The role of management information systems in managing international human resources: organizational culture a moderator variable

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Abstract

Purpose – In this study, management information systems, human resource management and organizational culture were used in one hypothetical model. The purpose of this study was to observe the role of management information systems in international human resource management through the mediating role of organizational culture.

Design/ methodology/ approach - This study relied on a quantitative design, specifically a questionnaire, to obtain data from (200) managers and officials in three international oil company which are **BP** (a British company), **Baker Hughes** (an American company), and **ENI** (an Italian company).

Findings - The data analysis results showed that most of the relationships in the research model were positive, in addition, the results showed the importance of the moderator variable in influencing the independent variable and the dependent variable. Theoretical and scientific implications were discussed, and proposals for future studies were made.

Originality/ value -This research focused on the use of modern methods of management information systems, collecting information about them and putting them into one model to enhance organizational outputs. The sample was large in order to obtain clear and important results, which makes it an important reference for researchers to improve international human resource management in multinational oil companies.

Keywords - Management information systems, international human resource management, organizational culture

Introduction

In the field of scientific research since 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) is defined as a mixture between international management (IM) and human resource management (HRM), as it is a relatively new scientific field (Bjorkman & Stahl, 2006). The importance of international human resource management comes from the pivotal role in corporate management subsidiary of multinational corporations (bos-Nehles et al., 2017). And to enhance their core institutional value, companies with external operations seek to harmonize their human resources management across all of their subsidiaries by transferring relevant policies and practices to the parent company (Ahlvik et al. al..2016). And that in international human resources management, international recruitment and selection and global recruitment have become critical factors for the success of the external operations of multinational companies (Ge, Ando & Ding 2020). (Scullion et al, 2007) believes One of the main challenges that international human resource management and multinational companies face lies in (new markets). These challenges are represented by the difficulty of recruitment and the difficulty of attracting administrative talent. (Harzing, A & Ruysseveldt, 2004) believes that there are major reasons for the increase in interest in international human resource management, namely, the rapid growth in circulation, the increase in the number of global competitors, the increase in the importance of multinational companies in recent years, and the increase in interest in the effectiveness of human resource management as the main determinant of success or failure international business , and it plays a fundamental role in enabling business organizations to understand different cultures in the right way (Milliman, 1991). Being a dimension of international management (Cieri et al., 2007). and helping to successfully implement the strategies of multinational companies (Taylor, 2007). multinational companies use three strategies (MNC'S) to transfer international human resource practices across different countries (Chen, 2005). *Ethnic*: The strategy uses the same HR practices of the parent company in the host countries. *Multi-center*: employing the localized population as a workforce and adapting the host country's HR practices. *Central*: The HR strategy focuses only on employee skills and adopts the most effective and efficient HR practices regardless of the employee's nationality (Barrachina, 2019). There are four main metrics for international human resource management: *International Human Resources Planning*: It is the process of developing plans that represent the vision of future human resources management, the needs of institutions for resources and how to obtain them from their sources, whether internal or external sources (Omar, 2017).

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Employment and Training international human resources: It is a set of procedures through which the largest possible number of human resources of multiple nationalities are attracted to accomplish the work required of them (Feng, 2016). *Compensation and rewards for international human resources*: It is a set of (wages, salaries, incentives), whether material or moral, in exchange for a specific effort that the working individuals perform (Feng, 2016).

Management information systems today play a major role in organizing, classifying, storing and retrieving information in a timely manner, which helps decision makers to make appropriate, efficient and effective decisions, especially those related to human resources (Al-Abadi and Al-Ardhi, 2012). Information systems have also entered every aspect of operation and organization, so that automated processes have become necessary in organizations of all kind. Whether these processes are inside or outside organizations (Vooberg et al. 2021). As it enabled these developments in information systems for working individuals to keep records in a digital way, which facilitated the work of employees in companies (Boateng, 2007).

Organizational culture, as culture is considered a set of common global standards, values and visions that develop within business organizations as members interact in their environments. Organizational culture serves its intended function when it aligns with the organization's environment resources, and values. (Okatan, 2017). Organizational culture also includes the organization's expectations, philosophy of experience, and values that bind the organization to each other and are expressed in its self-image, internal work, and interactions with the outside world. Organizational culture has proven to be an important driver of organizational effectiveness by creating an internal environment conducive to individual productivity (Umans et al., 2016).

This study is extension of the studies on the relationship between the information management systems in various means, methods and management of international human resources in various seats. This study is trying to address some of the potential issues highlighted by previous studies and attempting to provide some solutions. In addition, this study focuses on the damage of the knowledge gap using the organizational culture as a vacuum change (Klasmeier &Rowold, 2020). Adopting three variables variations in one model and research in multinational oil companies, with a relatively large sample for objective results to mainstream results. This study was conducted in the oil sector in southern Iraq. This is to recognize that the oil sector faces problems in the management of international human resources and multinational and thus international human resources with different cultures as well as directions that end unexpectedly corporate performance. So I use the administrative information system, which will help plan, recruit, train and develop human resources and thus high performance.

This study uses a sample of individuals working in the international companies affiliated to the Basra Oil Company, which are **BP** (a British company), **Baker Hughes** (an American company), and **ENI** (an Italian company) in (southern Iraq), to examine the impact of management information systems on management. International human resources through the moderator role

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of organizational culture. The main objective of this study is to develop a measurable model that can be generalized to the large-scale sample under investigation.

Theoretical development and hypotheses

This section provides a detailed discussion of relevant previous studies to provide the theoretical basis for this research. The emergence of the concept of management information systems for the first time was in the mid-fifties to the mid-sixties, when it appeared with the use of computers, as applications were primarily just processing records and numbers of documents and reports (Kenneth, 2017). The management information system is an abbreviation for three words (management, information, systems), so in order to fully understand the term (MIS), each term of these three words must be understood. *Management* is defined as "a set of functions including (planning, decision-making, organizing, directing, and controlling) directed towards the organization's resources (human, physical, financial, information resources) in order to achieve organizational goals in an effective manner" (Manhal, 2019). *Information* was defined by researchers as "a set of data that has been processed and has value as well as meaning for those who receive it" (Shakhorska & Medykorsky, 2018). It can also be defined as "the data that is processed and Presenting it in a form that helps in decision-making (Kenneth, 2017). *System* is the most flexible term in the literature Management because of its use in different scientific contexts. However, the system has been referred to as a set of interrelated elements that influence each other to achieve a specific purpose (Ackoff, 1971). According to systems theory, the system consists of several elements and sub-systems, and these systems have features and interact information with each other (Weissenberger et al, 2019).

The management of international human resources is a complex process that becomes more complex as the number of workers in multinational companies increases, and their dispersion spread in large geographical areas and different countries, and all of them may be the nationality of the parent company or different nationalities (Dmour et al., 2017). (Griffin & Pustay, 2008) defined it as a group of activities acquired through continuous development in the selection of manpower to achieve the objectives of the international company. It is a process of training, attracting and developing international human resources to achieve global goals for organizations.

In recent years, MIS has helped the organization to accomplish human resource work in many multinational companies (Boiko et al, 2019). The widespread use of information systems has had a significant impact on the way human resources are managed at the present time (Priota, 2020). Management information systems create new ways of doing business as well as provide other ways

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of doing business that benefit international companies (Konovalenko & Ludwig, 2019). Information systems technology provides better business and management flexibility for the application of e-business, which will facilitate the work of individuals and accomplish business more quickly (Laudon & Laudon, 2018). Specifically, about how we collect, store, use and share information. Where the use of information systems has become common in the field of business. Management information systems are represented in the effective use of hardware and software that links human resource management to each other, as these programs helped to carry out human resource activities (planning, recruitment, training, development) and thus predicting long-term performance (Normalini, 2012). Carrying out the most important human resource activities such as (planning) human resources and forecasting them efficiently through human resource systems. (Priota, 2020). Information systems help improve human resource applications based on information technology (Dmour, 2017). There is a group of previous studies that found that there is a positive relationship between information systems and human resource management, including a study (Priota, 2020; Marlene & Carlos, 2018; John & Jackson, 2007). Also, a number of researchers raised clear differences in some international budget companies that suffer Among the differences in information systems and technologies are the technology used (Haider & Sundin, 2019; Swanson, 2017; Gregor & Hevner, 2013; Hevner et al., 2004; Rainer et al., 2020).

There has been little research on international human resources management, as research has been conducted in Afghanistan, China, Mexico, India, Turkey and Africa, where it revealed the results of the impact of unstable environments on international human resource management (Dickmann et al., 2017), and another study was conducted that supports the role of expatriates (Ramirez et al., 2016), where it showed the dangers that expatriate human resources suffer from. In another study, it was found that there is a knowledge gap in human resources management in the economic context related to the role of talent management, where many researchers pointed out the importance of conducting more empirical research in relation to international human resources, for example, the role of international human resources management in talent management. of different nationalities or different countries. On the basis of the previous discussion, the following hypotheses were proposed:

H1: **There is a statistically significant effect of management information systems on international human resources management.**

In terms of organizational culture, the beginning of research in it appeared at the beginning of the thirties through studies (Howthorn) in the twenties of the last century. However, the interest in organizational culture increased rapidly in the 1980 due to the competition of American companies that compete with Japanese companies in the field of electronics. Organizational culture A structure of basic meanings that persists over time and restricts the perception of workers and sometimes affects their behavior (Schenin, 2010).

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Management information systems make managers and other employees communicate inside and outside the company along with knowledge of how to carry out their work in it (Lapsley and Rekers, 2017; Cadez Guilding, 2008; Tillmann and Goddard, 2008; Emsley, 2005) . In addition, they will better understand their own and managers' information needs within organizations. Shared norms and values lead to an innovation-oriented culture which can be explained as the pursuit and experimentation of innovative ideas, the search for new business opportunities and the acceptance of higher levels of risk (O'Reilly, 1991). These organizations are more likely to accept new ideas in management and non-management systems practices (Baird et al., 2018 ; Gupta and Salter, 2018).

Research in the MIS literature on the role of organizational culture has been very limited, for example (Baird et al., 2018; Ax and Greve, 2017; Zhang et al., 2015; Baird et al., 2007; Baird et al). Studies supported the role of organizational culture in implementing information systems practices through the direct influence of networks (Hall, 2010; Luft, 2009; Davila and Wouters, 2007; Van der Vee ken and Wouters, 2002; Bruns and McKinnon, 1993 ; Rekers, 2017; Lapsley, 2005; Yigitbasioglu, 2016). That managers in results-driven companies are primarily driven by achievement, actions, and high performance expectations (O'reily et al, 2007; Berd, 2018). Hinder its implementation. From the foregoing, we note the positive impact of management information systems in the management of international human resources. On the basis of the previous discussion, the following hypotheses were proposed:

In the past years, the selection of international human resources depended on the selection of managers to adapt across cultures. At present, the focus is on identifying managers who are capable of rapid learning across borders (Pucik, 1984).

Effective international HR managers need to share core cultural values and learn interdisciplinary and inter functional problem-solving. (Lapsley and Rekers, 2017; Cadez Guilding, 2008; Tillmann and Goddard, 2008; Emsley, 2005) Competitive culture theory is one of the components of the new international dimension of multicultural human resource management (John, 2016). Cultural and institutional forces interact with international human resources (Sparrow & Makram, 2015). Also, previous studies focused on the prevalence of human resources incentive policies and practices in Chinese multinational companies in the United States (Zhang & Edwaed, 2007). Previous research also explored the impact of Confucian culture on human resource management practices in China and other countries around the world (Cooke et al., 2012). And the influence of cultural values on Western human resource practices in African organizations (Warner, 2010). From the foregoing, we note that There is a positive effect between organizational culture and international human resource management. On the basis of the previous discussion, the following hypotheses were proposed:

H2: There is a moderator role of organizational culture between management information systems and international human resource management.
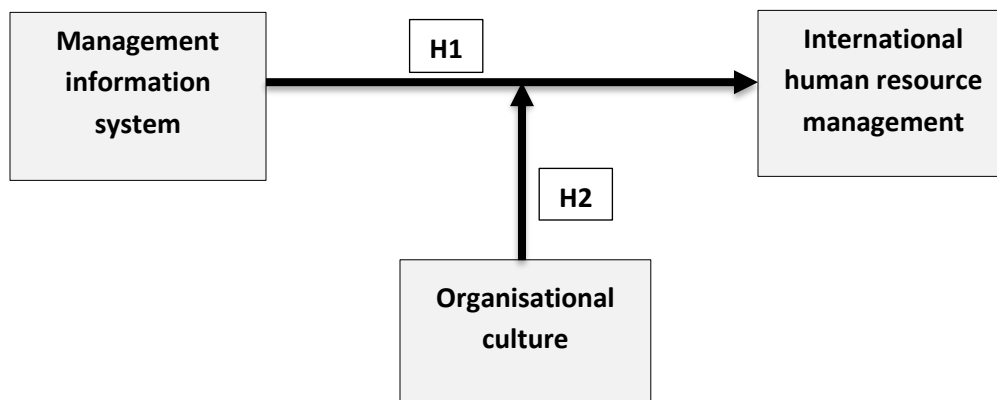
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Methodology

Sample and procedures

The data were obtained from three international oil companies affiliated to the Basra Oil Company in Basra Governorate southern Iraq. This is due to the fact that the three companies contain international human resources of different nationalities. Through a questionnaire distributed to 210 managers and officials of the mentioned companies of the distributed questionnaires, 207 were retrieved of which 200 were valid, which makes the response rate higher at 96.5% and higher than the measurable questionnaires to the total number of distributed questionnaires, which amounts to 93.5%. The sample was selected randomly, and it was confirmed that the rights of the respondents and the confidentiality of their answers in the questionnaire were protected. And **six demographic variables** were used *(sex, marital status, age, educational qualification, years of service, nationality)*. The data collection period was about 40 days. Participants were instructed about the contents of the questionnaire. A random selection method was used to form the study sample. In order to obtain valid, measurable and generalizable data, the variables of the study and its dimensions were clarified accurately and in detail by interviewing the participants and interacting with them directly for each part of the questionnaire, answering all their questions directly and ensuring the confidentiality of their answers to eliminate or reduce biases. Furthermore, issues of potential biases in the data and participants not taking their answers seriously were addressed.

Measures

Three variables were used in this study, 3 basic variables, with a total of 12 dimensions. To shorten the questionnaire, short scales were adopted as well as questionnaire elements that can obtain a high loading coefficient (Rhoades & Eisenberger, 2002). The questionnaire was translated into Arabic to ease the respondents' task.

Independent variable

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Management information systems (MIS), material resources [MR], human resources [HR], databases [DB], communication networks [CN], software [SO]: A scale was adopted (Fridawati, A., Wiwiet, & Arief, 2019; O' Brien& Marakas, 2011). Which consists of 5 sub-dimensions. For example, the phrase "the company provides computers to employees and managers of all nationalities" was used to measure MR. Secondly, we used measure HR, "employees easily communicate with each other". Third, we used measure DB, "the company provides the necessary software for work". Fourth, we used measure CN, "the available networks are commensurate with business needs". Fifth, we used measure SO. "The company's data system is subject to continuous updating and modification".

moderator variable

- Organizational culture (OC), organizational values [OV], organizational beliefs [OB], organizational norms [ON], organizational expectations [OE]: A scale was adopted (Almutairi,2014). Which consists of 4 sub-dimensions. For example, the phrase "Organizational values act as a motivating factor for mastery of work" was used to measure OV. Secondly, was used to measure OB, "There is a conviction among employees of the importance of participating in decision-making processes". Thirdly, was used to measure ON, "The prevailing norms among employees helped to adapt among them". Fourth, was used to measure OE, "The company seeks to meet the expectations of employees in terms of incentives and rewards".

Dependent variable

International human resource management (IHRM), international human resource planning [IHRP], international human resource recruitment and training [IHRRT], incentives and rewards for international human resources [IHRIR]: A scale was adopted (Omar, 2017; Feng, 2016). Which consists of 3 sub-dimensions. For example, the phrase "The company has plans to provide international human resources" was used to measure IHRP. Secondly, was used to measure IHRRT. "Have fair training and employment policies". Third, was used to measure IHRIR. "There are differences in the salary and bonus system in the company and other companies".

Data analysis

Data distribution

One of the most important determinants of using appropriate statistical tools is the nature of the data distribution. Parametric statistical tools will be most appropriate for normally distributed data, while non-parametric statistical tools will be most appropriate for abnormally distributed data (Field, 2009). We will do this by testing skewness and kurtosis to check the nature of the data distribution. Based on this test, and at the level of significance in this study is (0.05), the distribution is normal when the Z value for wobble and flattening does not exceed (±1.96). The Z value is extracted by dividing the

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calculated Skewness and Kurtosis values by their standard error (Kerr et al., 2002). Table (1) shows the results of this test:

Table 1: Results of data distribution

	Skewness			Kurtosis		
	Statistic	Std. Error	Z Skewness	Statistic	Std. Error	Z Kurtosis
MIS	-0.284	0.172	-1.651	-0.025	0.342	-0.072
IHRM	0.096	0.172	0.558	-0.187	0.342	-0.547
OC	0.260	0.172	1.512	-0.191	0.342	-0.557

Note: MIS= Management information system; IHRM= International human resource management; OC= Organizational culture

Through the results shown in the above table, it is clear that the three main variables obtained values that do not exceed the limits of (±1.96), and this gives an indication that the data is distributed normally, and that the parametric statistical tools are the best in the analysis process.

Validity and reliability

Depending on the confirmatory factor analysis (CFA), validity and reliability were verified. Validity will be verified by ascertaining indicators of convergent validity, which determines the extent to which the sub-concepts (dimensions) that measure a concept are close to each other (Hair et al., 2017). The indicators of convergence validity are: (1) The standard saturation values (Factor Loading-FL) for each question of the scale, which must exceed (0.50), and it is better to exceed (0.70). (2) The average value of the extracted variance (AVE), which should be greater than (0.50) (Hair et al., 2010).

On the other hand, reliability refers to the probability or extent to which the same results appear when negative measures are used at another time. The stability will be checked by verifying the two values of Composite Reliability and Cronbach's α stability coefficient, which can be obtained through the outputs of the confirmatory factor analysis. The stability of the three measures will be achieved by exceeding the value of the composite stability and Cronbach's alpha of (0.70) (Hair et al., 2017). Table (2) shows the results reached:

Table 2: Validity and reliability

Variables	Factors	Items	Factor loading	AVE	CR	Cronbach's α
MIS	HR	hr1	0.766	0.645	0.779	0.825
		hr2	0.763			
		hr3	0.876			
	MR	mr1	0.789	0.585	0.712	0.798
		mr2	0.792			
		mr3	0.710			

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	SO	so1	0.733	**0.590**	**0.718**	**0.708**
		so2	0.736			
		so3	0.831			
	CN	cn1	0.865	**0.577**	**0.703**	**0.815**
		cn2	0.703			
		cn3	0.700			
	DB	db1	0.827	**0.616**	**0.748**	**0.755**
		db2	0.797			
		db3	0.728			
IHRM	**IHRP**	ihrp1	0.707	**0.646**	**0.825**	**0.927**
		ihrp2	0.843			
		ihrp3	0.839			
		ihrp4	0.819			
	IHRRT	ihrt1	0.668	**0.622**	**0.860**	**0.882**
		ihrt2	0.858			
		ihrt3	0.793			
		ihrt4	0.849			
		ihrt5	0.680			
		ihrt6	0.860			
		~~ihrt7~~	~~0.249~~			
		~~ihrt8~~	~~0.378~~			
	IHRIR	ihrc1	0.758	**0.599**	**0.782**	**0.901**
		ihrc2	0.803			
		ihrc3	0.763			
		ihrc4	0.771			
OC	**OV**	ov1	0.738	**0.271**	**0.528**	**0.885**
		ov2	0.519			
		ov3	0.736			
	OB	ob1	0.616	**0.280**	**0.552**	**0.902**
		ob2	0.725			
		ob3	0.705			
	ON	on1	0.732	**0.312**	**0.675**	**0.892**
		on2	0.814			
		on3	0.766			
	OE	oe1	0.734	**0.334**	**0.728**	**0.925**
		oe2	0.843			
		oe3	0.790			

Note: MIS= Management information system; IHRM= International human resource management; OC= Organizational culture

Depending on the results shown in the above table, the questions of the dimensions of the independent variable (management information systems) have exceeded their factors loading

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(0.50). Also, the average variance extracted (AVE) for those dimensions exceeded (0.50), and this gives an indication of the validity of the two indicators of convergence for this variable. In addition, the two reliability values exceeded (0.70), which achieves reliability for the variable. Also, the questions of the dimensions of the dependent variable (international human resources management) exceeded their factors loading (0.50), except for two questions related to the compensation and rewards of international human resources management dimension (ihrt7 and ihrt8). Also, the (AVE) for those dimensions exceeded (0.50), and this gives an indication of the validity of the two indicators of convergence for this variable. In addition, the two reliability values exceeded (0.70), which achieves reliability for this variable. Finally, the questions of the dimensions of the moderator variable (organizational culture) exceeded their factors loading (0.50). Also, the (AVE) for those dimensions exceeded (0.50), and this gives an indication of the validity of the two indicators of convergence for this variable. In addition, the two reliability values exceeded (0.70), which achieves reliability for the variable.

Descriptive Statistics and Correlation:

Table (3) presents the results of the descriptive statistics and the correlation coefficient between the variables. The results indicate that most of the arithmetic mean ranges from agreement to some extent to agreement and beyond the hypothetical mean (3). On the other hand, the results indicate that the standard deviations were relatively few, which indicates a small dispersion in the data, and this supports the accuracy of the results. Finally, most of the correlation coefficients between the three variables and their dimensions were positive and statistically acceptable.

Table 3: Descriptive statistics and correlation coefficient

	Mean	S. D	HR	MR	SO	CN	DB	IHRP	IHRT	IHRC	MIS	IHRM	OC
HR	3.347	0.870	1										
MR	3.652	0.715	.347**	1									
SO	3.655	0.868	.309**	.456**	1								
CN	3.487	0.801	.442**	.286**	.340**	1							
DB	3.170	0.800	.368**	.269**	.419**	.485**	1						
IHRP	3.480	0.829	.170*	0.040	0.133	.356**	.306**	1					
IHRT	3.584	0.581	.160*	.241**	.176*	.343**	.239**	.503**	1				
IHRC	3.258	0.867	0.072	0.047	0.067	.264**	0.053	.362**	.402**	1			
MIS	3.462	0.573	.711**	.648**	.723**	.724**	.721**	.287**	.325**	.142*	1		
IHRM	3.440	0.595	.166*	0.120	.152*	.405**	.246**	.804**	.754**	.785**	.308**	1	
OC	2.951	0.723	.463**	.319**	.344**	.486**	.430**	.278**	.211**	.243**	.580**	.316**	1
**. Correlation is significant at the 0.01 level (2-tailed).													
*. Correlation is significant at the 0.05 level (2-tailed).													

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Hypothesis testing

The current study model includes three variables, management information systems as an independent variable, international human resources management as a dependent variable, and organizational culture as an moderator variable. On this basis, the hypotheses will be tested through multiple regression analysis in the SPSS program. According to this analysis, the hypothesis is accepted or rejected based on the base values of the t and p values. To accept any hypothesis, the Critical ratio-t value must be greater than 1.96. While the p-value, which represents the level of reliability or acceptable error, must be less than 0.05. Table (4) shows the results of testing the two main hypotheses, while Table (5) shows the results of testing the sub-hypotheses.

Table (4) Testing the main hypotheses

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Results	R Square
		B	Std. Error	Beta				
H1	(Constant)	2.332	0.246		9.468	0.000	Supported	0.095
	MIS	0.320	0.070	0.308	4.558	0.000		
H2	(Constant)	5.182	0.917		5.649	0.000	Supported	0.169
	MIS	-0.641	0.267	-0.617	-2.401	0.017		
	OC	-0.893	0.329	-1.085	-2.714	0.007		
	INT	0.298	0.090	1.890	3.297	0.001		

a. Dependent Variable: IHRM

Note: MIS= Management information system; IHRM= International human resource management; OC= Organizational culture

Results In the table 4, we can see that the two main hypotheses are accepted. The hypothesis that indicates a positive impact relationship of management information systems in international human resource management was accepted (H1: $p < 0.05$). The second main hypothesis is also accepted, which indicates the existence of an moderator role of organizational culture in enhancing the relationship of the influence of management information systems in international human resource management (H2: $p < 0.05$). Finally, the coefficient of determination for the second main hypothesis was higher than the first main hypothesis, as it explained 16.9% of the changes in international human resource management.

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Table (5) Testing the sub hypotheses

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Results	R Square
		B	Std. Error	Beta				
(Constant)		2.344	0.247		9.478	0.000		
H1a	HR	0.121	0.052	0.131	2.305	0.010	Supported	
H1b	MR	0.002	0.063	0.002	0.026	0.980	Unsupported	0.168
H1c	SO	0.000	0.054	0.001	0.008	0.994	Unsupported	
H1d	CN	0.285	0.059	0.284	4.808	0.000	Supported	
H1e	DB	0.152	0.059	0.170	2.562	0.004	Supported	
(Constant)		4.374	0.965		4.534	0.000		
H2a	INT1	0.187	0.071	0.222	2.628	0.002	Supported	
H2b	INT2	-0.120	0.092	-0.787	-1.300	0.195	Unsupported	0.251
H2c	INT3	0.039	0.082	0.279	0.475	0.636	Unsupported	
H2d	INT4	0.249	0.078	0.356	3.193	0.001	Supported	
H2e	INT5	0.181	0.076	0.225	2.391	0.018	Supported	

a. Dependent Variable: IHRM

Note: MIS= Management information system; IHRM= International human resource management; OC= Organizational culture

Results In the table 5, we can see that only three sub-hypotheses are accepted, related to the first main hypothesis, indicating the existence of a positive impact relationship between the components of management information systems related to human resources, communication networks, and databases in international human resource management. As for the sub-hypotheses of the second main hypothesis, three sub-hypotheses were also accepted, which indicate the existence of a moderator role of organizational culture in enhancing the impact relationship of the components of management information systems (human resources, communication networks, and databases) in international human resource management. Finally, the coefficient of determination for the sub-hypotheses of the second main hypothesis was higher than the hypotheses of the first main hypothesis, as it explained 25.1% of the changes in international human resources management.

Discussion

The aim of this study was to test management information systems, international human resources and organizational culture. More precisely, the aim was to form a model consisting of two tracks: the first track was related to the positive impact of management information systems, and the second track was related to the positive effects of organizational culture on both international human resources and management information systems. The model resulting from hypothesis testing supported most of the relationships assumed in the framework. The results highlight the clear relationship between management information systems and international human resources management in companies in many studies (Dickmann et al., 2017; Haider & Sundin, 2019;

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Swanson, 2017; Rainer et al., 2020). The results of the study indicate that it will the use management information systems that helped improve international human resource management practices in terms of planning, hiring, training and development, and thus facilitated the work of employees. Depending on the results shown, the independent variable (management information systems) has exceeded their factors loading (0.50). Also, the average variance extracted (AVE) for those dimensions exceeded (0.50), and this gives an indication of the validity of the two indicators of convergence for this variable. In addition, the two reliability values exceeded (0.70), which achieves reliability for the variable. Also, the questions of the dimensions of the dependent variable (international human resources management) exceeded their factors loading (0.50), except for two questions related to the compensation and rewards of international human resources management dimension (ihrt7 and ihrt8). Also, the (AVE) for those dimensions exceeded (0.50), and this gives an indication of the validity of the two indicators of convergence for this variable. In addition, the two reliability values exceeded (0.70), which achieves reliability for this variable. Finally, the questions of the dimensions of the moderator variable (organizational culture) exceeded their factors loading (0.50). Also, the (AVE) for those dimensions exceeded (0.50), and this gives an indication of the validity of the two indicators of convergence for this variable. In addition, the two reliability values exceeded (0.70), which achieves reliability for the variable.

Theoretical implications

In this section, the relationship between the elements of the default model is described to understand the mechanism of the model and to understand the influence of the interactive variable organizational culture. Where management information systems will have an impact on human resource management. This supports the results from previous studies(Priota ,2020; Lapsley and Rekers, 2017; Baird et al., 2018). At the same time, the use of technology in the process of planning and hiring employees will help the administration to carry out its work and at the same time, technology will help facilitate the work of employees and the performance will be high and this is consistent with some of the results of previous studies. In addition, the impact of organizational culture on the performance of employees in international companies, since individuals come from different cultures, orientations, beliefs and customs, and thus will affect the performance of the company. This supports many of the results of previous studies (Biljana , 2016 ; john , 2016).

This study focused on how to manage international human resources in global companies, and the impact of human resources culture on their work in the company. This study described international human resources as the transfer of human resource management strategies, practices and activities across national borders to the management of the activities and practices of multinational companies. Also, described the importance of using management information systems in the

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workplace because it facilitated the process of communication between individuals and managers in local and international companies.

Practical implications

Based on the results, this study presents a number of scientific implications: **First**, the company's management should involve the employees in more training courses that reflect on the work. **Secondly**, the use of modern information systems that help employees do their jobs Management information systems will have a role in influencing employees to show the best performance and commitment. This supports the findings from a previous study (Priota, 2020; Marlene & Carlos, 2018; John & Jackson, 2007). And the use of information systems in the workplace will make it easier for employees to do their jobs and thus improve their performance. In other words, the use of management information systems that tend to give technological character to the work will lead to positive results in the outputs of the organization. These results are consistent with many previous studies (Cadez Guilding, 2008; Tillmann and Goddard, 2008; Lapsley and Rekers, 2017) **Third**, reduce cultural differences between individuals by creating a positive climate. **Fourth**, work collectively and reduce individual differences. **Fifth**, there is a need to create a sustainable commitment to work, through developing cadres, strengthening human capital, and improving reward and wage structures. **Sixth**, there is a need to train managers to control the amount of pressure on employees to obtain the required performance. Therefore, the results of this study will help to improve the organizational performance of international human resources in the oil sector in Iraq through improving management information systems in managing international human resources in international multinational companies and using modern technology methods instead of old methods.

Limitations and future research directions

Claiming the existence of an integrated study in all aspects is difficult, as certain limitations must be noted. This statement applies to most studies, including the current study, although it attempted to determine how management information systems can influence international human resource management through the moderator role of organizational culture, which has not yet been examined in a single model. This study also attempted to focus on management information systems and international human resource management, however, there are limitations, which may be addressed in future studies. This study was conducted in the oil sector because of the large number of international companies and the large number of individuals working in it of various nationalities and different cultures, in addition to, it is difficult to generalize the results of the study as the study focused on the sector of international oil companies in Iraq, this study measured human resource management at the international level. Thus, future studies should measure human resource management at the global or local level. The results of the study are based on data obtained from

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employees working in the human resources department in international oil companies. Future studies can look at all departments in international oil companies. This study adopts management information systems and their positive impact on the work of international human resources. Future studies should measure the inverse relationship of management information systems on local or global human resources. Finally, future studies may adopt new management methods for managing international human resources, such as managing expatriate human resources, or managing international personnel.

Conclusions

It can be concluded that the results of this study clearly supported the research hypotheses. The results showed that there is a positive correlation between management information systems and international human resource management. Where she emphasized the importance of using information systems in managing international human resources, because it facilitates the work of employees and managers, and thus the performance is high, and role MIS in the planning, recruitment and training of human resources in international companies. Also, it was found that there is a relationship with a positive impact of organizational culture on each of the management information systems and human resource management in the model.

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