

The effect of information management systems on the financial decision-making operation in Higher Education and Scientific Research Ministry in Jordan

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Abstract

The aim of this current study was to identify the effect of information management systems on the financial decision-making process in the Higher Education and Scientific Research Ministry in Jordan. The descriptive analytical method was used in this study. A sample of (177) faculty members at Al-Isra University in Jordan representing a percentage of (52.99%) of the study population was selected. A questionnaire was used as an instrument for the study. The study ended up with the following results: The arithmetic mean of the dimension of planning was (3.43) with a standard deviation of (1.08) which refers to a high degree of practice. The arithmetic mean of the dimension of organization was (3.13) with a standard deviation of (1.63) which refers to a medium practice degree. The arithmetic mean of the guidance dimension was (3.05) with a standard deviation of (1.35) which refers to a medium practice degree. The arithmetic mean of the control dimension was (3.18) with a standard deviation of (1.05) which refers to a medium practice degree.

Keywords: Management Information Systems, Financial Decisions, Jordanian Higher Education and Scientific Research Ministry.

Introduction

Due to the high and rapid technological developments at all levels; the world has become more complex, changeable and intertwining, scientifically speaking (Salloum et al, 2018). Al-Emran et al (2018) indicated that the emergence of new organizational forms in relation to administrative decision-making in the Higher Education Ministry has increased competition and its danger, which requires fast and critical decisions in order to be able continue in its scientific and research orientations. This, in turn, requires the availability of up-to-date, accurate and problem-related information that increases the effectiveness of administrative decisions and thus the effectiveness of the performance of educational institutions (El-Sheikh et al, 2012).

Watchaton & Krairit (2019) indicated that information management systems are at the fore

in the information transfer and opinions exchange between users who, in turn, have dispensed with traditional means due to the spread of modern technology, which has led to the speed of these means in keeping pace with the times. Owusu & Broni (2020) also indicated that management information systems and their uses have become of importance in various administrative institutions. Apridiyanti et al (2020) indicated the existence of the effect of information management on many other variables such as control, planning, administrative regulation and the process of administrative decision-making. In a related context, most developed countries have become dependent mainly on management information systems in their work. Consequently, most of these educational institutions have a direct connection with the Internet, and various third world countries, including Jordan, have realized the importance of management information

systems for making financial decisions in the Jordanian Higher Education and Scientific Research Ministry (Senan, A., & Istvan, 2021).

On the other hand, the Jordanian Higher Education and Scientific Research Ministry is trying to focus its attention on its administrative decision-making processes through the institutional process of administrative decision-making; the decision-making process is the core of the entire administrative process, to which all the necessary aspects of administrative organization are related (Al Shobaki & Abu-Naser, 2017).

Based on the previous presentation, research into the effect of information management systems on the financial decision-making process in the Jordanian Higher Education and Scientific Research Ministry has its justifications. One of these justifications is that decision-making processes become of quality and effectiveness, and contribute to the development of strategies, processes and appropriate plans for planning and development in the Jordanian Higher Education and Scientific Research Ministry.

Problem of the Study

In midst of the great transformations that higher education and scientific research institutions are witnessing in Jordan, and the challenges posed by the external environment as a result of the phenomenon of globalization and the use of modern technological systems and techniques in administrative work, attention has begun to be paid to the quality of making effective administrative decisions (Jreisat, 2018). Accordingly, interest has begun to increase in using modern technologies, systems and programs through their various applications related to modern administrative systems.

Several studies have dealt with the issue of information management systems and its effect on the operations of administrative decision-making in general, and concluded with many results that differ according to the environment of that study. The result of Kamel's study (2016) indicated the existence of a clear effect of information management on decision-making

operations. The results of the Al-Youbi & Khoualdi study (2021) indicated that the quality of the decisions the decision maker makes depends on the close relationship between information management systems and how qualitative the information the decision maker depends on.

Since the Jordanian Higher Education and Scientific Research Ministry is required to develop its structure in accordance with the developments taking place related to the administrative aspect and the administrative decision-making processes related to the financial aspect, in order to keep pace with all the developments on the global scene in terms of administrative development and modernization; this will only happen through the development of its systems and programs, in accordance with these developments. The Higher Education and Scientific Research Ministry should also adopt a culture of development, reform and innovation within the requirements of effective and high-quality administrative decision-making, and enhance the principle of competitiveness between higher education institutions in Jordan and educational institutions in countries around the world. Hence, the above calls the researcher to try to reveal the effect of information management systems on the financial decision-making operation in the Jordanian Higher Education and Scientific Research Ministry. The researcher will analyze the aspects of the topic in an attempt to understand the context of the reality of administrative decision-making operations related to the financial aspect with analysis and interpretation to provide answers to a the following main question of the study:

What is the effect of information management systems on the financial decision-making operation in Jordanian Higher Education and Scientific Research Ministry?

The Study Questions

1. What is the effect of information management systems in the operation of making administrative decisions related to the financial aspect in Higher

Education and Scientific Research Ministry **in terms of planning** ?

2. What is the effect of information management systems in the operation of making administrative decisions related to the financial aspect in the Higher Education and Scientific Research Ministry **in terms of organization** ?
3. What is the effect of information management systems on the administrative decision-making operations related to the financial aspect in the Higher Education and Scientific Research Ministry **in terms of guidance**?
4. What is the effect of information management systems on the administrative decision-making operation related to the financial aspect in the Higher Education and Scientific Research Ministry **in terms of control**?

The Study Objectives

1. Identifying the effect of information management systems in the operation of making administrative decisions related to the financial aspect in the Jordanian Higher Education and Scientific Research Ministry in terms of planning .
2. Identifying the effect of information management systems in the operation of making administrative decisions related to the financial aspect in the Jordanian Higher Education and Scientific Research Ministry in terms of organization .
3. Identifying the effect of information management systems on the administrative decision-making operations related to the financial aspect in the Jordanian Higher Education and Scientific Research Ministry in terms of guidance.
4. Identifying the effect of information management systems on the administrative decision-making operation related to the financial aspect in the Jordanian Higher Education and

Scientific Research Ministry in terms of control.

The Study Significance

Significance of the current study lies in its dealing with a modern trend in management that is represented by information management systems and its effect on the operations of taking financial decision and the Jordanian Higher Education and Scientific Research Ministry attitude towards this type of management, and the significance of the study can be summarized by following:

1. The importance of the subject of the study, especially the aspect of the realistic application of management information systems in the Higher Education and Scientific Research Ministry, and the implications of applying this type of management on the financial decision-making processes related to the financial aspect.
2. The study may be useful to assure officials in the Higher Education and Scientific Research Ministry to recognize the importance of applying information management systems, and support them to achieve the primary role in planning, administrative development, guidance, and paying attention to financial affairs.

Terms of the Study

Information Management Systems: It is a group of elements linked together, that aims to collect information about a specified subject, to make the right decision about it, so it is important that the information collected be right, true and clear and any failure during the collection process will lead to the failure of MIS in its mission (Tummers, 2019).

Financial management decisions: defined as decisions related to financial issues for a business, decisions regarding the amount of money to be invested to enable organizations to achieve their ultimate goal, the type of assets to be acquired, the pattern of capitalization, the

pattern of distribution of company income and other similar matters are included in financial decisions (Martins et al, 2019).

Planning: Hendriyati et al (2022) defines it as the basic process of management during which ends and means are defined by issuing decisions, drawing up policies, setting programs and budgets that help in balancing goals on the one hand and resources on the other hand, within a specific time and environmental context.

Organization: Guha, S., & Kumar (2018) defines it as the necessary arrangements, and the means by which administrative work is carried out, and objectives are achieved. It is a process that includes dividing the work, distributing it among the activity units, and defining the powers and competencies of all employees to avoid confusion, repetition and overlap between them. It also includes establishing a structure or organizational structure between relationships.

Guidance: Al-Emran et al (2018) define it as the process of communication between leaders to achieve the goals of departments and educational institutions. Accordingly, guidance includes principles represented in the ability to extract the best administrative decisions. Moreover, it is the ability to focus on the efforts that ensure the achievement of the common goals of the institution.

Control: Al-Youbi & Khoualdi (2021) defines it as an effective and positive tool for evaluating administrative decisions and determining their compliance with the plans. This is in order to stand on the conditions of the administrative workflow for reform, evaluation and development.

Field Study

In this section, the researcher determined the procedures that have been conducted which are: study methodology, the study community, the instrument, the instrument validity and reliability. Below is an explanation for that.

The Study Methodology

The descriptive-analytical approach was used in this study. Data and facts will be collected, classified and tabulated. The approach deals with describing the phenomenon of the study and collecting right and true information about it.

The Study Sample

The population of the study consisted of all (334) faculty members at Al-Isra University in Jordan. In a next step, an available sample of (177) faculty members was selected, representing (52.99%) of the total number of faculty members. The researcher has used the table of Krejcie & Morgan (1970) to select his research sample.

The Study Instrument

A questionnaire of (24) items was developed by the researcher to reach the goals of the study. The questionnaire measured the effect of information management systems on the financial decision-making operation in the Jordanian Higher Education and Scientific Research Ministry.

Validity of the Instrument

The questionnaire validation requires researcher to calculate the items' correlation coefficients, as illustrated in the following table.

Table (1) Pearson Correlation coefficients

| dimension | correlation coefficients | Sig.(2- tailed) |
|--|--------------------------|-----------------|
| The effect of information management systems in the operation of making administrative decisions related to the financial aspect in the Higher Education and Scientific Research Ministry. | 0.843** | 0.000 |

Table (1) clarifies the high correlation coefficient. The data in table (1) means that the correlation coefficient statistically significant at the level of significance (0.000).

Reliability

The questionnaire's reliability was confirmed by using Cronbach's Alpha method, as illustrated below:

Table (3) Cronbach's Alpha

| dimension | Cronbach's Alpha |
|---|------------------|
| The effect of information management systems in in the operation of making administrative decisions related to the financial aspect in the Higher Education and Scientific Research Ministry. | 0.752 |
| Total reliability Coefficient | 0.859 |

It is clear from the previous table that total Cronbach's alpha reliability coefficient is high (0.859).

Results and Discussion

The First Question: What is the effect of information management systems in the process of making administrative decisions related to the financial aspect in the Higher Education and Scientific Research Ministry in terms of planning ?

For this question, as illustrated bellow the researcher calculated of the responses of the study subjects to all the dimension's items of planning with their arithmetic means and standard deviations in the process of making administrative decisions related to the financial aspect.

Table (4) The Dimension of Planning

| No. | Items | Means | Standard Deviations | Rank | Degree |
|-----|---|-------|---------------------|------|--------|
| 3 | Employing new planning processes that fit the professional culture. | 4.13 | 0.87 | 1 | High |
| 2 | The ability to deal directly with developments and changes in the administrative arena. | 4.09 | 0.90 | 2 | High |
| 5 | Relying on development plans emanating from strategic planning. | 3.26 | 0.96 | 3 | Medium |
| 4 | Drafting operational plans along with strategic plans to achieve the future goals of the Ministry. | 3.26 | 1.03 | 4 | Medium |
| 1 | Adopting effective and productive administrative knowledge to include the quality of administrative work. | 3.26 | 0.87 | 5 | Medium |
| 6 | Developing future plans for an effective administrative performance development system. | 2.57 | 1.03 | 6 | Low |
| | Weighted Mean | 3.43 | 1.08 | - | High |

It is clear from Table No. (4) that the arithmetic mean of the responses of the study members to the items of the planning dimension was (3.43) with a standard deviation of (1.08), which is located in a large degree of practice. The arithmetic means of the items of this dimension ranged between (2.57) and (4.13), between the lowest and highest arithmetic mean, and the responses of the study members were within a percentage ranging between (68%) and (84%).

The results mentioned above can be due to the fact that planning processes are commensurate with the professional culture, and the ability to deal directly with the new developments and changes in the administrative arena, by identifying the opportunities that are invested in order to reach effective and high-quality decisions. This result can also be attributed to the fact that planning in the Higher Education

and Scientific Research Ministry depends on development plans emanating from strategic planning to formulate operational plans through which potential external threats and risks that may affect the functioning of the ministry are identified.

The Second Question: What is the effect of information management systems in the process of making administrative decisions related to the financial aspect in the Higher Education and Scientific Research Ministry in terms of organization ?

For this question, as illustrated bellow the researcher calculated of the responses of the study subjects to all the dimension's items of organization with their arithmetic means and standard deviations in the process of making administrative decisions related to the financial aspect.

Table (5) The Dimension of organization

| No. | Items | Means | Standard Deviations | Rank | Degree |
|-----|--|-------|---------------------|------|--------|
| 4 | The distribution of tasks and the division of administrative work according to a high professional culture. | 3.69 | 1.19 | 1 | High |
| 6 | Using a formal communications network that allows for the smooth and easy exchange of data and information. | 3.40 | 1.09 | 2 | Medium |
| 3 | Organizing policies to implement programs commensurate with improving the quality of financial administrative decisions. | 3.37 | 1.17 | 3 | Medium |
| 1 | Expanding the circle of participation in decision-making by involving all beneficiaries of administrative services. | 3.15 | 1.45 | 4 | Medium |
| 5 | Using scientific knowledge generation and problem solving in decision making. | 2.59 | 1.92 | 5 | Low |
| 2 | Developing research maps according to certain organizational bases and standards. | 2.55 | 1.33 | 6 | Low |
| | Weighted Mean | 3.13 | 1.63 | - | Medium |

It is clear from Table No. (5) that the arithmetic mean of the responses of the study members to the items of the organization dimension was (3.13) with a standard deviation of (1.63), which is located in a medium degree of practice. The arithmetic means of the items of this dimension ranged between (2.55) and (3.69), between the lowest and highest arithmetic mean, and the responses of the study members were within a percentage ranging between (52%) and (68%).

The results mentioned above can be due to the fact that the study sample has a tendency to centralize work, and focus on traditional methods of performing administrative work, in addition to the lack of use of a formal communication network that allows for the smooth and easy exchange of data and information to organize programs that are commensurate with improving the quality of administrative financial decisions. It is also clear

that the study sample has a medium degree of practice towards implementing change and renewal programs related to administrative decisions, and expanding the circle of participation in decision-making related to administrative organizational services.

The Third Question: What is the effect of information management systems on the administrative decision-making process related to the financial aspect in the Higher Education and Scientific Research Ministry in terms of guidance?

For this question, as illustrated below the researcher calculated of the responses of the study subjects to all the dimension's items of guidance with their arithmetic means and standard deviations in the process of making administrative decisions related to the financial aspect.

Table (6) The Dimension of Guidance

| No. | Items | Means | Standard Deviations | Rank | Degree |
|-----|---|-------|---------------------|------|--------|
| 5 | Guiding the implementation of the designed plans and the proper use of organizational relationships related to decision-making. | 3.54 | 1.05 | 1 | High |
| 6 | Improving the means of administrative communication and facilitating the exchange of information. | 3.33 | 1.08 | 2 | Medium |
| 3 | Determining performance development steps for effective management decisions. | 3.21 | 1.20 | 3 | Medium |
| 1 | Guiding and spreading the spirit of cooperation and continuous activity among the employees of the Ministry. | 3.11 | 1.06 | 4 | Medium |
| 4 | Adopting accurate standards in making comparisons of financial management decisions that have been approved. | 2.59 | 1.12 | 5 | Low |
| 2 | Directing the implementation of organizational plans in order to reach effective and quality administrative decisions. | 2.51 | 1.21 | 6 | Low |

| No. | Items | Means | Standard Deviations | Rank | Degree |
|-----|---------------|-------|---------------------|------|--------|
| | Weighted Mean | 3.05 | 1.35 | - | Medium |

It is clear from Table No. (6) that the arithmetic mean of the responses of the study members to the items of the guidance dimension was (3.05) with a standard deviation of (1.35), which is located in a medium degree of practice. The arithmetic means of the items of this dimension ranged between (2.51) and (3.54), between the lowest and highest arithmetic mean, and the responses of the study members were within a percentage ranging between (52%) and (68%).

The results mentioned above can be due to the fact that the mechanisms of guidance in the implementation of plans and the use of organizational relations may not reach the stage of good effectiveness in terms of improving the means of administrative communication, and spreading an organizational culture based on the processes of developing administrative

performance, in addition to the steps to develop administrative performance to improve the financial administrative decisions issued by the ministry.

The Fourth Question: What is the effect of information management systems on the administrative decision-making process related to the financial aspect in the Higher Education and Scientific Research Ministry in terms of control?

For this question, as illustrated below the researcher calculated of the responses of the study subjects to all the dimension's items of control with their arithmetic means and standard deviations in the process of making administrative decisions related to the financial aspect.

Table (7) The Dimension of Guidance

| No. | Items | Means | Standard Deviations | Rank | Degree |
|-----|---|-------|---------------------|------|--------|
| 3 | Following-up on the implementation of an effective communication system within the ministry using modern means of communication with the external environment | 3.84 | 1.09 | 1 | High |
| 6 | Assuming all responsibilities towards administrative work, linking it to competitiveness and improving performance | 3.79 | 1.15 | 2 | High |
| 5 | Setting the conditions for subsequent control (after implementation) in the issuance of administrative financial decisions | 3.74 | 1.26 | 3 | High |
| 1 | Employing the foundations of ongoing control (during implementation) in issuing financial and administrative decisions. | 3.33 | 1.16 | 4 | Medium |
| 4 | Adoption of positive preventive control standards in | 2.57 | 1.14 | 5 | Low |

| No. | Items | Means | Standard Deviations | Rank | Degree |
|-----|---|-------|---------------------|------|--------|
| | the issuance of financial and administrative decisions. | | | | |
| 12 | Protection of management information systems through efficient control means. | 2.52 | 1.13 | 6 | Low |
| | Weighted Mean | 3.30 | 1.05 | - | Medium |

It is clear from Table No. (7) that the arithmetic mean of the responses of the study members to the items of the control dimension was (3.18) with a standard deviation of (1.05), which is located in a medium degree of practice. The arithmetic means of the items of this dimension ranged between (2.52) and (3.84), between the lowest and highest arithmetic mean, and the responses of the study members were within a percentage ranging between (52%) and (68%).

The results mentioned above can be due to the fact that faculty members are aware, to a medium degree, of the importance of employing the foundations of control, by adopting positive preventive control standards, in addition to follow-up processes related to renewal and innovation mechanisms, in order to provide an effective administrative work environment in a way to reach high-quality financial management decisions.

Summary of the Results

1. The arithmetic mean of the planning dimension was (3.43) with a standard deviation of (1.08) which refers to a high degree of practice.
2. The arithmetic mean of the dimension of organization was (3.13) with a standard deviation of (1.63) which refers to a medium practice degree.
3. The arithmetic mean of the guidance dimension was (3.05) with a standard deviation of (1.35) which refers to a medium practice degree.
4. The arithmetic mean of the control dimension was (3.18) with a standard deviation of (1.05) which refers to a medium practice degree.

Recommendations

1. Focusing on the processes of developing administrative performance in the Higher Education and Scientific Research Ministry in order to reach effective financial decisions of high quality.
2. Focusing on planning processes for the safety of administrative work, ensuring its good progress, the quality of its profitability, and the success of programs and projects within a clear strategy.
3. Focusing on organizational processes in terms of division of work and distribution of tasks and responsibilities, according to specifications, competencies, expertise and specialization.
4. Focusing on the guidance processes by invoking an administrative leadership capable of creating an integrated team spirit with unified goals.
5. Focusing on control including the processes of follow-up and evaluation of projects and programs directly, in order to determine the conditions of workflow for reform, evaluation and development in the issuance of financial administrative decisions.

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