

The role of management information systems in improving functional performance

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Abstract

The aim of this study is to identify the role of management information systems in improving functional performance in the Directorate of Youth and Sports in Chlef town, and for this purpose we used the descriptive approach on a sample of (110) employees, chosen randomly. The study concluded that there is a positive and significant impact relationship of management information systems on improving the functional performance of employees at the level of the directorate, and on this basis the study recommended the necessity of continuous development and updating of management information systems used in the Directorate of Youth and Sports in the Chlef town to match the changes and Recent technological developments.

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1. Introduction

In light of globalization, the world is witnessing a deep and rapid development at the economic, political, social, and technological levels, and as a result of the depth and speed of this development in the field of information technology, this society, which occupied by the techniques of processing and storing information not only a large part of human activity in it but also information which is considered a major resource of the organization's resources, and an important source of success on the one hand. On the other hand, it is considered an important factor for increasing the efficiency and effectiveness of performance and various administrative activities, where it made the presence of management information systems in various organizations of special importance, as it helps organizations to perform their functions successfully and with high efficiency.

Management information systems are considered one of the most important pillars upon which any organization is built in the present world, and the importance of the effectiveness of management information systems stems from the role of management information systems in the success of organizations. Any of the functions causes a decrease in the effectiveness of the system and results in a defect in the performance of other functions (Al-Taie, 2008, p. 177). The functional performance of the employees plays a decisive role in the performance of the organization, and it expresses the extent of the worker's efficiency or the attainment of the desired level of achievement in this work, and it is related to the outputs that the organizations seek to achieve. To the level required to accomplish the work, this requires the development of new means and methods and the training of workers on them to raise their efficiency and improve the level of their performance, and this is not recognized except in the light of evaluating the performance of workers, and thus it is possible to explore the elements of human performance in terms of efficiency, which is reflected in its impact on the overall effectiveness of the organization. If the management information system has a prominent role in improving the performance of employees in any organization, where the prominent role appears for it through the work it performs in arranging and organizing performance and administrative work and supervising it or facilitating the process of electronic communication at

the level of the internal and external environment of the organization, as these technological systems can To allow the employee to develop his capabilities and skills, improve his performance, avoid mistakes, if any, and work to solve them, and this in turn will reflect positively on the performance of the organization in general and improve job performance in particular. We also find some studies that preceded the subject of our research, we find a study (Ibrahim Abdullah Yahya Al-Sanhani, 2016) under the title "The Relationship of Management Information Systems to Improve Administrative Performance at the University of Science and Technology - Sudan -" which aimed to identify the relationship of management information systems to improving performance and one of the most important results he reached is the existence of a statistically significant correlation between management information systems and improving administrative performance at the University of Science and Technology. We also find the second study (Musa Ahmed Al-Saudi, 2006) titled "The Impact of Computerized Management Information Systems on the Performance of Employees in the Social Security Corporation", as this study aimed to try to know the impact of management information systems on the performance of employees in business establishments, and one of the most important results What he found is that there is a statistically significant effect between management information systems on job performance. So the researchers chose the title of this study as the role of management information systems in improving functional performance in the Directorate of Youth and Sports in Chleftown. Based on the foregoing, the study problem can be formulated in the following main question: What is the role of management information systems in improving functional performance in the Directorate of Youth and Sports in Chlef town? To address this problem requires answering the following questions:

- What is the level of functional performance in the Directorate of Youth and Sports in Chlef town?
- What is the availability of the dimensions of information systems (human resources, material resources, software resources, data resources and network resources) required for the application of management information systems in the Directorate of Youth and Sports in Chlef town?

- What is the relationship and impact of management information systems in improving functional performance in the Directorate of Youth and Sports in Chlef town?

Method and tools of study

1.1. Study sample and its selection methods

Based on the objectives of the study, the target community was determined from the administrative categories (administrator, sports consultant, youth advisor, chief sports advisor) in the Directorate of Youth and Sports in Chlef town, which numbered (345) workers, and a random sample consisting of (110) was relied upon. worker, by (60%) of the study population in order to drop the applied study.

2.2 . Study procedures

2.2.1. Study Methodology

In this study, the researchers used the descriptive approach as the most appropriate approach, as it relies on describing the phenomenon in the theoretical aspect, and then analyzing it scientifically in the field aspect. The descriptive approach provides detailed data on the actual reality of the phenomenon or the subject of the study, and at the same time it provides a realistic explanation of the factors related to the subject of the study, which helps a reasonable degree of future prediction of the phenomenon (Obeidat, et al., 1999, p. 47).

2.2.2. Determine the variables

2.2.2.1. The independent variable

This factor is management information systems It contains five dimensions:

- Material resources: Any information system is supposed to be composed of at least a computer, especially since computers have become available and accessible to organizations (Al-Sherman, 2004, p. 51).
- Software resources: It is the set of software that is used to operate and manage system devices in addition to the application software used in the performance of work (Al-Saudi, 2006, p. 58).
- Data Resources: It is a store that contains data that describes all the events and processes taking place in the organization, and it is stored in the form of manual or electronic files through which the information system works to convert them into important information for the organization. (Salim, 2006, p. 56).

- Resources Networks: We mean all communication technology and networks that facilitate the process of exchanging and transferring data and information in all its forms, such as the Internet within the organization, and it is necessary for the success of all computer-based information systems (Huraizy, 2017, p. 77).
- Human resources: Human resources mean a group of people who carry out administrative processes and procedures and work to implement functional performance requirements, human resources planning, wage systems design, performance division and training (Maher, 2014, p. 33).

2.2.2.2 The dependent variable

It is the improvement of functional performance, where the concept of functional performance is the results and outputs that a person achieves as a result of the effort exerted by carrying out the tasks and responsibilities assigned to him (Okasha, 2008, p. 33). Functional performance is defined as: the degree of achievement and completion of the tasks that make up the functional of the individual, and it reflects how the individual achieves or satisfies the requirements of the functional (Ben Aishi, 2011, p. 13).

2.2.2.3 The role of the management information system in improving functional performance

Management information systems can be limited to improving functional performance in several points, the most important of which are (Rehab, 2015, p. 484):

- It helps to speed up decision-making by providing real and adequate information in a timely manner.
- Facilitating administrative communication between administrative levels.
- Reducing costs and improving the level of service.
- Increasing the efficiency of employee performance by developing administrative methods, achieving the best investment in available data, speed of completion and accuracy.

2.2.3. Constructing the study tool

The questionnaire was designed to collect data to complete this study. The questionnaire consists of (33) statements divided into two main axes as follows: The first axis: management information systems, which consists of 25 terms distributed over five dimensions: human resources, which consists

of 05 statements, material resources, which consists of 05 statements, software resources, which consists of 05 statements, data resources, which consists of 05 statements, network resources, which consists of 05 expressions.

- The second axis: Improving functional performance, and it consists of 08 phrases. The "Triple Likert" scale was used to measure the respondents' responses to the questionnaire statements according to Table (01).

Table1 : Display of triple Likert scores

Approval level	Not agree	Neutral	Agree
Number	1	2	3

As for the limits adopted by this study when commenting on the arithmetic mean to determine the degree of approval, the researchers identified three levels (high, medium, low) based on the following equation: $\text{Range} = (3-1)/3 = 2/3 = 0.66$. Thus, the levels are as follows: - From 1 to 1.66 represents a low response (not agreeing). - From 1.67 to 2.33 represents a medium (neutral) response. - From 2.34 to 3 represents a high response

Table 2: Cronbach's alpha stability coefficients for testing the stability of the study tool.

Number	Axis	Dimension Stability	Number of statements	Stability coefficient
1	Management Information Systems	HumanResources	5	0.694
		MaterialResources	5	0.643
		Software Resources	5	0.689
		Data Resources	5	0.603
		Networks Resources	5	0.684
2	Improvingfunctional performance	/	8	0.719
	The tool of all		33	0.726

Source: Prepared by the researchers based on the outputs of the program (spss.26) It is clear from the above table that the value of the reliability coefficient (Cronbach's thousand) amounted to (0.726), which is more than (60%).

2.2.4. The statistical methods used in the study

Using the Statistical Package for Social Sciences (spss.26) program to perform the statistical analysis of the data collected in this study, and among the most important statistical tools we mention:

- Frequency and percentages in order to describe the characteristics of the respondents. Arithmetic means and standard deviations to identify the degree

of agreement of the respondents with the variables and dimensions of the study

- Student Correlation Coefficient: To determine the type of relationships between the research variables.
- Simple linear regression coefficient: to measure the effect of the independent variable on the dependent variable.

3. Results

3.1. Presentation and analysis of the results of the study

3.1.1. Presentation of the results of the first axis management information systems

3.1.1.1 The first dimension: human resources

Table 3: Respondents' responses about the availability of human resources in the directorate

N	Phrases	arithmeticmean	standard deviation	arrangement	degree of approval
1	Individuals working in the field of management information systems specialize in informatics	2.55	0.724	1	High
2	Workers in existing systems have the ability to adapt to new work requirements	2.53	0.809	3	High
3	The employees have administrative and technical expertise commensurate with the tasks assigned to them	2.54	0.713	2	High
4	The Directorate's management periodically conducts training courses and programs for information system personnel in order to raise their level of performance	2.31	0.810	5	Medium
5	Personnel participate in the design and development of information systems	2.32	0.789	4	Medium
weightedarithmeticmean		2.4491			High

Source: Prepared by the researchers based on the outputs of the program (spss.26)

Table No. (03) shows that the weighted arithmetic mean of the human resources dimension from the point of view of the study sample was high, as the arithmetic mean of the dimension as a whole was (2.4491), which indicates a high agreement about the availability of human resources in the Directorate of Youth and Sports, and the arithmetic mean rangedThe estimates of the study sample on the expressions of the dimension ranged between (2.31-2.55), where the highest mean was for phrase No. (1) with an arithmetic mean of (2.55) and with a high evaluation score. We conclude from

this that the individuals working in the field of management information systems specialize in informatics, while the lowest. The average was for the phrase No. (4) with an arithmetic mean (2.31) and a medium evaluation score, and the standard deviation values for all the phrases were close and did not indicate differences in the opinions of the study sample.

3.1.1.2. The second dimension: material resources

Table 4: Respondents' responses about the availability of material resources in the directorate

N°	Phrases	arithmeticean	standard deviation	arrangement	degree of approval
1	The Directorate's administration has adequate computers to complete the required work	2.57	0.735	3	High
2	The automated devices and equipment used in management information systems are commensurate with the volume of work required in the Directorate	2.51	0.775	5	High
3	seeking management is keen to keep abreast of technical developments in the field of information systems	2.57	0.670	4	High
4	The Directorate's management constantly updates and maintains used equipment	2.59	0.681	2	High
5	The available devices are easy to use	2.74	0.585	1	High
Weighted arithmetic mean		2.5964		High	

Source: Prepared by the researchers based on the outputs of the program (spss.26)

It appears from Table No. (04) that the weighted arithmetic mean of the material resources dimension from the point of view of the study sample was high, as the arithmetic mean of the dimension as a whole was (2.5964), which indicates a high agreement about the availability of material resources in the Directorate of Youth and Sports, and the arithmetic mean of the estimates ranged The study sample members about the dimension phrases ranged between (2.51-2.74), where the highest mean was for phrase No. (5) with an arithmetic mean (2.74) and with a high evaluation score. 2) with an arithmetic mean (2.51) and a high evaluation score, and the standard deviation values for all the expressions were close and do not indicate differences in the opinions of the study sample.

3.1.1.3. The third dimension: software resources

Table 5: Respondents' responses about the availability of software resources in the directorate

N°	Phrases	arithmeti cmean	standard deviation	arrangement	degree of approval
1	The software used is compatible with the work requirements of the Directorate	2.66	0.654	1	High
2	The software used is compatible with the devices used in the Directorate	2.64	0.631	2	High
3	The software used helps reduce paper usage	2.59	0.668	3	High
4	The software used is evaluated, updated and maintained periodically and continuously	2.58	0.641	4	High
5	The software is characterized by keeping pace with the change and development in the work of the Directorate's administration	2.55	0.658	5	High
Weighted arithmetic mean		2.6055		High	

Source: Prepared by the researchers based on the outputs of the program (spss.26)

It appears from Table No. (05) that the weighted arithmetic mean of the software resources dimension from the point of view of the study sample was high, as the arithmetic mean of the dimension as a whole was (2.6055), which indicates a high agreement about the availability of software resources in the Directorate of Youth and Sports, and the arithmetic mean ranged The estimates of the study sample about the expressions of the dimension ranged between (2.55-2.66), where the highest mean was for phrase No. (1) with an arithmetic mean of (2.66) and with a high evaluation score. We conclude from this that the software used in the Directorate is commensurate with work requirements, while the lowest average was For phrase No. (5) with an arithmetic mean (2.55) and a high evaluation score, and the standard deviation values for all the phrases were close and did not indicate differences in the opinions of the study sample.

3.1.1.4. Fourth Dimension: Data Resources

Table 6: *Respondents' responses about the availability of data resources in the directorate*

N°	Phrases	arithmeti cmean	standard deviation	arrangement	degree of approval
1	The current management information system provides a comprehensive database covering all of its activities	2.53	0.713	1	High
2	Match available data with business needs	2.52	0.726	2	High
3	The databases used in the systems take into account the non-repetition of the data used	2.48	0.739	4	High
4	Data helps to identify problems and find solutions	2.44	0.784	5	High
5	The Directorate's management is constantly updating the databases in line with the work	2.49	0.751	3	High
Weighted arithmetic mean		2.4909		High	

Source: Prepared by the researchers based on the outputs of the program (spss.26)

It appears from Table No. (06) that the weighted arithmetic mean of the data resource dimension from the point of view of the study sample was high, as the arithmetic mean of the dimension as a whole was (2.4909), which indicates a high agreement about the availability of data resources in the Directorate of Youth and Sports, and the arithmetic mean ranged. The estimates of the study sample on the expressions of the dimension ranged between (2.44-2.53), where the highest mean was for phrase No. (1) with an arithmetic mean of (2.53) and with a high evaluation score. We conclude from this that the current management information system provides a comprehensive database that covers all the activities of the Directorate. As for the lowest average, it was for phrase No. (4), with an arithmetic mean (2.44), and with a high evaluation score, and the standard deviation values for all the phrases were close and did not indicate differences in the opinions of the study sample.

3.1.1.5. Fifth Dimension: Network Resources

Table 7: Respondents' responses about the availability of network resources in the directorate

N°	Phrases	arithmeti cmean	standard deviation	arrangement	degree of approval
1	The available network is commensurate with the needs of the required business	2.45	0.725	2	High
2	The provided network gets the job done quickly enough	2.59	0.721	1	High
3	There are no interruptions in the communication networks used	2.38	0.801	4	High
4	The directorate's administration provides an internet network that is protected from hacking and tampering with information	2.31	0.865	5	High
5	Network maintenance is carried out periodically and continuously	2.44	0.784	3	High
Weighted arithmetic mean		2.4345		High	

Source: Prepared by the researchers based on the outputs of the program (spss.26)

It appears from Table No. (07) that the weighted arithmetic mean of the dimension of network resources from the point of view of the study sample was high, as the arithmetic mean of the dimension as a whole was (2.4345), which indicates a high agreement about the availability of network resources in the Directorate of Youth and Sports, and the arithmetic mean ranged the estimates of the study sample about the expressions of the dimension ranged between (2.31-2.59), where the highest mean was for phrase No. (2) with an arithmetic mean of (2.59) and with a high evaluation score. The average was for the phrase No. (4) with an arithmetic mean (2.31) and an average evaluation score, and the normative values for all the phrases were close and do not indicate differences in the opinions of the study sample.

3.2. Presenting the results of the second axis: Improving job performance

Table 8: Respondents' responses about the extent to which job performance has improved in the Directorate.

N°	Phrases	arithmeticmean	standard deviation	arrangement	degree of approval
1	Management information systems contribute to the development of performance and the development of skills continuously	2.39	0.847	6	High
2	The employees have the skill and technical knowledge required to complete the work efficiently and effectively	2.49	0.751	3	High
3	Employees are keen to continuously improve their performance	2.46	0.725	4	High
4	Employees have the full ability to complete the tasks required of them on time	2.38	0.813	8	High
5	Employees have the ability and desire to cooperate with their co-workers	2.45	0.786	5	High
6	Employees have the ability to solve business problems	2.65	0.599	2	High
7	There is continuous coordination between the administrative levels to achieve the required quality of performance	2.39	0.802	7	High
8	My performance appraisal helps me improve my work performance	2.75	0.578	1	High
	Weightedarithmeticmean	2.4966		High	

Source: Prepared by the researchers based on the outputs of the program (spss.26)

It appears from Table No. (08) that the weighted arithmetic mean of the dependent variable, improving the job performance of workers from the point of view of the study sample, was high, as the arithmetic mean of the dependent variable as a whole was (2.4966), which indicates a high agreement about the extent of job performance improvement in the Youth Directorate and sports, and the arithmetic mean of the estimates of the study sample about the statements of the dependent variable ranged between (2.38-2.75), where the highest mean was for phrase No. (8) with an arithmetic mean of (2.75) and with a high evaluation score, and we conclude from that that the performance evaluation of the lowest mean was for phrase No. (4) with an arithmetic mean of (2.38) and a high evaluation score, and the standard deviation values for all phrases were close and did not indicate differences in the opinions of the study sample.

4. Discussion

4.1 Testing the first hypothesis

The first hypothesis states that: There is a significant correlation between management information systems and job performance improvement in the Directorate of Youth and Sports. The simple correlation coefficient was used to test the first hypothesis, in order to accept or reject the hypothesis, as shown in the following table:

Table 9: Shows the results of the correlation between management information systems and job performance improvement in the Directorate of Youth and Sports in Chlef town.

The independent variable	Administrative information system
The dependent variable	
Improve job performance	0.29
Spiritual level	0.002
the number	33
0.05 Statistically significant level	

Source: Prepared by the researchers based on the outputs of the program (spss.26)

Table No. (9) shows the existence of a positive and significant correlation between management information systems as an independent variable and improving job performance as a dependent variable, as the value of the simple correlation coefficient between them was (0.29), and the probability value for them is equal to (0.002), which is less than (0.05).), and this confirms the validity of the first hypothesis, and therefore it is acceptable at the level of the Directorate of Youth and Sports of Chlef Province. The researchers believe that the greater the interest in the material and technical capabilities of management information systems by keeping pace with modern technological means and techniques and working on training employees to use these systems contributes to the development of performance and the development of skills continuously, and this result is consistent with the study (Al-Sanhani, 2016).), which found a statistically significant relationship between management information systems and improving the administrative performance of employees.

4.2 Testing the second hypothesis

The second hypothesis states that: There is a significant effect between management information systems and improving the job performance of employees in the researched institution. The effect relationship between management information systems and the improvement of employee job performance will be tested and analyzed using simple regression, as shown in the table.

Table 10: shows the relationship of the impact of management information systems in improving the functional performance of employees in the directorate.

The dependent variable The independent variable	Improved functionality		The coefficient of determination (R ²)	testlevine-		- testt	
	a	B		F	Sig	T	Sig
Administrative information system	0.414	0.693	0.249	8.966	0.006	2.994	0.006
0.05 Statistically significant level							

Source: Prepared by the researchers based on the outputs of the program (spss.26)

The results of the regression analysis shown in Table (10) indicate that there is a positive and significant effect relationship of management information systems on improving the job performance of employees, which is a positive significant effect, as the regression equation is ($Y = 0.414 + 0.693X$), and this indicates that Any change in the value of the (independent variable) by one unit leads to a change in the value of (the dependent variable) by (69.3%), while the calculated (F) value was (8.966), and its probability value is (0.006), which is less than The moral level is (0.05), which means that there is a positive and significant positive impact relationship of management information systems on improving the job performance of workers, and the value of the determination coefficient (R²) was (0.249), and this means that (24.9%) of the variables occurring in The dependent variable (improving the job performance of employees) is due to changes in the independent variable (management information systems), while the remaining percentage (75.1%) is due to other variables that were not covered by the study. As for the significance of the independent variable, management information systems, the results of the analysis showed that the calculated value of (T) is (2.994), and its probability value is (0.006), which is less than (0.05), and that this

means that management information systems have a significant effect on improving the functional performance of workers, and this confirms the validity of the second hypothesis, and it is acceptable at the level of the researched institution. The researchers see the provision and application of all elements of management information systems that allow the employee to develop his capabilities and skills, improve his performance, avoid errors, if any, and work to solve them, and this in turn reflects positively on the performance of the organization in general and improves job performance in particular. The result is with the study (Al-Saudi, 2006), which concluded that there is an impact of management information systems on job performance.

5. Conclusion

This study aimed to identify the role of management information systems in improving job performance in the Directorate of Youth and Sports in Chlef town. The study reached the following results:

- The results showed that individuals working in the field of management information systems are specialized in informatics.
- The results indicated that the devices used in the Directorate are characterized by ease of use.
- The results showed that the software used in the directorate is commensurate with work requirements.
- The results showed that the network available to the Directorate helps to accomplish the required work quickly.
- The results revealed that the performance appraisal of an employee helps to improve functional performance.
- The results showed that there is a positive and significant correlation between administrative information systems and functional performance improvement in the Directorate of Youth and Sports in Chlef town. In light of the findings of the study, some suggestions can be made as follows:
- Continuous development and modernization of the management information systems used in the Directorate of Youth and Sports in Chlef town to match the changes and modern technological developments. Emphasizing the need for the existing administrative policies in the Directorate of Youth and Sports to direct management information systems towards improving job performance.

- Reviewing and evaluating administrative processes on an ongoing basis.
- Holding training courses for individuals working in the field of management information systems. Increase incentives for good performance.

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