

## **The role of management information systems in improving international human resources management practices in multinational companies: An analytical study**

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### **Abstract:**

The aim of this research is to reveal the important role of management information systems in the management of international human resources in oil licensing companies in the province of Basra, using in this study the analytical approach because the study is applied in more than one company, and a special questionnaire form has been developed to ensure that there is a relationship of influence and correlation between the main variables of the study and its sub-dimensions, so the researcher has distributed an electronic questionnaire form by e-mail to a sample of managers and officials in Oil licensing companies, to which the number of respondents reached (200) respondents out of (422), which were analyzed and clarified the most important results of this study. The results of the analysis showed a positive correlation and impact of statistical significance between the independent variable (management information systems) and the dependent variable (international human resources management), through the use of management information systems technology in senior management and all levels led to improving international human resources management practices in oil licensing companies, through the use of management information systems in their administrative and technical work Help the company's management to carry out international human resources management practices (planning, recruitment). Training and compensation) faster and better than in the past, can benefit from the findings of the current study by strengthening and supporting the adoption of management information systems in oil licensing companies in Basra Governorate, in order to improve their international human resources management practices, which are like a wall that surrounds the companies concerned and helps them to develop and keep pace with the changes in the modern environment, and helps them to compete with other companies and surpass them if they are used efficiently and thus Leads to improving international human resources management practices in terms of (planning, recruitment and training, compensation).

**Keywords:** Management Information Systems, Human Resource Management, International Management, Multinational Companies.

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### **Introduction:**

Baghdad is on the banks of the Tigris River. It became In view of the transformations that the world is witnessing today, especially in the recent period (year 2020), in the Covid-19 pandemic, which led to a high rate of employee loss of their jobs, a high mortality rate and a decrease in the revenues of large companies, as it caused the cessation of 60% of the work of employees in global, international and local companies, in this period the interest in the role of digital technology emerged in the world, as these companies adopted remote work systems in order to adapt in light of this crisis, including The use of management information systems, modern communication technologies, digital conferences, meetings and videos that helped to complete the work in companies .

Interest in information systems and their uses in developed societies has increased to the point that all organizations now use information systems in their operations. The era of the information and communication revolution depends directly on the link between advanced technology systems and how to manage their uses (Aboulola et al., 2021: 2). Information systems have entered into every aspect of operation and organization so that automated processes have become necessary in organizations of all kinds, whether these processes are public or private (Vooberg et al. 2021). Management information systems have greatly affected the work of organizations and have a major role in

achieving the goals for which those organizations were established (Benbya et al.2020). Information systems provide an important opportunity to humanize work through the use of decentralization of information referred to in decision-making processes (Keller et al. 2021).

In the field of scientific research from the late twentieth century to the present day, interest in research in international human resource management has grown (Ferner et al., 2011; Schuler & Tarique, 2007; Brewster et al., 2005; Sparrow & Braun, 2006; Taylor et al., 1996). International Human Resource Management (IHRM) refers to a combination between International Management (IM) and Human Resource Management (HRM) as it is a relatively new scientific field (Bjorkman & Stahl, 2006:1). The importance of international human resource management comes from the pivotal role in managing subsidiaries of multinational corporations (bos-Nehles et al., 2017: 515). To enhance their core corporate value, companies with external operations seek to harmonize their human resource management across all their subsidiaries by transferring relevant policies and practices to the parent company. In international human resource management, recruitment, international selection and global recruitment have become critical factors for the success of the external operations of multinational companies (Ge, Ando & Ding 2020).

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### Research Methodology

Collecting primary data on the problem, its various dimensions and associated factors will help researchers narrow the broad problem area, better understand it, and arrive at a subject that can be studied and analyzed (Sakaran & Bougie, 2016: 37).

#### Search problem:

##### The first axis:

1- It is clear from the modest review of previous studies that there are studies that dealt with two variables of the current study, for example, management information systems and international human resources management (Al-Hakim, 2020 ; Marlene & Carlos, 2018 ; Priotta, 2020).

2- As far as the researcher knows, she notes that management information systems and international human resources management are not addressed together in the Iraqi environment with few and rare studies, and therefore the current study comes to cover this aspect, especially the problem of international human resources facing international oil companies in Basra Governorate. The second axis:

The theme of this thesis was first embodied as an idea and then its features were defined on the ground in the oil licensing companies in Basra Governorate. Based on the above, the problem of the current study was reached represented by the following question:

((To what extent has the role of management information systems helped in the management of international human resources in oil licensing companies in Basra Governorate)) In order to diagnose the problem of the study in the field, the researcher prepared a checklist (Chick list) that includes a set of questions that revolve around the problem of the supposed study within the framework of the variable (International Human Resources Management) in order to verify the existence of administrative gaps in the mechanism of managing individuals of different nationalities and cultures in international companies and from the results obtained by the researcher it became clear The International Human Resources Department has obtained a percentage of yes by (26.1%) and obtained somewhat a percentage (35.2%) and both obtained a percentage of (38.5%). This indicates that there is a problem in the management of international human resources because they are of different nationalities, orientations and cultures, there is no harmony among them and it is difficult to manage them.

#### Search Queries

The study revolves around the following questions:

1. Is there a significant correlation and influence between (Management Information Systems) and (International Human Resources Management)?

2. Is there a statistically significant correlation and impact (for management information systems) in (international human resources management)?

#### Research Objectives

1. Testing the direct impact relationship between the independent variable (management information systems) and the dependent variable (international human resources management).

2. Trying to provide a theoretical framework related to research variables (administrative information systems) and (international human resources management), due to the lack of existing studies related to these variables, especially at the level of Arab studies.

3. Knowing the extent of the impact of (Management Information Systems) in (International Human Resources Management) in international licensing companies in Basra Governorate

#### Importance of research

The importance of the study appears through the objectives it seeks, and in general the importance is represented through the following: -

1. The scientific importance of the study is advised to present the results of the relationship between the variables of the study in a way that will clarify the important role of management information systems in the management of international human resources .

2. Focusing on the need to introduce management information systems in international organizations and consider them as part of their operations.

3. When referring to the previous literature, you see that this study is the first attempt by which the researcher tried to collect the variables of the study (management information systems, international human resources management) in scientific research (analytical), especially within international companies in the Iraqi environment, specifically in the province of Basra.

#### Research Design

The researcher relied in her study on the descriptive analytical approach, which is one of the basic approaches in social studies, including business, where the theoretical side of the study will focus on the deductive entrance and begins with the development of the hypothesis and then develop a strategy to test and verify it and then accept or reject it, and with regard to the field side has focused on the inductive entrance (Zikmund et al., 2010: 55-68).

#### Hypothetical Research Model

In the hypothetical model above, the following measures were used, the independent variable scale (MIS) with five dimensions (human resources, material resources, software, databases, networks) (O'Brien & Maracas, 2011: 32; Allahow et al., 2018: 4; Fridawati et al., 2019: 250). The IHRM scale has three dimensions:

(international human resources planning, international human resources recruitment and training, compensation for international human resources) (Omar, 2017: 250 ; Feng, 2016: 42).

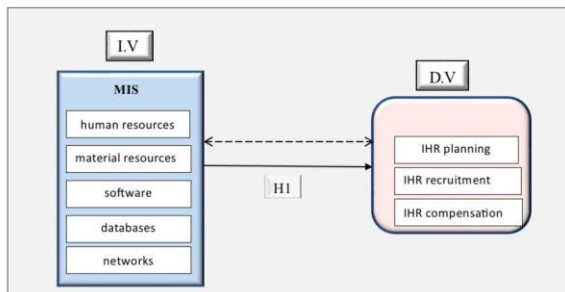


Figure (1) Hypothetical model of the study

### The concept of Management Information Systems :

Management information systems have helped the organization to complete the organization's work from the maintenance stages of supply and control of the full distribution of products in the organization (Boiko et al, 2019: 56). Management information systems are creating new ways of doing business as well as providing other ways of doing business for companies (Konovalenko & Ludwig, 2019:229). Information systems technology also provides better business and management flexibility for e-business application (Laudon & Laudon, 2018: 143). Management information systems uses electronic machines in their business to help them better manage their human resources (Berisha, 2015: 166).

### The importance of management information systems

The importance of management information systems can be illustrated by a set of points, namely (Laudon & Laudon, 2017: 86):

- 1- Improving operations using information technology and thus achieving the greatest degree of efficiency, innovation and customer service.
- 2- An increase in systems that support cooperation and teamwork among members of the organization, which makes a difference in the company's ability to increase its profits.
- 3- Organizing work activities that use information to work efficiently and enhance the company's performance.
- 4- Emphasizing innovation, through information practices and technologies that increase the rate of quality of work.
- 5- Sending the information needed by the administrative levels and providing them with them when they need them, in order to exercise the functions of the administrative process.

### Dimensions of Management Information Systems:

Some writers and researchers agreed on five dimensions (physical components, human components, databases, software, communication networks). The researcher adopted these five dimensions as dimensions of management information systems.

#### 1- For physical components

It includes all physical devices that are used in the processing of information and this is done through the process of entering, processing and output data, so it includes not only computers and machines, but also printers, scanners, cameras, etc. (O'Brien & Maracas, 2011: 74). Physical components are "all devices, machines, and physical components used in data processing such as data media, computers and other tangible devices used to record data," as explained (Zuppo, 2012: 16). They include (desktop computers, laptops, mobile phones, tablet computers, e-readers, storage devices, input devices, output devices). These components include tangible computing parts such as input units (keyboards, audio pickups, scanners), and output units (monitors, printers, speaker) through which data is processed (Turban & Voloino, 2011: 9).

#### 2- Human components

The human resource is one of the most important elements that lead to the success of the organization, as it includes a group of employees responsible for (creating, managing, operating) information systems and maintaining them (O'Brien & Maracas, 2011: 32). (Coronas & Olive , 2005: 125) asserted that the advent of technology and the World Wide Web has greatly affected how organizations operate and that most job changes are in the long run. It helps to improve the skills of employees and the ability to acquire, process and disseminate information, as human resources have the ability to decide the fate of institutions.

#### 3- Software

Software represents the intangible parts, for example, software applications that are used in the direct processing of data, such as storage programs, etc. (Nabhan, 2020: 58). (Schreiber & Bruggemann ,2017: 119) explains that there are two reasons why organizations today are interested in software:

- 1- The first is due to technological developments and the need to store hundreds of thousands of files.
- 2- The second is the need for approved methods to deal with stored information.

#### 4- Databases

Databases are an essential system and component of the information system in large companies (Fridawati et al, 2019: 659). The objective of the database management system is to collect, classify, classify, store and retrieve the organization's data when needed in an appropriate and fast manner (Porter, 2001:30). It is a set of overlapping and interrelated data or information that is integrated and arranged in a way that can be processed,

retrieved and searched for easily and quickly (Abadi and Al-Ardhi, 2012: 32).

#### **5- Communication networks**

Communication networks are an essential part of information systems, and are one of the success factors in business activities and processes in contemporary organizations. Through which data, information and knowledge are transferred and exchanged inside and outside the institution, and it is a key factor in increasing the effectiveness and success of institutions. Organizations today should determine the type of networks (Internet, extranet) appropriate for their work with the need to continuously develop the skills of their employees (Webster, 2006: 103). Today, workplaces are rooms equipped (monitors, projectors, sound systems, smart systems) to facilitate business (Khan et al, 2015: 85).

#### **The concept of International Human Resources Management:**

International human resources management plays a big role today and more important than ever, through that new forms of business require new ways of communicating with people, so human resources professionals should analyze social, economic, political, legal and technological environmental opportunities to redesign personnel management processes and practices in a way that increases the success of the organization and achieves its goals (Huu, 2022: 2912). Many early studies have emerged in international human resource management, including expatriate management, for example the recent work of Ivancevich as well as large flows of joint research on multiculturalism (Hofstede, 1980) or recent comparisons in human resource management, and the increase in the literature of international business strategy, which has shown interest in managing people across international companies (Paul, 2019: 173). International human resource management is also a practice carried out by multinational companies in order to enable organizations to deal with the issues they face and control different cultures, whether internal or external (Mohamed & Belgat, 2018: 22).

#### **The importance of International Human Resource Management**

Many administrators consider that human elements are one of the most important components of the production process and the most valuable and vital in organizations, whether these organizations are local or global, and that the management of these human resources at the level of international business companies is of prominent importance, because international companies are becoming more complex compared to the conditions in local companies due to the different number of employees and the complexity of environments, cultures and labor relations (Abdullah, 2019: 51).

The importance of international human resources management in how to select qualified elements, especially leadership ones, to work in a changing external environment and this task is considered one of the most important responsibilities of international human resources management because the director will control and dispose of the potential of human and material resources in the host country, decision-making and problem solving (Al-Khader, 2010: 248). The importance of international human resources management is highlighted through the importance (social, professional, individual) as the social importance of international human resources in the proper management of employees from by maintaining a balance between available jobs and making the most of human resources. As for the professional importance, it is represented by providing a healthy work environment for international human resources, because it enhances teamwork among employees, improves performance skills and develops personal skills. Finally, the individual importance through talented employees is that they will help multinational companies achieve their goals in a globally competitive environment (Al-Hammoudi, 2003: 351). The importance of international human resources management can be clarified in a number of important points, namely (Daniels, 2020: 2):

- 1- The existence of branches of international human resources management in different countries: - It means that there is a need for a large number of workers in each country, and since there are differences between those countries, it is necessary to properly plan for the employment of workers in the different branches.
- 2- Investing funds in the company's branches in different countries: - In the sense that it bears great risks, and therefore the interest in training and qualifying human cadres works to reduce those risks.
- 3- Different economic, social, value and political systems of the countries in which the company carries out its activity: - It requires the recruitment of manpower at a high level of competence and skill. There is higher competition at the international level, which requires procedures that differ from any organization that does not have branches in different countries, and the human element is the most important element in the success of any organization.

#### **Dimensions of International Human Resource Management**

##### **International Human Resource Planning**

Organizations with an international context plan international human resources in order to analyze the external labor market regardless of whether this market is local or international, so the planning process must be based on realistic and practical foundations that help organizations achieve their goals (Al- Ghalbi, 2007: 296). International human resource planning is a complete staff management process, as it is linked to the

analysis of organizations' needs of human resources in various external environmental conditions (Omer, 2017:15).

### Recruitment and Training international HR

After the International Human Resources Department plans, formulates and sets the conditions of the job and the qualifications of its occupants and analyzes its nature, it begins to search for a way that enables it to find its needs of human resources from internal and external sources by nominating employees for some of their acquaintances or children or through advertisements in the media, and then comes the stage of selection and appointment, which is carried out by conducting interviews and tests for job applicants (Sparrow, 2007 : 845). In other words, recruitment and selection policies and practices enable multinational companies to attract and acquire global human resources to meet their specific needs and culture, helping them achieve their organizational goals (Tsui, 2007: 1353).

### International HR Compensation

Compensation management refers to the strategies, policies, and processes undertaken by companies to improve the value of individuals, recognize their contribution, and encourage them to achieve organizational or collective goals. The core issue of compensation management is people in an integrated, evidence-based system, with the aim of achieving the goals of both the organization and other stakeholders in a fair, equal and consistent manner (White, 2005 : 40).

#### Practical side

The results of the test for the validity of convergence, model matching quality, stability and internal consistency are as follows: -

Management Information Systems (Independent Variable)

The scale of the independent variable (Management Information Systems) includes (15) items divided equally into five dimensions. Table (1) shows the values of convergence validity and quality indicators of model matching and verification of stability and internal consistency of this variable as shown in the table:

Cronbach's $\alpha$	CR	AVE	Factor loading	Items	Dimension	Variable
0.825	0.675	0.555	0.761	hr1	HR	MIS
			0.846	hr2		
			0.608	hr3		
0.798	0.652	0.538	0.735	mr1	MR	
			0.652	mr2		
			0.805	mr3		
0.708	0.747	0.616	0.777	so1	SO	
			0.859	so2		
			0.711	so3		
0.815	0.747	0.616	0.815	cn1	CN	
			0.659	cn2		
			0.865	cn3		
0.755	0.655	0.540	0.779	db1	DB	
			0.618	db2		
			0.794	db3		

Source: Outputs Amos & SPSS

International Human Resources Management (Dependent Variable)

The scale of the variable (International Human Resources Management) includes (18) paragraphs divided into three dimensions, containing after international human resources planning on four paragraphs, after attracting international human resources on ten paragraphs and compensation for international human resources on four paragraphs. Table (2) shows the values of convergence validity and quality indicators of model matching and verification of stability and internal consistency of this variable as shown in the table:

Honesty and consistency of the dependent variable (International Human Resources Management)

Cronbach's $\alpha$	CR	AVE	Factor loading	Items	Dimension	Variable
0.927	0.687	0.516	0.743	ihrp1	IHRP	IHRM
			0.846	ihrp2		
			0.575	ihrp3		
			0.682	ihrp4		
0.882	0.830	0.534	0.627	ihrt1	IHRT	
			0.718	ihrt2		
			0.793	ihrt3		
			0.750	ihrt4		
			0.649	ihrt5		
			0.731	ihrt6		
			0.822	ihrt7		
			0.734	ihrt8		
			0.116	ihrt9		
			0.129	ihrt10		
0.901	0.756	0.574	0.701	ihrc1	IHRC	
			0.771	ihrc2		
			0.826	ihrc3		
			0.727	ihrc4		

Through the results shown in the table and the figures mentioned above, it is clear to us that there are only two paragraphs whose standard saturations were estimated to be less than (0.50). Paragraph (IHRT9, IHTR10) which belong to the dimension (attracting and training international human resources) of the dependent variable, while the rest of the paragraphs have achieved the acceptable value. Thus, the number of paragraphs of the dependent variable (16) paragraph instead of (18) paragraph. In addition, the extracted average variance (AVE) for all dimensions of the variables was found to have exceeded the acceptable value (0.50).

Table (4): Testing the nature of data distribution

Kurtosis			Skewness			Variables
Z Kurtosis	Std. Error	Statistic	Z Skewness	Std. Error	Statistic	
-0.072	0.342	-0.025	-1.651	0.172	-0.284	Management Information Systems
-0.547	0.342	-0.187	0.558	0.172	0.096	International Human Resource Management

Table (5) shows accepted and unacceptable hypotheses

Sig.	F	R Square	Total	Sig.	t	Standardized Coefficients		Unstandardized Coefficients	Model							
						Beta	Std. Error	B								
0.000	43.121	0.168		0.000	9.478		0.247	2.344		(Constant)						
										Acceptable	0.010	2.305	0.131	0.052	0.121	HR
										Rejected	0.980	0.026	0.002	0.063	0.002	MR
										Rejected	0.994	0.008	0.001	0.054	0.000	SO
										Acceptable	0.000	4.808	0.284	0.059	0.285	CN
										Acceptable	0.004	2.562	0.170	0.059	0.152	DB

a. Dependent Variable: IHRM

### Hypothesis testing

Interpretation of the results of the table:

H1a: There is a statistically significant positive impact relationship for human resources in international human resources management at the level of significant significance (0.05).

H1b: There is no statistically significant positive effect relationship for material resources in international human resources management at the level of significant significance (0.05).

H1c: There is no statistically significant positive effect relationship for software in international human resources management at the level of significant significance (0.05).

H1d: There is a statistically significant positive impact relationship for communication networks in international

human resources management at the level of significant significance (0.05).

H1e: There is a statistically significant positive impact relationship for databases in international human resources management at a significant significance level (0.05).

### **Conclusions**

#### **1-The first conclusion related to the independent changer (management information systems):**

There are many Arab and foreign studies that dealt with the concept of management information systems, because it is a modern science that enters into most areas of business today, and these studies praised the important role played by information systems in every aspect of our society, as a result of changes in the social, economic and organizational environment, so in order for this organizations to face changes, they must adopt modern information systems that help them compete In a changing and somewhat complex environment, being used as an effective tool to support administrative processes, and facilitate the process of communication inside and outside the organization, in addition, management information systems have contributed to motivating individuals, developing experiences and facilitating work in organizations through data entry, sorting, analysis, collection and retrieval faster and easier than in the traditional method. Most successful organizations have realized that the use of information systems in their operations is an inevitable decision and not an optional one, especially organizations that aim to spread knowledge, encourage innovation and creativity, and develop the skills and capabilities of their employees. Information systems also included human resources management processes and practices, whether these practices were local or international, as they transformed traditional human resources processes into digital processes that help to collect, store, use and obtain information in an easier way than before.

#### **2-The second conclusion related to the dependent variable (international human resources management):**

This study is and according to the knowledge of the researcher that the management of international human resources of the first Arab studies because the lack of studies that dealt with the concept of international human resources management, especially Arab studies, although it is due to its origins to the management of international business. It is a science that is somewhat modern, because it deals with the management of human resources multinational and from diverse cultures, customs and traditions, so the management of International human resources are important and complex topics at the same time, as the company's management must be able to manage, maintain, develop and train such various resources in order to achieve competitive goals in a constantly evolving environment.

The human resources department is one of the main departments in the organization, which allows it to obtain the human resources it needs in quantity and quality and provide the competencies and skills necessary to achieve its goals effectively, and the organization works to develop and maintain these resources and optimize the use of its energies through the good use of information systems in its practices (planning, recruitment, training and development, compensation) to reach the provision of the best human resources capable of facing technological developments and achieving strategic goals in line with The goals and strategies of the organization.

### **Recommendations**

1- The first recommendation related to the independent variable (management information systems):

- The need for oil licensing companies to be aware that information systems technologies are one of the important elements, as they help to achieve goals.
- Senior management should develop awareness among employees of the use of information systems in the companies concerned, and encourage them to enter training courses through special platforms.
- The need for officials in oil licensing companies to pay attention to creating an organizational climate that encourages employees to use management information systems in all their work.

In light of these recommendations, there is a set of implementation mechanisms that must be carried out by the Training and Development Department with the support of senior management, which stipulates that oil licensing companies continuously hold training and awareness workshops, focusing on promoting the use of modern technology in companies with the support of senior management.

2- The second recommendation related to the dependent variable (international human resources management):

- Work to strengthen the dimensions of international human resources management in oil licensing companies, and reconsider the method of granting incentives and reward in proportion to the efforts made by the various human resources and the results achieved.
- Senior management should give more opportunities to employees of different nationalities to show their creativity by following digital and collective negotiation methods using digital platforms that facilitate consultation and negotiation processes among them, because such opportunities make them feel confident in their workplace and thus will reflect positively on the company as a whole.
- Work to encourage human resources of various nationalities (Iraqi, Arab, foreign) in decision-making and not to be biased to a specific type of individuals in the companies concerned.

In light of these recommendations, there is a set of implementation mechanisms that must be carried out by

the Training and Development Department with the support of senior management through holding training courses for international human resources on an ongoing basis in order to support various resources in oil licensing companies, with the support of senior management with the provision of material and moral incentives for that.

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