

Identifying Critical Factors to Adopt E-HRM Based Cloud Computing System for Healthcare Organizations

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Abstract

The presence of EHRM issues and challenges have critical influence on the success of cloud systems. The aim of the paper is to identify the critical factors leading to adopt E-HRM based cloud computing system for healthcare organizations. There are four dimensions for EHRM based cloud computing system that include electronic human resource management activities, the level awareness of EHRM and cloud computing, IT and cloud computing infrastructure, and management support system and quality for HRM. The critical EHRM issues and challenges need to be addressed and thereafter need to be managed by using control methods. As a future work, we will apply quantitative to control EHRM issues based cloud computing system. A successful EHRM based cloud computing will greatly improve the probability of systems success in healthcare organizations.

Keywords: *Cloud Computing System, Electronic Human Resource Management, Healthcare Organization, Controls*

1 Introduction

E-HRM is defined as an integrated information system that comprises some applications of HR supply and demand forecast, HR planning, staffing information from different departments (Masum, Azad and Beh, 2015). The presentation of HRM is certainly associated with organizational success in the present knowledge economy (Masum, Azad and Beh, 2015). Traditional HRM has recently been raised on strategic organizational management by contributing significantly to the strategic analysis of workforce and the sharing of information to achieve organization's goals (Lawler and Mohrman, 2003). This change is temperately credited to the technologies of human resources such as HR, E-HRM, HRIS, and so on. Some researchers have claimed that HRM, virtual HRM, Web-based HRM and HRIS were coined interchangeably in Intranet-based HRM. E-HRM is usually definite as an unified system of information. that includes some applications of HR source and request forecast, HR planning, recruitment info from different departments (Masum, Azad and Beh, 2015). Because EHRM is quickly accessible to information, it can improve decision making strategy and is thus a strategic partner in the hospitals Improving service quality (Rodríguez and Ventura, 2003). There are currently a number of diseases which have not

been considered to be permanent. The expansion of evidence and announcement tools (ICTs) facilitates support for HR's growing strategic focus. The technology has greatly influenced the wisdom management and human resources processes and practices of contemporary organizations (Ghosh and Tripathi, 2018). Some features have an influence on the acceptance of E-HRM based cloud computing. Preceding readings show that research into influential eHRM determinants, particularly in developing economies such as Iraq, is limited. Consequently, in Iraq, the execution and practice of E-HRM can be well-thought-out as an revolution stage. As well, he reported that E-HRM was familiarized at large organizations in the last 5 years (Jahan, 2014). But, still now, its action is incomplete and limited within larger organizations. Understanding of the benefits from E-HRM by public organizations and small organizations are failing and enterprises to implement E-HRM based cloud computing system. Thus e-HRM can be seen as an invention step in Iraq in its implementation and use. He also reported that in the last 5 years(Jahan, 2014). In addition, e-HRM has been initiated at large organizations. However, its operation within larger organizations is still partial and limited. Community organizations and minor organizations are unable to realize the assistances of e-HRM and initiatives to implement the cloud computing system based on e-HRM. Absence of management attention and fear of high cost, deficiency of experience and privation of training on E-HRM are the main barriers to the implementation of E-HRM (Jahan, 2014). But the benefits of the E-HRM exceed the limitations. However, the implementation of E-HRM in Iraq is a true challenge. The main focus of this study is to define the most important determinants relating management decisions to adapt E-HRM-based cloud computing systems.

The main obstacle to the introduction of the E-HRM is absence of management consideration and fear of high costs, deficiency of experience and privation of training in E-HRM(Jahan, 2014). But the E-HRM's advantages go outside the boundary. However, the execution of E-HRM in Iraq is a real challenge. The emphasis of this study is to classify most decisive factors in the managerial decision on the adaptation of E-HRM-based healthcare cloud computing system. The objective is identifying most influential determinants that are related to managerial decision for adapting E-HRM based cloud computing system for healthcare organization. However, software development projects still fail to deliver acceptable systems on time and within budget. Due to the involvement of risk management in monitoring the success of a software project, analyzing potential risks, and making decisions about what to do with potential risks, the risk management is considered the planned control of risk. Integrating formal risk management with project management is a new phenomenon in software engineering and product management community(Elzamly et al. 2016; A. Elzamly & Hussin 2015). In addition, risk is an uncertainty that can have a negative or positive effect on meeting project objectives(Elzamly and Hussin, 2011b, 2013).However, healthcare professionals have the responsibility to ensure consumers are knowledgeable of the changes implemented for the use of e-health, access to personal health information, and consumer rights for privacy and security(Tang and Lansky, 2005; Yaacob, Basari, *et al.*, 2018; Yaacob, Shibghatullah, *et al.*, 2018). The data collected from this study could be beneficial for government agencies and healthcare stakeholders(Yaacob, Basari and Salahuddin, 2018). The government has taken advantage of technology by providing information on policy and services offered by governmental agencies. Government agencies, such as public health

agencies, ministries of health, health care providers, international organizations, donor countries, aid agencies have taken on new roles of providing leadership in terms of providing strategic direction as it affects the entire nation and healthcare (Naguib and Marshall, 2008). Although much research and progress in the area of the cloud computing project, many cloud computing projects have a very high failure rate especially when it comes to the banking area (Elzamly, Hussin & ASH 2016; Elzamly et al. 2017; Elzamly, Hussin, Naser, et al. 2016). Moreover, it also could be beneficial for researchers, health planners, academics, students, and other health stakeholders. The results are much related to managers and decision makers who are experiencing the challenge of adoption E-HRM based cloud computing in the healthcare systems. In addition, it could be beneficial for health care professionals and insurance companies in promoting communication, community services, and training toward encouraging consumer awareness and health care providers. With the ongoing development in the managerial world, and the constant tries to give the field of management an electronic scheme specifically when it comes to managing the human asset; there have been many tried which aimed at understanding the best possible approach that may help in recognizing the fields of interest within human resource management and it can be best handled and tackled (Khalaf, 2017). Quantitative techniques are based on statistical methods that deal with accurate measurement about risk or lead to quantitative inputs that help to form a regression model to understand how software project risk factors influence project success (Abdelrafe Elzamly and Hussin, 2015). The problem driving this study is to address the lack of understanding the key factors that can affect the adoption of the E-HRM in cloud computing system for Healthcare organizations in Iraqi Hospitals. The investigation focused on getting a thorough and systematic organization of opinions and beliefs on adoption and diffusion of E-HRM systems. E-HRM based cloud computing system is not wide applied by all medical care professionals, regardless of improved pressure by consumers together with regulatory agencies in order to give a solution to clinical errors. Additionally, there are also issues with data security, confidentiality, and consumer privacy. **The aim of the paper** is to identify the critical factors leading to adopt E-HRM based cloud computing system for healthcare organizations.

2 Critical Factors Leading to Adopt E-HRM based Cloud Computing System

Remarkably, the most important factors in the event of failure or success were those of these studies: project integration management, scheduling, integrated project management, performance assessment, project performance information, business environment factors, process assets ; technology and toll management, technical complicity and novelty, and human resources project management are success criteria acting as spring board toward project prosperity (Taherdoost and Keshavarzsaleh, 2015). Cloud computing's new technology nowadays wants to be modified by every company for its businesses to rise profitability, interoperability, scalability and capacity. In network communication, all models of cloud services such as private, public, hybrid or community cloud computing are defined and highlighted (Goyal, 2014). The findings in this study suggest that the main determinants for the adoption of E-HRM were apparent as compatibility, perceived cost, top management support, organizational culture, centralization, IT supplier support and government support. However, the results of this study also showed that the relative benefits, perceived complexity, and pressures from the

sector did not affect the organizational implementation of e-HRM (Masum *et al.*, 2017). Since then, however, many researchers have examined the influence of behavioral patterns on human resource management. Until recently, insufficient attention has been paid to human resource management in behavioral theories (Shvetsova, Shokola and Bobova, 2017). Therefore, they believe that these systems will continue to emerge, increase their usefulness and application to various problems and areas, and their benefits will catalyze human and computer opportunities in the very short term (Jarrett, Blake and Saleh, 2017). This article follows the trend of developing a plan to integrate Job Model into the E-HR system to develop a new model of effective human resource management operation in the Internet age (Zhang and Xu, 2010). In addition, this paper exposed the advantages of the Electronic Human Resource Management System by reviewing the relevant literature (Nivlouei, 2014). The purpose of this study is to evaluate current and emerging concepts in Lebanese organizations and to study how electronic human resource management shapes the values, perceptions and behaviors of employees (Ghazzawi, Al-khoury and Saman, 2014). actuality, however, healthcare organizations operate their own private cloud applications and transfer data to the public cloud. Although there are many complications with cloud technology and EHRM, standards and policies should be advanced sooner rather than later (Sengar and Sharma, 2016). Many aspects can be resultant from various technologies such as networks, databases, OS, resource planning, virtualization, transaction management, and competitiveness control (Saraddar, Sen and Sanyal, 2016). Cloud management is definitely a broad theme and any combination of policies, technologies and controls should work professionally to protect data processing, services infrastructure and the cloud against possible attacks or achieve goals in all areas of security (Al-anzi, Yadav and Soni, 2014). They also had many complications to consider in order to growth the security of cloud data as the proper use of administrative privileges, control of data access in systems using mobile networks, servers, detection and recovery of data and border security in the cloud-based environment (Jakimoski, 2016). Today, organizations around the world are realizing the significance and effectiveness of cloud computing to enhance their data management, processing power and storage capabilities (Doheir *et al.*, 2018). Healthcare management would have failed if mobile cloud computing technologies did not emerge (Doheir *et al.*, 2017).

In addition, cloud security concerns facing cloud computing do not deliver services or resources at the desired time (Ahamed and Iyengar, 2016; Wang, 2016). This study shows the EHRM and cloud computing issues commonly experienced by healthcare organizations. The critical difficulties and challenges must be addressed and controlled through the succeeding use of the techniques exposed in the section. Identifying cloud security issues by regarding to core technologies related to vulnerabilities in cloud features and application scenarios (Kiran *et al.*, 2011). In addition, the prioritization of safety issues takes into account and prioritizes all aspects of all threat factors (Jalote, 2002). The extent of safety subjects based on two characteristics: probability and impact on the project (Hallows, 2005). Many techniques control the scale of security issues. Whether the risk impact is extreme, high, medium, low or minimum, however, is the easiest way to categorize and control. Checklists, network analyzes, decision treaties, decision-making reviews, cost models and performance models, project charter, guidelines, contract documents, work cessation structures (WBS) and network analysis are techniques and methodologies used to complete the task. The best mechanism to stop

cloud computing impacts is to excellently identify problems and be aware of various vulnerabilities. (Masky, Young and Choe, 2015). In particular, brainstorming techniques, experience and expert judgment were also used as tools to identify and assess threats (Hudin and Abdul Hamid, 2015). In addition, risk identification and management has become a priority area in the software development process. (Shahzad, 2010). However, security concerns at the cloud level are needed for mechanisms to ensure the security of related distributed applications (Puttonen *et al.*, 2016). This study displays the EHRM issues based cloud computing system in healthcare organizations that are common in the literature review. The critical issues and challenges need to be addressed and thereafter need to be managed by using techniques as can be seen in the section.

2.1 Electronic Human Resource Management Activities (EHRMA)

Cloud-based HRM software affords a complete overview of all performance goals to managers and HR leaders. Managers can also learn whether goals are associated with corporate priorities (Ghosh and Tripathi, 2018).

2.1.1 E-HRMI1: E-HRM practices and organizational performance

Using the cloud computing database facilitates data management for specific plant production processes and allows cloud computing management for relevant production records, plant and plant group data storage for their production performance, analysis and computation, production planning, etc. (Shinde-Pawar and Dr Alaskar, 2015). This extended architecture also includes mobile health care workers who can access cloud data for diagnostic purposes and authorized customers who perform advanced analytics of the enormity of multi-cloud medical data. A private service cloud may be offered to authorized customers to offer this proxy feature to support low-performance hardware that does not support MCP's cryptographic activities (Fabian, Ermakova and Junghanns, 2014). Performance check test: The goal is to verify that the solution meets performance requirements, particularly in terms of performance and scalability (Thomas and Hansmann, 2010). Low asset consistency can have a significant impact on organizational performance through direct costs and loss of reputation. The ability to predict the reliability of an asset is therefore the key (Kwon *et al.*, 2016). They need to progress business performance as part of their efforts to achieve their goals and goals and to the welfare of their stakeholders in general. This required improvements in performance and the need to find effective human resource management practices (Khashman and Al-Ryalat, 2015).

2.1.1.1 E-HRMI2: Human resource strategy and planning

Strategy and planning are critical to an effective information security risk management program. The primary purposes of the strategy and planning process are to (Zhang *et al.*, 2010):

- Establish risk management program direction and guide activities.
- Create steering committee and working committee.
- Define the risk management program goals, requirements, and scope.
- Proactively plan activities to achieve goals and meet requirements.

The failure to reconcile strategies, structures and processes with the selected application is nevertheless a danger that is repeatedly identified (Grabski, Leech and Lu, 2001) Feeder automation technology, integrated, remote communication, remote control,

fault monitor and many other types are also increasingly developing communication and computer technology. (Guan, Hao and Yu, 2016). Building a theoretical framework for the employment of e-HRM systems and developing a conceptual model reflecting the nature of e-HRM acceptability and adoption (Winarto, 2018). However, cloud computing has grown swiftly in recent years and has grown with the development of distributed computer technology, grid computing and parallel computing (He, Song and Binsack, 2016). The theory is based on software development and was established to describe the reliability and sustainability of an organization's behaviors, practices and processes in order to gain the required results (Muriithi, 2016). Universal access to electronic technology and the Internet, however, orients global HRM development and makes it possible to use the model more effectually (Zhang and Xu, 2010).

2.1.2 E-HRMI3: E-HRM is suitable for human resource professionals

The new idea of E-HRM came into the realm of human resources to create web-based technology. This type of management is suitable for human resources professionals to stimulate and play an effective role in their skills (Nivlouei, 2014). It is also an easy and clear method of expressing knowledge apposite for human resource professionals. It will advantage and make threat analysis more effectual for professionals. Analyzes should be combined with their respective functionality if management projects have different characteristics (Yuan, 2012). Cloud computing is also a suitable platform for applications involving many users and data such as multimedia applications (Toosi, Calheiros and Buyya, 2014).

2.1.3 E-HRM4: Implementing HR strategies, policies, and practices in organizations

It is a way to implement HR strategies, policies and practices in the company through deliberate and targeted support, using web-based channels (Ghazzawi, Al-khoury and Saman, 2014). However, e-HRM is a good way to implement organizational HR strategies, policies and practices through constant and direct support through the full use of web-based networks and channels. In this context, the word 'implementation' has a broad meaning: creating something to work, practice or reach something. However, E-HRM is a good way to implement HR strategies, policies, and practices in an organization through continuous, guided support, through the full use of web technology-based networks. Human resource planning is a complex mission in an organization. It is an intelligently capable process for human resource planning. Human resource planning can be seen as a human resource forecast for organizations. Because human resource planning is based on human resource data, some industrial organizations do not uphold the same. In the absence of reliable information, it is then tough to develop effective human resources plans. Human resource planning focuses on recruitment, selection, training and development and performance evaluation (Nagendrababu and Girisha, 2018).

2.1.4 E-HRMI5: User-friendly interface

They are mostly concerned about poor user interfaces such as cell phones. Data, suggestions and the entire user interface must be represented very easily, mechanically and easily. This would make it easier for a user to disregard the manual and possibly misuse the system (Islam *et al.*, 2007). Integrating the existing computer tool by

combining programming language strength and suitability of a convenient interface (Pusatkar and Gulhane, 2016). Pre-processing coupling simulation is very important throughout the simulation process and needs an effective and user-friendly interface (Wang *et al.*, 2016).

2.1.5 E-HRM6: The multi-tenancy in the EHRM based Cloud

Multi-tenancy cloud needs to implement complex security mechanisms. As a substitute, servers are hosted in the cloud on virtual machines in shared computer infrastructure (Hazarika, Baliga and Tolety, 2014). If a permitted user demeans an illegal operation in a multi-tenant environment such as the cloud and the system is unable to trace the prohibited actions, this is an action without any other party's proof of otherwise (Anand *et al.*, 2016). The way the system provides software as a service in architectural design refers to multi-tenancy in cloud computing. A multi-lease system shares a work application amongst a group of participants or tenants (service customers)(Kim and Ko, 2015). Multi-tenancy means cloud users can use multiple cloud computing environments to share infrastructure and database to benefit from cost and efficiency-level economies. Additionally, sharing computer resources can face data loss or privacy threats (Bamiah, Brohi and Chuprat, 2012).

2.2 The Level Awareness of E-HRM and Cloud Computing (LAEHRMCC)

2.2.1 E-HRMI7: E-HRM is mediated by cloud computing to help the organizations to acquire, develop, and deploy the intellectual capital

They focused on the particular role of an HR portal as a source of formation and expansion of intellectual capital. With the strategic focus, he explores the effect of alignment concerning the HR portal setting and the HR strategy on the creation of intellectual capital(Bondarouk and Ruël, 2009). Nevertheless, there can clearly be a considerably higher demand for HR as a strategic partner for organizations that have a competitive advantage by having human and intellectual capital (Lawler and Mohrman, 2003). In order to address the needs of our capital and to evaluate and promote the inclusive intellectual capital, changes must also be made with regard to the inclusion of diversity in education (Barrett, 2011).

2.2.2 E-HRMI8: Access to employee self-service training enrollment and self-development

HRM's best exercise contains training that enables employees to expand their performance, prepare themselves for senior positions and accomplish their career goals. Performance management in HRM is the process of determining how well employees perform. Staff are evaluated and feedback on their strengths and fields of improvement in this activity (Sagum, 2015). HR analytical tools can measure the training needs of an individual, group or department based on the abilities and skill gaps reported during interviews, performance assessments, customer feedback and expansion plans. Staff can use the on - and / or remotely cloud-based information system to conduct training and certification programs. In turn, companies can supply their training programs in the cloud with customized training materials, expert opinions and technologies via the Internet(Ghosh and Tripathi, 2018). Continuing professional development (CPD) activities, including qualifications and employee certification, can be monitored

effortlessly with cloud-enabled HR systems, as well as efficient evaluation of training programs (Ghosh and Tripathi, 2018).

2.2.3 E-HRMI 9: E-HRM can save costs while maintaining the quality of data

This means that public cloud computing can save costs such as fixed costs or better write-off options (Schmidt, Möhring and Keller, 2017). The software cost may be reduced. Instead, instead of buying luxurious software applications, you can pay for the software required for pay-per-use. Updates to the SaaS product software are no longer a problem (Rajaei and Wappelhorst, 2011). Cloud computing can save the costs of buying and maintaining expensive software and hardware from companies or organizations (Lai and Leu, 2015).

2.2.4 E-HRMI10: Workflow Analysis in the Business Process Management and Productivity

Cloud workflow systems provide a competitive solution for large business processes (Liu *et al.*, 2012). Even if wine production still has an extensive traditional root component, ICT integration can increase productivity, boost competitiveness, and facilitate batch processes in this area (Medela *et al.*, 2013).

2.2.5 E-HRMI11: Attitude towards usage and Behavioral intention to use

E-HRM approach: Objective clarity, e-HRM user satisfaction, perceived utility, perceived ease of use, intention to use e-HRM, user support, social impact and ease of use. These are the key factors in the attitude of human resources professionals towards using E-HRM. This information is vital to the conception of implementation methodologies and change management strategies as the intervention must be exactly designed to meet the company's E-HRM implementation requirement (Ma and Ye, 2015). The main predictor of the attitude towards electronic human resource management. Research on Executive Information Systems (EIS) and models of factors resulting in HR electronic use and success were examined. The following article provides a short-term overview of the possibilities of using information technology in HR fields for measuring and tracking HR capital (Ghazzawi, Al-khoury and Saman, 2014).

2.2.6 E-HRMI12: Awareness in E-management.

In the face of many advantages, cloud computing has not separated from safety incidents. To minimize risk, an organized management, security and service-level agreement (SLA) is required, a contract between a user and a service provider specifying the conditions under which a service may be used (Oktadini and Surendro, 2014).

2.3 IT and Cloud Computing Infrastructure (ITCCI)

2.3.1 E-HRMI13: Collaboration of HRM and IT

If a researcher uses such a description, it may be suggested that the value created by e-HRM is an improvement in the administrative HR process. In this case, changes in e-HRMs such as employee participation or workforce coordination may be ignored (Bondarouk and Ruël, 2009). The Internet can be used to reduce transaction costs in some of the components of some of the leading ERP systems. By integrating finance and HRMS applications, HRMS itself has become a subset of ERP solutions in the best

administrative systems, increasing its value for the entire organization(Sagum, 2015). New technology has emerged that combines machine and human computer resources with hybrid intelligence to address multifaceted issues and tasks (Jarrett, Blake and Saleh, 2017).

2.3.2 E-HRMI14: HR activities in the administrative area based on cloud computing and IT.

The roles of administrative expert who offers effective HR processes and employee champion who actively participates in listening to and reacting to employees. Many disagree with HR's participation in the decision-making process.

2.4 E-HRMI15: Sharing of reliable information quickly in IT-based HRM

In medicine, the sharing of big data across organizations and collaborative use is increasingly important. The cloud computing paradigm will afford a perfect environment for concerted health workers (Fabian, Ermakova and Junghanns, 2014).Big cloud health data, such as various IT systems in hospitals and other healthcare organizations, and third parties in the field of online services can also be processed by remote services. These features afford additional reasons for cloud computing in sharing health information(Hu, Peng and Bai, 2015). Electronic human resource management reporting assists the harmonious sharing of information. The work of Kenya Commercial Bank online advertising on websites, online curriculum vitae databases, various forms of electronic applications, candidate administration systems and corporate databases has also been expanded (Mercy, 2016).

2.4.1 E-HRMI16: E-HRM tools & techniques are used during selecting process.

Despite the fact that tools and methods can help project teams identify and evaluate the risks related with projects, it is also, if not more important, to understand the cognitive impairments that can avoid people from using them correctly and form overly optimistic views on a project's risk management capabilities(Shalev, Keil and Lee, 2014). But multidisciplinary analysis of dependency, quality control and development of risk assessment tools and techniques can also be implemented (Elzamly and Hussin, 2011b). On the other hand, when available, new tools and techniques should be included in SEC in the future to increase software efficiency or change quality. Advanced electronic human resources management tools and techniques are used in full during hiring and selection processes (Mercy, 2016).

2.4.2 E-HRMI17: Standardization and Decentralization of HR tasks.

From a theoretical perspective, e-HRM organizations are set up to increase efficiencies and service delivery; to increase the strategic orientation and image of human resources ; and to empower managers (Winarto, 2018). Standardization techniques are, however, suitable for safeguarding the interests of both sides of cloud services by modifying security vulnerabilities, evaluating the level of security systems and improving trust between them (Xu *et al.*, 2015). Process standardization in software development will improve the project's development efficiency by spread over an experienced procedure and closer controls (Liu *et al.*, 2008).

2.4.3 E-HRMI18: Technological development and electronic instruments are always available.

Multi-cultural virtual teams emerged from technologically advanced global environments. This is quite a new concept for practitioners. With the entrance of Internet technology offering low-cost telecommunications and email facilities, the progress of virtual teams, virtual working groups and virtual companies has accelerated (Basharat, Nafees and Abbas, 2013). However, this technology has enabled users to fulfill the long-standing dream of "computing as a service," where resources can be leased from and released on demand on the Internet. It has occurred on the market with enormous potential to fulfill this dream and many promises, inviting many consumers around the world (Ahmed and Abraham, 2013). Nearly all "classic" human resource management (HRM) activities have emerged, covering countless technologies ; not only complementing, but often even substituting them (Ma and Ye, 2015). However, in combination with technical development, these key concepts, occupational risk and occupational health and safety contribute to an inventive approach to risk (Cioca and Ivascu, 2014).

2.5 Management Support System and Quality for HRM (MSSQAHRM)

2.5.1 E-HRMI19: Integral support for the management of human resources.

The resource management process may also be a supporting process. Process support provides and manages the necessary resources without providing direct value to the customer. It supports and manages core processes. HR, financial management and IT management are the typical processes of support (Haufe, Colomo-palacios and Stantchev, 2016).

2.5.2 E-HRMI20: The transfer to E-HRM and cloud system can reduce costs.

The cloud computer can afford companies with advanced solutions to reduce costs, improve service performance and respond quickly to business changes (Shi, Xia and Zhan, 2010). Nevertheless, implementing collaborative cloud management systems can help manage to raise problems and deliver new service models that, in turn, boost growth and reduce costs (Madhavi Devi, Gupta and Muralidharan, 2013). In addition, cloud computing reduced the cost of transactional tasks. Administrative human resource information system such as cost reduction in the Department of Human Resources improved the use of electronic human resource management(Mercy, 2016). Cloud in-memory storage cost savings for data services: cloud service interactively responding to queries, especially data services worldwide, requires in-memory storage. Reduces cloud storage rental costs (Gan and Zheng, 2016). However, the user put his faith heavily on third parties to store and transfer their data ; these data can be observed either by intruders or by third parties at times (Sen and Saluja, 2017)

2.5.2.1 E-HRMI21: Transparent online recruitment & selection process has been adopted healthcare center

The adoption of the bank has made the online recruitment and selection process transparent. Online selection provided better quality applicants and reported that online recruitment made it easier to find the right candidate more staff and employers(Mercy, 2016). The knowledge of former candidates recruited and disallowed is used to support the recruitment process as a tool for the neural network in the case of recruitment support (Biesalski *et al.*, 1997).

2.5.3 E-HRMI22: Efficiency and effectiveness for EHRM

A normally used test system and a practical system to demonstrate the effectiveness, utility and efficiency of the proposed method (Rupolo and Mantovani, 2015). Furthermore, the efficiency of the ERM program requires many resources that are ultimately necessary for the Board's approval. The board's role can be seen as an important factor in the extent of the ERM (Mohd-Sanusi *et al.*, 2017). In addition, large-scale evidence of mHealth efficiency remnants necessary, as measured by repeatable long-term improved health and economic outcomes (Vital Wave Consulting, 2009). The effectiveness is also visualized by the quantitative risk assessment of the cloud risk factors achieved by our ancient study and the proposed measures (Tanimoto *et al.*, 2014). The Software's effectiveness is to the extent that the user completes the intended tasks with precision and completeness while avoiding most errors in different circumstances (Moorthy, Ibrahim and Mahrim, 2014). While IT investments still provide opportunities for efficiency, efficiency and competitiveness through alignment of IT and IT business strategies, little consideration has been given to organizational mechanisms by which companies achieve sustainable and repetitive IT value (Elzamly and Hussin, 2011a). The ERM program's efficiency requires a large number of resources that are ultimately required for Board approval (Mohd-Sanusi *et al.*, 2017).

2.5.4 EHRM23: Cloud Computing Regulatory Requirements

Companies working with sensitive data and integrity require full control of storage and data access physical location. Therefore, stored sensitive data in the cloud makes it more difficult to comply with regulatory compliance legislation as it may fall under dissimilar regulations reliant on where it is stored physically in the cloud (Michalas, Paladi and Gehrman, 2014). Compliance with cloud data is mainly stored in the cloud on multiple servers, sometimes across countries. During the country's data storage, different countries have different rules. These diverse level regulations ensure compliance with the data type that can be hosted in the cloud (Hazarika, Baliga and Tolety, 2014). In compliance with the regulations: Cloud users are accountable for storing and applying their data even if it is stored by third parties, such as cloud data management and regulatory compliance (Bamiah, Brohi and Chuprat, 2012).

2.5.5 EHRM24: Cloud Computing Portability and Interoperability

Interoperability can use the same automated tools and advance portability of applications at dissimilar platform levels. This tell us that different cloud service providers have the ability to use the identical tools or apps (Bobade, 2015). The lock-in risk of the vendor is one of the matters concerning cloud interoperability adoption. Seeing interoperability frameworks would be one of the major reasons for having ontologies beneath cloud computing technology. The main challenge facing cloud service providers is the issue of portability and interoperability. (Imam, 2016). Apps should be established with proprietary tools that enable data storage in a particular cloud service provider (CSP) to be accomplished, making it more challenging for cloud service providers to change portability (Axelrod et al. 2015). However, cloud users need to be portable and interoperable in order to ship their assets from one cloud to another (Arunkumar and Venkataraman., 2015).

2.5.6 E-HRMI25: Communication between the management and the HR department

HRIS is a computer-based system used to achieve the administration of HR processes and procedures. HRIS provides complete information on transactions that can be shared between departments/units within companies (Karikari, Boateng and Ocansey, 2015). The HR department may be concerned about creating a career ladder for project management that requires new educational programs. This will grow your workload (Kerzner, 2009). In addition, the conditions for simplification include the support needed by the HR and IT departments to educate and assist employees. In addition, technical facilities offering a highly available and receptive user system are included in facilitating conditions (Ma and Ye, 2015). The HR department should provide a training program for employees to learn how to use the new applied system (Ghazzawi, Al-khoury and Saman, 2014).

3 Conclusions

The main thrust of this study is identifying most influential determinants that are related to managerial decision for adapting E-HRM based cloud computing system for healthcare organization. The aim of the paper is to identify the critical factors leading to adopt E-HRM based cloud computing system for healthcare organizations. This paper identifies and classifies the issues of electronic human resource management in Iraq's organizations for four dimensions that include electronic human resource management activities, the level awareness of EHRM and cloud computing, IT and cloud computing infrastructure, and management support system and quality for HRM. However, there are 25 critical EHRM issues based cloud computing in the healthcare organizations. Additionally, the critical EHRM issues and challenges need to be addressed and thereafter need to be managed by using control methods. As a future work, we will apply quantitative to control EHRM issues based cloud computing system. A successful EHRM based cloud computing system will greatly improve the probability of system success in healthcare organizations.

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