

**The reality of using computer information systems and its impact  
on the efficiency of Human Resources performance in Saudi  
university**

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## Abstract

The present research seeks to reveal the reality of employing computer information systems and their impact on the efficiency of human resources performance in Saudi universities. To achieve the objectives of the research, a descriptive approach was adopted that fits the nature of the research. The results showed that computer information systems in Saudi universities effectively affect the functions of electronic human resources management, especially in the areas of training, development, communication and e-learning. In addition, Saudi universities suffer from a lack of funding for computer information systems in human resources management to improve the quality of information, systems and services they provide. The researcher recommended a set of recommendations, most notably: the need for cooperation between universities with respect to the employment of computer human resources information systems. And the need to work on the development of computer information systems to include all administrative aspects.

**Keywords:** computer information systems, performance, Saudi universities, human resources management.

## Introduction

Research and studies indicate that the use of modern technologies in business organizations is reflected in productivity and business trends. There was a significant difference between production levels before and after the introduction of modern technology. The improvement in some organizations has reached an encouraging level after the use of modern technology. Universities are centers of scientific radiation and are a model for educational organizations and their human resources represented by the university professor and the employment of knowledge through which the civilized project of the nation arises and takes shape. Their core work is specialized knowledge that is the property of scientific work in innovation, management, organization and motivation. The Information Communications Technology ICT revolution has played a key role in advancing towards the so-called knowledge economy, which relied on information technology for its success and the Research and Development R&D system, which is the lifeblood of this economy, resulting in great significance changes in economic reality (Naser & Shabaki, 2016).

Information technology has contributed to make revolution in the contemporary workplace and human resource industry. Human Resources professionals now have an increased ability not only to gather information, but also to store and recover them in a timely and efficient manner. This has not only increased the efficiency of the Organization, but also increased the effectiveness of management functions. The new technology has also created opportunities for higher levels of pressure for junior and senior employees alike and opportunities for better leadership practices (Sadiq, Khan, Ikhlaiq, & Mujtaba, 2012).

In this globalized world, Human Resources Management is the management which has become increasingly central to the implementation of the Organization's policy. Therefore, human resources management is now an integral part of any organization, whatever its field of work.

More organizations currently develop information technology that can help the organization achieve its goals in a timely manner. These information systems can then help the organization make more strategic decisions (Sadiq, Khan, Ikhlaiq, & Mujtaba, 2012).

The stability of the educational institutions and the university and their competitive advantage and their additional profit, in the contemporary environment, directly with the balance of available resources. Human resources management is one of the most important key issues for successful work, this is under the great influence of modern information technology and systems. A new concept of new computer information systems has emerged known as Human Resource Information Systems (HRIS), These are systems which used to collect, record, store, analyze and retrieve data on the organization's human resources using information technology and computer technologies (Dorel & Bradic-Martinovic, 2011).

The importance of HRIS is multifaceted, it begins with operational assistance in collecting, storing and preparing data for reports, streamlining and accelerating processes, controlling available data, reducing labor costs in human resources departments, providing timely and varied information and managing the company, based on high-quality strategic decisions regarding human capital (Dorel & Bradic-Martinovic, 2011).

### **Research Problem**

Human Resource Management is Facing, whether in the public or private sector in the world, enormous challenges right now, there are many political, economic, social, technological and cultural changes that are rapid and complex (النجار, 2009). Information technology is one of the factors that significantly affect human resources management, the changes that will result due to information technology in the next 50 years are equivalent to the changes that have occurred in this area over a thousand years (Shobaki, Naser, Amuna, & Talla, 2017).

One of the most important areas to study and highlight is the evaluation of the use of Human Resources Information Systems (HRIS) by employees working in Human Resource Management Departments (HRM) in public universities in Saudi Arabia.

Many researchers and scholars in this field have conducted many studies and researches on the concept of computer information systems and human resources information systems, that are suitable for application in many states and surrounding circumstances; however, it may not be directly applied to educational institutions and universities in Saudi Arabia (Aletaibi, 2016). Therefore, it is very important to study and analyze the uses of HRIS for higher education institutions and universities in Saudi Arabia. In light of this, the current research was conducted to reveal the reality of employing computer information systems and their impact on the efficiency of human resources performance in Saudi universities.

### **Research questions**

The search problem can be expressed by the following key question:

- What is the reality of employing computer information systems and their impact on the efficiency of human resources performance in Saudi universities?

A number of sub-questions emerge from the main question, the most important of which are:

- What are computer information systems?
- What is the role of computer information systems in improving human resources performance?
- What are the factors that affect the performance of human resources in Saudi universities?
- How the performance of human resources in Saudi universities is influenced by the demographic variables (gender, age, job title, years of experience, educational qualification)?

## Research goals

The current research seeks to reveal the reality of employing computer information systems and their impact on the efficiency of human resources performance in Saudi universities, this can be achieved by achieving the following objectives:

- Identify what computer information systems are.
- Highlight the role of computer information systems in improving human resources performance.
- Discuss the factors that affect the performance of human resources in Saudi universities.
- Discuss the impact of demographic variables (sex, age, job title, years of experience, educational qualification) on human resources performance in Saudi universities.

## Research Methodology

To achieve the objectives of the research and to answer its questions about the reality of the use of computer information systems and their impact on the efficiency of human resources performance in Saudi universities; a descriptive method was used that fits the nature of the current research, which is based on the study and discussion of literature and previous studies that relate to the subject of the current research.

## Previous studies

Numerous studies and research have dealt with topics related to the current research topic, which is focuses on computer information systems and their impact on human resources management in Saudi universities, and the following are some of these studies:

حامد study (2016) entitled "The role of human resources information systems in improving the performance of workers in small and medium enterprises - a case study of the Worood Perfumes and Najma flour Foundation" which aimed to reveal the

relationship between computer information systems used in human resources management in the process of evaluating the performance of employees and their impact on the performance of the organization as a whole. To achieve the study objectives, the descriptive statistical method was used. The results showed that human resources information systems have an effective impact on the performance of workers in small and medium enterprises, and the results also confirmed that information systems are one of the most important factors affecting improving the performance of institutions.

العتيبي study (2016) aimed to develop a new model that provides a comprehensive overview of the most important factors affecting the HRIS problem within the HR departments of Saudi universities. This results in the development of a theoretical framework as a model for investigating the effects of different dimensions of the proposed model on the use of HRIS by employees. A mixed search design including interviews and questionnaires was used to collect quantitative and qualitative data; analytical techniques were used with SPSS to analyze data. The results obtained from the qualitative phase showed that six factors influenced the use of HRIS in the HR departments of public universities: benefit, faster decision-making process, system quality, ease of use, self-standards (social and peer pressures) and standardization systems. The impact of these dimensions on the use of HRIS was measured in the qualitatively phase, and this shows the positive impact of system quality, service quality and ease of use on system usage. Furthermore, the impact of HRIS on human resources (HR) was investigated, based on performance and productivity, and HRIS has been shown to have a significant and positive impact on the performance and productivity of human resources departments in public universities in Saudi Arabia.

الرويلي study (2014), entitled "The role of human resources information systems in increasing the effectiveness of the performance of human resources management: a field study in the Ministry of Interior in the Kingdom of Bahrain" aimed to reveal the role of human resources information systems in raising the efficiency of the performance of

human resources management working in the Ministry of Interior In the Kingdom of Bahrain, and the descriptive statistical method was used to achieve the study objectives. The results showed that there are statistically significant differences at the level of significance between the effectiveness of human resources management performance and human resources information systems, and the results also confirmed that there are statistically significant differences between the performance of employees in human resources management attributable to demographic variables (sex, age, educational qualification, job, years of experience).

The المسقا Study (2013), entitled "Electronic Human Resources Information System on the Performance of the general Employees Bureau in the Gaza Strip", aimed to reveal the reality of the use of computer information systems in human resources management. and the descriptive statistical method was used to achieve the study objectives, in addition to preparing the questionnaire tool, which was distributed to a sample of (85) staff members of the general Employees Bureau. The results of the study found that computer information systems are already being used to improve the performance of human resources. These systems also contribute to improving the performance of the Bureau through its contribution to increase the effectiveness, efficiency and quality of the performance of human resources working in the General Bureau. The study recommended the need to work on the computerization of human resources information systems in the Bureau to be comprehensive for all dealings of the external and internal.

The (Dorel & Bradic-Martinovic, 2011) study aimed to highlight the importance of computer human resources systems and give a comprehensive view of the subject. This study focused on companies in Serbia, which started to apply this concept, and to achieve the study objectives, the descriptive statistical method was used. It was found that this concept did not witness a large spread in the study population.

The results also show that companies' use of information systems in the Republic of Serbia has been increasing over the years, although the situation remains unsatisfactory. Based on data obtained from the Statistical Office of Serbia survey.

The (Ikhlas & Al-Shqairat, 2010) study aimed at exploring the extent to which Jordanian public universities adopted the Human Resources Information System (HRIS) and examined the uses, benefits and barriers of the current HRIS in these universities. A structured questionnaire was created based on other previous studies, it has also been pre-tested, modified and translated to capture data from HRIS users in Jordanian universities. The main findings of this study revealed that rapid response and access to information were key benefits of Human Resources implementation. While insufficient financial support; difficulties in changing the culture of university institutions and the lack of commitment of senior managers have been major impediments to the implementation of HRIS.

### **Computer Information Systems**

Before identifying the concept of computer information systems, the concept of information technology must be identified, which expresses the use of any of the computers, storage, networks and other physical devices, infrastructure and processes to create, process, store, secure and exchange all forms of electronic data. Information technology is often used in the context of an organization's operations rather than personal or entertainment technologies. Commercial use of information technology includes both computer technology and telephony.

All computer information systems go through a series of stages, starting with system planning, system analysis and design, system implementation and use. In order to understand the concept of computer information systems must also identify the main components of these systems,

it consists of five components: hardware, software, data, individuals and processing, and here are some details of these components (السقا, 2013):

1. Hardware and devices: Information systems devices are an essential part of any information system. The devices are the physical components of information technology and systems. Computers, keyboards, drives, iPads, and flash drives are examples of information system devices.
2. Software and programs: Software and programs are an intangible component of any information system, a program is a set of instructions that tell devices what to do. When programmers create programs, what they are actually doing is writing a set of code that arranges the devices mechanism to perform the required commands efficiently and effectively. There are many program categories, and the two main categories are operating system software which makes the device usable and application software which does something useful. Examples of operating systems include Microsoft Windows on a PC and Google's Android Operating systems on a mobile phone. Examples of application programs are Microsoft office.
3. Data: Data is also an intangible component. It is a set of facts and information. Such as user-related information as address and phone number. To take advantage of this data and use it is subject to a series of stages that begin to be collected, indexed and organized together in a database. Data can become an effective tool for organizations. Organizations collect, process and use different forms of data for decision-making. These decisions can then be analyzed with regard to their effectiveness and the institution can be improved (عبادي, 2014).
4. People: People who are the main component of these systems, from the programmers and designers of these systems to the users, where these systems are designed and configured to serve and facilitate some of their tasks.
5. Process: A series of steps taken to achieve the desired result or goal. Information systems are becoming more and more integrated with organizational processes,

resulting in increased productivity and improved control over these processes. But simply automating activities using technology is not enough - businesses looking to make effective use of information systems do a lot. The ultimate goal is to use technology to manage and improve operations within and outside the organization with suppliers and customers. Organizations that wish to gain a highly competitive advantage focus on this particular component of information systems (السقا, 2013).

### **Human Recourses Management**

Human resources management is a distinct approach to recruitment management that seeks to achieve a competitive advantage through the strategic deployment of a highly committed workforce capable of performing business tasks effectively using an integrated set of cultural, structural and personnel technologies.

Human resources management relates to a set of policies and practices necessary to implement the various human resource management activities that a business needs to exercise its functions in the changing environment of organizations and companies. Where Human resources management in the public and private sectors in the world as a whole faces enormous challenges in the current era, it is fraught with rapid and complex political, economic, social, technological and cultural changes (النجار, 2009).

### **Factors Affecting Human Resources Management in Saudi Universities**

There are many internal and external factors that affect, whether positive or negative in the management of human resources, the most important of these factors are the following (أبو اسنينة, 2017):

1. Economic factors: The economic climate is one of the most important factors that affect the management of human resources in institutions, whatever their area and specialization. Economic conditions affect the financial conditions of universities. Under the favorable economic conditions in Saudi universities,

- there are a number of economic factors that affect the management of human resources in universities by affecting their operations and services.
2. Technological changes and developments: Rapid technological changes and innovations are taking place all over the world. As a result of these technological changes. Professional staff are increasingly needed. Thus, the selection of technically skilled personnel is essential to match the changing job requirements.
  3. Political and legal factors: One of the most important external factors affecting human resources management is the legal environment. Where the Department of Human Resources Management at universities must abide by the restrictions and legislation imposed by the state.
  4. Educational factors: The level of education is one of the most important factors that affect the success of human resources management, the educational system is the key to the success of Saudi universities, in terms of determining the disciplines and numbers required for each discipline, However, it is also one of the most important challenges that may adversely affect the management of human resources such as the prevalence of illiteracy and ignorance among citizens (الحسن, 2008).

### **Computer Information Systems in Human Resources Management in Saudi Universities**

Human resources are greatly affected by the many technological and technical changes that the world is witnessing today. These changes and developments include the emergence of many computer information systems that are used in human resources management. Before discussing this, the concept of human resources management should be highlighted.

Managing human resources using computer information systems is an administrative activity related to identifying project needs of work resources and providing them with figures and competencies that match the needs of the project and working to use these resources effectively in achieving the objectives of productivity efficiency (درة والصباع، 2008). The use of technology in human resources management is called e-HRM. This means applying web-based technologies to HR systems and functions (Hopkins & Markham, 2006).

Another concept called the use of information systems in human resources management known as Human Resources Information System (HRIS) is a concept related to the use of information technology development and characteristics to effectively manage the functions and applications of human resources management (HRM). HRIS is a systematic procedure for collecting, storing, maintaining and retrieving data required by organizations on their human resources, staff activities and organizational characteristics (Ikhlas & Al-Shaqairat, 2010).

Human resources management refers to activities and tasks that are useful in maximizing the performance of university staff, it is a dynamic and sophisticated practice used by leaders and managers in all centers and departments of the university to enhance productivity, quality and effectiveness. Furthermore, human resources management is the process of using human resources in Saudi universities to achieve previously planned and planned goals (Shobaki, Abu-Naser, Talla, & Amuna, 2017).

### **Discuss findings and recommendations**

Through discussion and analysis, it has found that the the university system in human resources management varies to varying degrees from one university to another and has a significant impact on human resource management using computer information systems.

It was also found that the nature of the university system in human resources management is an indicator of the process of transition to human resources management using computer information systems in terms of the use of information technology in some functions of human resources management.

In addition, it has found that there was a gap between human resources management using computer information systems as a technical concept on the one hand and the use and adoption of management and managers on the other. And that all the universities, whether governmental or private, all agree on the importance of human resources management, However, human resource management applications using computer information systems are still limited in their early configurations and have not been optimized. And the use of computer information systems is also conformity with the use of human resources management functions with the requirements of different universities.

It was found that there are a set of internal and external factors in educational institutions and universities that affect the management of human resources such as economic, political, legal, educational and other factors, However, it was found that human resources management in Saudi Arabia under the new changes and reforms is not affected by the factor of sex or age as some thought.

While computer information systems in universities affect the functions of electronic human resources management, especially in the areas of training and development, communication and e-learning. In addition, Saudi universities suffer from a lack of funding for computer information systems in human resources management to improve the quality of information, systems and services they provide.

In light of the above, the research reached a set of recommendations aimed at enhancing the use of computer information systems in human resources management in Saudi universities,

the most important of which are the following:

- The necessary of cooperation between universities with regard to the recruitment of computer human resources information systems.
- The need to search for funding sources for change projects for computerized human resources information systems and put them in the priorities of strategic plans of Saudi universities.
- The need to work on the development of computer information systems to include all administrative aspects.
- The need to develop computer human resources management in Saudi universities as the key element in the success of the application of computer information systems in human resources management.

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