easy access to information**

By using technology in human resources, managers can easily access information and make better decisions, which has a positive and significant impact on accelerating the organization's work process.

### **2.8. Data analysis**

By using advanced technologies, organizations can better analyze the existing data of their employees, which can be said to include artificial intelligence, advanced data mining programs, different sites, etc.

### **2.9. Effective Communication**

By using some technologies such as email, messaging programs, and scientific conferences, we also see the effects of technology in organizational communications, as these technologies save time and facilitate work.

So, we can clearly say that technologies can increase efficiency, save time and cost, facilitate work processes, and simplify the performance of organizational management activities.

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## **3. The Relationship between Technology and the Human Resource Management System (HRMS)**

The relationship between technology and HRMS is increasingly evolving and changing. With the advent of new technologies, HRMS has moved towards automation, improved efficiency, and data-driven decision-making. We will explore various aspects of this relationship below.

### **3.1. Process Automation**

Information technology allows organizations to mechanize manual processes. This automation reduces the burden of routine administrative work and gives employees the opportunity to focus on more strategic tasks. Among the benefits of this automation are increased accuracy, speed, and transparency in operations.

### **3.2. Data Analytics**

Technology helps collect and analyze data related to employees. This data can help HR managers make more informed decisions. By using AI and machine learning-based analytics tools, organizations can extract valuable insights into employee performance and needs

### **3.3. Increase employee engagement and satisfaction**

By using self-service platforms, employees have access to information related to their salaries, benefits, and performance. This creates a transparent and accountable environment in the organization, which ultimately leads to increased job satisfaction and employee engagement

### **3.4. Talent management**

IT also helps in talent management. By using advanced tools, organizations can improve the recruitment process and attract more diverse talent from all over the world. These tools also help in identifying skill gaps and developing effective strategies for training and retaining human capital.

### **3.5. Collaboration and communication**

New technologies such as the Internet of Things (IoT) and cloud-based tools enable more effective communication between organizational units. These tools will not only facilitate information sharing but also strengthen team collaboration.

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## **4. Advantages of HRMS**

The use of information and communication technology (ICT) systems is expanding widely in today's world and brings numerous benefits to businesses and societies. Here are some of the key benefits of these systems:

### **4.1. Increased productivity**

Information technology helps optimize business processes and saves time and money. By automating repetitive tasks, employees can focus on more strategic activities, which ultimately leads to increased overall organizational productivity

### **4.2. Improved communications**

Information technology enables fast and effective communication between individuals and organizations. Tools such as email, instant messengers, and video conferencing help reduce geographical distances and facilitate collaboration. These communications allow organizations to quickly exchange information and make better decisions.

### **4.3. Easy access to information**

IT systems provide quick and easy access to data and information. This feature helps managers make data-driven decisions and better manage the organization's performance.

### **4.4. Cost reduction**

IT implementation can reduce operational costs. By automating processes and reducing errors, organizations can better manage their resources and thus reduce their costs.

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## **5. Disadvantages of HRMS**

Failure to adapt systems in organizations can have significant consequences and disadvantages that affect the overall performance and success of the organization. Let's examine these disadvantages:

### **5.1. Reduced efficiency and effectiveness**

Failure to adapt systems can lead to the continuation of using old and inefficient processes. Employees may continue to use their traditional methods instead of using new systems, which will reduce efficiency and effectiveness in performing tasks. This issue not only slows down the speed of work, but may also lead to a waste of time and resources.

### **5.2. Resistance to change**

Employees may resist changes caused by new systems. This resistance can be due to a lack of trust in the new technology or lack of familiarity with it. Dissatisfaction and non-acceptance of the new system can lead to a decrease in employee morale and their interaction with each other. Also, this situation may lead to problems in team coordination and a decrease in the quality of cooperation.

### **5.3. Inconsistency and confusion**

Without a coherent system, inconsistency in processes and information may increase. This inconsistency can lead to confusion among employees and stakeholders and negatively impact decision-making. Problems arising from misalignment can cause decisions to be made incorrectly and organizational processes to become fragmented and fragmented.

### **5.4. Lost competitive opportunities**

Organizations that fail to keep up with new technologies may miss opportunities for growth and innovation. This can lead to a decrease in the organization's competitive advantage in the marketplace. In today's world where technological changes occur rapidly, failure to adapt to these developments can cause the organization to fall behind competitors.

### **5.5. Increased costs**

Incorrect implementation or failure to adapt to systems can lead to additional costs. Problems arising from lack of coordination between systems may require frequent modifications and changes, which will be costly in themselves. These costs can strain the organization's resources and negatively impact its overall efficiency.

### **5.6. Data Quality Issues**

Without proper integration between systems, data quality may be affected. Inconsistencies in data can lead to incorrect decisions and reduced quality of services or products provided. In such situations, incomplete or inaccurate information may affect the organization's reputation and cause serious problems for it.

Ultimately, the lack of system alignment can have serious consequences for organizations, negatively impacting all aspects of their operations and strategy. To avoid these problems, organizations should pay special attention to the coordination and continuous updating of their systems.

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## **6. The Need to Use HRMS Technology**

In today's world, organizations are increasingly turning to technology-connected systems in human resource (HR) management. These systems, such as human resource information systems (HRIS), help organizations store, process, and manage employee data more effectively. The following is a review of the benefits and importance of these systems.

### **6.1. Definition and Function of Human Resource Information Systems (HRIS)**

Human Resource Information Systems (HRIS) are software that allows the collection, storage, and management of employee information. These systems include key data such as employee name, address, national ID, and employment history. HRIS can facilitate various processes including recruitment, time and attendance management, performance appraisal, and benefits management

### **6.2. Benefits of using HRIS systems**

- Accuracy and information security: With HRIS, sensitive employee information is stored with high security and only authorized people have access to this information. This reduces the risk of information leakage
- Reduction of manual errors: Automatic data entry reduces human errors in data and increases accuracy
- Increased productivity: These systems free up managers' time for strategic decisions and reduce time-consuming activities such as searching through paper documents
- Reporting and analysis: HRIS allows for the generation of detailed reports from human resource data that managers can use to analyze employee performance

### **6.3. The importance of integration with other systems**

HRIS systems can be integrated with other systems such as payroll management, performance management, and attendance. This integration helps in greater coordination within the organization and facilitates processes.

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## **7. Statistics on the implementation of the HRMS in organizations**

The use of artificial intelligence (AI) in human resources (HR) has seen a significant increase in the past four years. This growth has helped optimize hiring processes, deliver personalized learning experiences, and better predict employee turnover. This trend reflects the fact that the future of HR is increasingly tied to technological innovations. HR technologies can take many forms, such as automated service portals and automated payment systems.

Nearly 80% of businesses use HR software. However, 36% of HR professionals feel that existing technologies do not meet their needs. The HR software market in the United States is estimated to be worth around \$14.8 billion, and the industry is expected to grow at a rate of approximately 4.1% through 2023.

About 57% of organizations cite the inability to generate analytics with legacy systems as the primary reason for seeking new technology. Also, among companies that do not use an applicant tracking system, 57% cited cost as the primary reason for not using it. 80% of HR professionals believe that integrating HR technologies has a positive impact on employee attitudes toward the company.

Nearly 21% of HR leaders are concerned about the security of critical data stored in the cloud, which is considered a significant challenge. HR software is recognized as an essential tool in the business world, with 80% of businesses incorporating it into their operations. However, the technology needs of 36% of professionals are still unmet, representing a potential gap in a market worth \$14.8 billion.

One compelling reason to upgrade is the ability to generate insightful analytics that many legacy systems lack. As the industry looks to grow, HR professionals emphasize that these technologies are having a positive impact on employee sentiment, although cloud-based security concerns remain.

More than a third, 36% in particular, indicate that they are likely or very likely to change vendors when their subscription period ends. According to a survey, 58% of respondents see the adoption of HR technologies as a goal for attracting and retaining talent.

A majority of more than 70% of companies will rely on data mining for their decision-making. Almost 33% of HR teams have stated that they are using various AI technologies and 41% are developing mobile apps to deliver HR services.

The introduction of automation and technology in the UK has led to the elimination of 800,000 low-skilled jobs. Recent research suggests that talent acquisition tools are likely to be the main focus of around 50% of HR technology initiatives in the near future.

HR technology is mainly focused on talent acquisition, employee experience, skills mapping, career paths, smart hiring, and automation. Almost half or around 50% of large companies use a certified human resource management system (HRMS).

A significant portion of large companies have an HR system. In contrast, businesses in Europe, the Middle East, and Africa typically rely on approximately four communication methods. Also, 97% of companies plan to increase their investments in recruitment technology, indicating the increasing importance of technology in the recruitment process.

Employers are likely to focus on predictive analytics, process automation, and artificial intelligence in their future investments. Some HR departments are already using AI, and more are planning to follow suit.

Virtual recruiting is currently the most common method of recruiting, reflecting a shift towards digital approaches in the recruitment process. The fastest growing segment in HR technology is learning and career management software. This paraphrased text is presented with the original concepts preserved and necessary changes made. (Kizilkan, 2023)

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## 8. Literature Review

The results of the research conducted by researchers on the impact of technology on human resource management are acceptable. Technology has a profound impact on the field of human resources, which increases productivity in this system, and by solving some problems such as building an internal culture of the organization for the use of technology and also supporting managers and employees in implementing technology in the field of human resources of the organization, it provides the basis for the integration of technology in the field of human resources. (Khanzadeh, 2018)

And in the article conducted in 2022 by Qasem Eslami, it is shown that the use of blockchain technology in human resource management improves the performance of this field, for example in the field of hiring employees, maintaining secure records of the organization's people, preventing misuse of the organization's resources, and also reduces costs for the organization. (Ghasem Eslami, 2022)

And also, the use of technology and Electronation of human resources leads to progress, improvement, and cost reduction in this field, and also in order to implement this technology in the field of human resources, strengthening the technological infrastructure and building the organization's internal culture is one of the notable components. (JABBARI GHOLAM, 2020)

To facilitate organizational work and activities, especially human resources of organizations, we consider the use of technology and considering different models that can better perform the process and performance of work in the organization. In this article, by considering the components for implementing technology in the organization, it is noted that it can be implemented on a suitable platform that takes into account the internal and external conditions of the organization and implements the technology required by the organization. Also, internal data, which is one of the

components that allows the organization's managers to accelerate their work by having internal data and be able to analyze it, is another component that can be addressed is financial considerations, which organizations that have invested in creating technology in their human resources system should consider allocating budgets for creating infrastructure, training employees, advertising the organization, building culture, etc. (Mahnaz Estiri, 2023)

And there are many technologies for use in the human resources system, which can also be mentioned as human resource intelligence, and human resource intelligence is considered as a work factor that performs all activities such as recruiting new employees, training them, evaluating the performance of this management, and creating a healthy environment for employees. Human resource intelligence is an asset that most organizations need to carry out their strategy. And it must make its organization intelligent in order to achieve its goals.

(Rastgar, ebrahimi, Abadi, & Kolahi, 2022)

Intelligence is not a word, but an activity that makes human resource systems more powerful and more valuable. Human resource intelligence with technology discusses different issues such as virtual human resources, B2E web-based human resource management, which the implementation and implementation of these technologies in the field of human resources creates a series of changes in the organizational process, which can be said to facilitate the process of change and innovation, integrate the process of accessing information, and improve the efficiency of the human resource system are examples of the application of technology in human resources. With the implementation of these technologies in human resources, organizations need to formulate new tasks for organization managers, increase expectations from organization human resources managers, and reduce administrative work. Since the emergence of technology in organizations, many changes have occurred in their work processes. In fact, it can be said that without the use of technology in organizations, their work processes are slow and the strategies they have cannot be implemented. (Kavosi & Hashemi, 2011)

And human resource management has been limiting all its energy for years in administrative activities, recruitment, and training. Most human resource departments are so involved in these activities that they have forgotten their main and valuable tasks such as knowledge management, management, and organizational culture reconstruction, which shows real value.

Today, in order to reduce these concerns such as cost, time, increase the speed of work, and improve the management work system, useful, intelligent, and fast solutions are needed. With the emergence of electronic human resources, the activities of organizations have undergone many changes and developments, which has led to the globalization of most organizations.

Before the use of technology, HR professionals had secondary organizational duties and performed non-value-added activities. After equipping human resources with technology, these organizations have become strategic organizations in the world. (Bahadorifard & rasouli, 2020)

And also, in an article written by Hossein Johari pour, the use of technology in human resources is considered an advantage that organizations should always be active by adapting technology in the labor market in line with their progress and movement.

They introduced five strategic goals for the use of technology in human resources, including:

- (Attracting diverse and talented employees) By using technology, we can have very good talent acquisition
- (Recruiting a diverse and talented workforce) Since in every organization many people are recruited to find tasks, but not all of them are hired, but the most talented ones are recruited, which is the easiest task with technology.
- (Improving the knowledge, skills and abilities of employees) By creating technology in human resources, the organization needs the knowledge and skills to use technology in human resource management to perform work better and more effectively. This is one of the priorities of using technology.
- (Effective management of employee performance) Since the task of human resources in organizations is to control the performance, presence and absence of employees, technology makes part of this management easier.
- (Retention and maintenance of talented employees) Usually, in all organizations, there are talented and less talented employees. By using this technology, organizations can retain their talented employees and train less talented employees to create talent. (Komandani & Johaeripour., 2020)

In today's world, organizations urgently need to adapt to the labor market by advancing their work with technology, which reduces costs, reduces time, improves efficiency, and improves information management.

In this article, the research method was descriptive and field, and to collect information, we studied 50 articles. Among these articles, we considered 30 articles that were closest to the article and we considered one article that had the same purpose as this article as the base article. The articles were collected from reliable databases. In the field method, questionnaires were distributed online to collect information for Internet companies and software development companies in Herat province, and the minimum number of people considered for collecting information was 100, and 40 questions were asked in this questionnaire.

## 9. Findings

This research was conducted among 80 employees of Internet companies and software companies in Herat province. In this study, four subscales of system selection were assessed: ease of use, employee technological knowledge, data analysis and data-driven decision-making, and transparency and access to information. Table 1 shows the demographic characteristics of the participants.

**Table 1** Demographic characteristics of the participants

Characteristics details		Number	Percentage
Gender	Sir	63	77.2
	Madam	17	21.3
Degree		35	43.8
High school graduate Bachelor		38	47.5
Master's		7	8.8

Table 1 shows that most participants are male and have a bachelor's degree.

The number and percentage of participants for the system selection sub-section are shown in Table 2 for convenience.

**Table 2** Statistics and questions for choosing a system for convenience

Select System for ease	Minimal	Moderate	Significant	Substantial
To what extent have the systems in the organization helped you perform everyday tasks?	18 %22.5	26 %32.5	19 %23.8	17 %21.3
To what extent use technological systems to facilitate work processes?	17 %21.3	19 %23.8	29 %36.3	15 %18.8
To what extent have systems helped reduce the time to do things?	18 %22.5	16 %20.0	23 %28.7	23 %28.7
To what extent use of new systems increased your efficiency?	19 %23.8	20 %25.0	19 %23.8	22 %27.5
To what extent have systems helped you manage time better?	19 %23.8	10 %12.5	25 %31.3	26 %32.5
In your opinion, to what extent do the existing systems meet your needs?	16 %20.0	20 %25.0	22 %27.5	22 %27.5
To what extent has the use of systems reduced human errors?	13 %16.3	26 %32.5	26 %32.5	27 %33.8
To what extent do systems help you remind you of tasks and deadlines?	13 %16.3	26 %32.5	26 %32.5	15 %18.8



To what extent does it exploit the automating capabilities of systems?	25 %31.3	18 %22.5	23 %28.7	14 %17.5
To what extent you feel that choosing the right systems will have a positive impact on your job satisfaction?	17 %21.3	19 %23.8	25 %31.3	19 %23.8

As can be seen in Table 2, almost two-thirds of the participants believe that using the system greatly helps in better time management, while almost two-thirds of the participants believe that the systems greatly reduce human errors.

The number and percentage of participants regarding the employee technological knowledge sub-sector are shown in Table 3.

**Table 3** Technological knowledge of employees

Technological knowledge of employees	Minimal	Moderate	Significant	Substantial
To what extent do you know yourself with new technologies?	18 %22.5	28 %35.0	15 %18.8	19 %23.8
To what ext are you provided with the necessary training to use new systems?	18 %22.5	27 %33.8	17 %21.3	18 %22.5
How much do you feel that your technological skills have affected your performance?	16 %20.0	22 %27.5	23 %28.7	19 %23.8
To what ext are you willing to participate in technology-related training courses?	15 %18.8	21 %26.3	24 %30.0	20 %25.0
To what extent do you use digital tools to learn and up-to-rise your skills?	18 %22.5	13 %16.3	24 %30.0	25 %31.3
To what extent do you feel that your technological knowledge affects your career decisions?	12 %15.0	13 %16.3	30 %37.5	25 %31.3
To what extent does it use online resources to learn technology?	20 %25.0	20 %25.0	15 %18.8	25 %31.3
How much ability do you have to work with specialized software?	22 %27.5	19 %23.8	15 %18.8	24 %30.0
To what extent has IT helped you solve everyday problems?	13 %16.3	19 %23.8	22 %27.5	26 %32.5
To what extent do you feel that you need more technology education?	23 %28.7	10 %12.5	20 %25.0	27 %33.8

As can be seen in Table 3, almost two-thirds of the participants use digital tools a lot to learn and update their skills, and more than two-thirds of the participants believe that their technological knowledge has greatly influenced their career decisions.

The number and percentage of participants for the data analysis and data-driven decision-making sub-sector are shown in Table 4.

**Table 4** Data Analysis and Data-Based Decision Making

Data Analysis and Data-Based Decision Making	Minimal	Moderate	Significant	Substantial
To what extent do you use data to make your own decisions?	14 %17.5	21 %26.3	22 %27.5	23 %28.7
Do you feel that data analysis has improved the quality of your decision-making?	19 %23.8	17 %21.3	21 %26.3	23 %28.7

To what extent are you familiar with data analysis tools?	18 %22.5	21 %26.3	25 %31.3	16 %20.0
How much data helped you to identify trends and patterns?	20 %25.0	24 %30.0	14 %17.5	22 %27.5
To what extent do you use the results of data analysis to set goals?	22 %27.5	27 %33.8	23 %28.7	8 %10.0
How much do you feel that data-based decisions have led to better results?	24 %30.0	21 %26.3	23 %28.7	12 %15.0
To what extent are commercial intelligence tools used for data analysis?	21 %26.3	21 %26.3	21 %26.3	17 %21.3
How much data analysis increased the speed of your reaction to market changes?	16 %20.0	16 %20.0	25 %31.3	23 %28.7
To what extent is the results of data analysis used to evaluate performance?	19 %23.8	22 %27.5	14 %17.5	25 %31.3
To what extent do you feel that data-based decision-making has reduced risks?	14 %17.5	31 %38.8	19 %23.8	16 %20.0

As can be seen in Table 4, more than one-half of the participants use data a lot for their decision-making, while nearly two-thirds of the participants believe that data analysis has greatly increased their speed of reaction to market changes.

The number and percentage of participants regarding the transparency and access to information sub-sector are shown in Table 5.

**Table 5** Transparency and access to information

<b>Transparency and access to information</b>	<b>Minimal</b>	<b>Moderate</b>	<b>Significant</b>	<b>Substantial</b>
To what extent do you use data to make your own decisions?	14 %17.5	21 %26.3	22 %27.5	23 %28.7
To what extent do you feel that data analysis has improved the quality of your decision-making?	19 %23.8	17 %21.3	21 %26.3	23 %28.7
To what extent are you familiar with data analysis tools?	18 %22.5	21 %26.3	25 %31.3	16 %20.0
How much data helped you identify trends and patterns?	20 %25.0	24 %30.0	14 %17.5	22 %27.5
To what extent do you use the results of data analysis to set goals?	22 %27.5	27 %33.8	23 %28.7	8 %10.0
How much do you feel that data-based decisions have led to better results?	24 %30.0	21 %26.3	23 %28.7	12 %15.0
To what extent are commercial intelligence tools used for data analysis?	21 %26.3	21 %26.3	21 %26.3	17 %21.3
Has data analysis increased the speed of your reaction to market changes?	16 %20.0	16 %20.0	25 %31.3	23 %28.7
To what extent is the results of data analysis used to evaluate performance?	19 %23.8	22 %27.5	14 %17.5	25 %31.3
How much do you feel that data-based decision-making has reduced risks?	14 %17.5	31 %38.8	19 %23.8	16 %20.0

As can be seen in Table 5, more than one-half of the participants have a lot of access to information related to the company's organizational goals. More than one-half of the participants believe that information transparency has a great impact on customer satisfaction.

The results of the correlation test between the research sub-sections (system selection for ease, employee technological knowledge, data analysis and data-based decision-making, and transparency and access to information) are shown in Table 6.

**Table 6** Results of the correlation test between the four research sub-sections

	Select system for ease	Technological knowledge of employees	Data Analysis and Data-Based Decision Making	Transparency and access to information
Select system for ease	1			
Technological knowledge of employees	0.015	1	1	
Data Analysis and Data-Based Decision Making	0.167	0.01>	0.628	1
Transparency and access to information	0.890	0.495	0.628	1

In Table 6, the results show that there is a significant relationship between the sub-sections of "System selection for convenience", "Data analysis and data-based decision-making" and the sub-section of "Employee technological knowledge". Of the 80 respondents to the questionnaire, 63 were male and 17 were female, of whom 35 had a high school diploma, 38 had a bachelor's degree, and 8 had a master's degree. Considering the participation of individuals, it is clear that most respondents are male and have a bachelor's degree. To determine and establish a correlation between the answers provided by the respondents, we conclude that choosing a suitable system for convenience has no special relationship with employee technological knowledge, that is, the coefficient specified is 0.015, indicating that its importance is less. For data analysis and data decision-making, a suitable system that is easy to use is needed, as indicated in the statistics of 0.167. This means that for information analysis, the system must have certain facilities to be able to analyze information. And also, for transparency and access to information, we need a system that is easy to use, and from the coefficient that is related to it in the correlation analysis, i.e., 0.890, it is clear that the relationship between these two components is very close, and for transparency and access, the system must have facilities to display this section. In the following, the correlation coefficient of data analysis and data-based decision-making is not specifically related to having technological knowledge, i.e., the specified coefficient is 0.010, which means that a person who wants to analyze data and make decisions about data does not need to have technological knowledge and can analyze existing data without having technological knowledge. In the transparency and access to information section, with technological knowledge, the coefficient of which is determined to be 0.495, it is clear that the relationship between these two components is strong and we urgently need technological knowledge to create transparency and better access. Finally, data analysis and data-based decision-making have a very strong relationship with transparency and access to information, since its coefficient is determined to be 0.628, and access to information is required for data analysis and decision-making based on it, and in order to create transparency in data, information must be analyzed and decisions must be made based on it.

## 10. Conclusion

Today, technology has become an essential element in human life, so that this science is directly related to all other sciences and has had a profound impact on all aspects of life, from education to health, research and management. Since technology plays an important role in all areas of human life, organizations are no exception and are in dire need of technology to perform better and improve their activities. In this article, research has also been conducted on the importance of technology in human resources of organizations. After analyzing the information collected, we concluded that 63 percent of people believe that using a technology system in human resources reduces errors and improves time management. And 64 percent of people believe that they use digital tools to learn and update their skills, and 61 percent consider their technological knowledge to be an effective factor in their career decisions. Further, 68% of people use data for their decision-making, and more than 55% of these people agree that data has greatly increased their speed of response to market changes. While 60% of participants have extensive access to information related to the goals of the

company, and 58% of participants consider information transparency to be an effective factor in customer satisfaction. After the analysis, we conclude that the presence of technology in organizations improves the performance of organizational activities and increases efficiency, saves time and costs, facilitates the work process, and simplifies the performance of organizational management activities.

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## Compliance with ethical standards

### *Disclosure of conflict of interest*

The authors Sayed Mukhtar Sadat and Mostafa Shakibani declares, no financial or non-financial conflicts of interest that might influence the research results or interpretation of the data. All activities and research conducted in this article were conducted independently and without any external influence.

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