NEAR EAST UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
BUSINESS ADMINISTRATION PROGRAM

The Impact of e-HRM System on HRM Effectiveness and Organizational Outcomes: Highlighting the Role of Top Management, HR Professionals and Line-Managers

Yaser AL-HARAZNEH

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Thesis Supervisor:

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2020

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Yaser AL-HARAZNEH

DEDICATION

This thesis is dedicated to the soul/ spirit of my loving parents, my wife, my children, my sister and brothers, and all family members who paved the way for success. For all who supported my PhD journey and encouraged me to move forward.

ABSTRACT

The Impact of e-HRM System on HRM Effectiveness and Organizational Outcomes: Highlighting the Role of Top Management, HR Professionals and Line-Managers

This thesis investigated the effects of electronic Human Resource Management (e-HRM) implementation on the effectiveness of the Human Resource Management (HRM) system and organizational outcomes, and the roles of top management, HR professionals and Line-Managers (LMs) in supporting the actual e-HRM usage. The framework of this study was guided by the Resources-Based View (RBV) theory, Social Exchange Theory (SET), and Organizational Support Theory (OST). Partial least Square- Structural Equation Modelling (PLS-SEM) via SmartPLS software was applied to test the proposed hypotheses. The sample consisted of 306 survey responses from the LMs of two telecommunication companies in Jordan. Our findings came as following: (i) TMS, OCM, and HR professionals had a significantly positive effect on e-HRM system usage, (ii) TMS moderated the relationship between OCM and the actual usage of e-HRM, (iii) Perceived Organizational Support (POS) partially mediated the link between e-HRM actual usage and organizational outcomes (Organizational Commitment and Employees' Satisfaction), and (iv) the actual usage of the e-HRM system had a positive significant impact on the effectiveness of the HRM system at the levels of philosophy, policy, and practice.

Keywords: e-HRM, HRM Effectiveness, Top Management Support, HR Professionals, and Line-Managers.

ÖZ

The Impact of e-HRM System on HRM Effectiveness and Organizational Outcomes: Highlighting the Role of Top Management, HR Professionals and Line-Managers

Bu çalışmada insan kaynakları yönetimi uygulamalarının, insan kaynakları yönetimi sistemleri ve kurumsal sonuçlarına olan etkileri incelenmektedir. Bunlara ek olarak, üst yönetim destekleri, kurumsal değişim yönetimi ve insan kaynakları uzmanlarının elektronik insan kaynakları yönetimi kullanımına olan etkleri araştırılmaktadır. Bu çalışma, kaynak tabanlı bakış açısı teorisi, sosyal değişim teorisi ve kurumsal destek teorilerini benimsemiştir. Kısmi en küçük kareler yapısal eşitlik modellemesi SmartPLS programı ile hipotezleri test etmek için kullanılmıştır. Ürdün'de faaliyet gösteren iki iletişim sektörü firmasının bölüm yöneticilerinden 306 anket verisi toplanmıştır. Sonuçlarımız göstermiştir ki, üst yönetim desteği, kurumsal değişim yönetimi ve insan kaynakları uzmanlarının e-insan kaynakları kullanımı üzerinde pozitif bir etkisi vardır. Üst yönetim desteğinin, kurumsal değişim yönetimi ve e-insan kaynakları yönetimi kullanımına moderasyon etkisi yaptığı gözlenmiştir. Algısal kurumsal destek ise e-insan kaynakları yönetimi kullanımı ve kurumsal bağlılık, çalışan memnuniyeti gibi kurumsal sonuçlar arasındaki ilişkiye aracılık yapmıştır. Sonuç olarak, e-insan kaynakları yönetimi sistemi kullanımının, insan kaynakları yönetimine felsefik, prensip ve pratik alanlarda anlamlı bir etkisi vardır.

Anahtar Kelimeler: Üst Yönetim Desteği, İnsan Kaynakları Uzmanları, e-İnsan Kaynakları Yönetimi, İnsan Kaynakları Yönetimi Etkililikleri, Bölüm Yöneticileri

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ABBREVIATIONS

AVE: Average Variance Extracted

BI: Behavioral Intention

CFA: Confirmatory Factor Analysis

CFI: Comparative Fit Index

CLT: Central Limit Theorem

CM: Change Management

CR: Composite Reliability

EE: Effort Expectancy

e-business: Electronic business

e-commerce: Electronic Commerce

EFA: Exploratory Factor Analysis

e-HRM: Electronic Human Resources Management

ERP: Enterprise Resource Planning

ES: Employees' Satisfaction

ESS: Employees' Self-Service

FC: Facilitating Conditions

FTE: Full-Time Equivalent

GFI: Goodness-of-Fit

HCWS: High Commitment Work Systems

HIWS: High Involvement Work Systems

HR: Human Resources

HPWS: High-Performance Work Systems

HRIS: Human Resources Information System

HRIT: Human Resources Information Technology

HRM: Human Resources Management

HRMIO: Human Resources Management Innovation Outcomes

HRMS: Human Resources Management System

ICT: Information Communication Technology

IDT: Innovation Diffusion Theory

IMDS: Industrial Management and Data Systems Journal

IS: Information Systems

IoT: Internet of Things

IT: Information Technology

KMO: Kaiser-Meyer-Olkin

LAN: Local Area Network

LMs: Line-Managers

LMX: Leader-Member Exchange Theory

MIS: Management Information Systems

MISQ: MIS Quarterly Journal

MNCs: Multinational Corporations/ Company

MSS: Managerial Self-Service

M2M: Machine to Machine

NFI: Normed Fit Index

OC: Organizational Commitment

OCM: Organizational Change Management

OST: Organizational Support Theory

PE: Performance Expectancy

PLS-SEM: Partial Least Square- Structural Equation Modeling

POS: Perceived Organizational Support

RBV: Resource-Based View

R & D: Research and Development

RMSEA: Root Mean Square Error of Approximation

SET: Social Exchange Theory

SHRM: Strategic Human Resource Management

SI: Social Influence

SRMR: Standardized Root Mean square Residual

SU: e-HRM system usage

TRC: Telecommunications Regulatory Commission

TOP: Technology, Organization, and People

TMS: Top Management Support

UTAUT: Unified Theory of Acceptance and Use of Technology

VIF: Variance Inflation Factor

WAN: Wide Area Network

www: World Wide Web

WiMAX: Worldwide Interoperability for Microwave Access

4G LTE: Fourth Generation Long-Term Evolution

5G: Fifth Generation

CHAPTER ONE

INTRODUCTION

This chapter presents the background, problem statement, research objectives, research questions, the significance of the study, the scope of the study, and thesis structures.

1.1. Background

Technology advancement has great effects on Human Resource Management (HRM) as technology integration with HRM produced electronic human resource management (e-HRM). While e-HRM implementation has spread out and has become essential in developing countries, its full impact and sequences need to be emphasized. Accordingly, the rapid growth for e-HRM requires academic attention and researchers' involvement to stand on the main challenge to overcome in organizations. There is a need to explore what e-HRM is and the factors that predict a newly implemented HRM system usage. This research attempts to investigate e-HRM concepts and practices, exploring how the e-HRM system is adopted, the expected benefits in addition to the anticipated consequence of e-HRM system operationalization. Thus, this study aims at shedding light on e-HRM related aspects, affecting all end-users in the organizations.

The main aim of implementation of the e-HRM system is *"*to interact with technology, people have to make sense of it; and in this sense-making process, they develop particular assumptions, expectations, and knowledge of technology, which then serves to shape subsequent actions towards it*"* (Foster, 2009, p.112).

Accordingly, the analysis of the integration levels of HRM system (philosophy, policy, and practice) will lead to supporting the anticipated organizational outcomes (Maatman, 2006).

In the current unstable economy and highly intense international competition, organizations are obligated to follow the accelerated progress through adopting innovation and development as well as holding creative visions for surviving. Technology advancement, the Internet, and Information Technology (IT) revolution have affected our society, economy, and education (Suramardhini, 2012).

Technology has a strong influence on HRM processes and practices that lead HRM to an exclusively novel direction (Stone & Dulebohn, 2013). Due to the introduction of web-based HRM systems as well as the replacement of face-to-face HRM activities with these web-based technology systems, HRM has undergone great changes in management since the 1990s (Ruël, Bondarouk, & Van Der Velde, 2007).

The information Era of the human experience directs many types of research in all fields (Piabuo, Piendiah, Njamnshi, & Tieguhong, 2017). IT has a great influence on business and HRM functions. It also changed the nature of several organizational operations (Ruël, Bondarouk, & Looise, 2004). Additionally, the integration between technology and globalization has influenced human capital investments in a highly competitive business environment. Thus, digital business services explain how organizations achieve their missions (Millar, Chen, & Waller, 2017). Furthermore, IT applications and mainly Information Communication Technology (ICT) have driven HRM in completely new directions (Piabuo et al., 2017; Stone & Dulebohn, 2013).

The extensive use of innovative IT in HRM has been fueled by the widespread implementation of “Enterprise Resource Planning” (ERP) programs in conjunction with web-based technology that has led to the standardization and automation of the administrative aspects of HRM functions and practices (Marler & Parry, 2015). IT applications have encouraged organizations to adopt e-HRM, which entails the integration of IT

applications with Human Resource (HR) functions (Foster, 2009; Galve-Górriz & Castel, 2010). For that, e-HRM usage with support of IT applications aims to strengthen HRM processes. E-HRM is wide-spreading and has broadly been implemented in the organization to improve the effectiveness of HRM services through the standardization and restructuring of HRM procedures as well as freeing HR staff from common administrative burdens (Bondarouk, Ruël, & Parry, 2017; Stone, Deadrick, Lukaszewski, & Johnson, 2015).

The HRM functions focused on employment, development, management, and performance of people where the clients of these HRM functions are LMs and employees. Meanwhile, the HRM function is expected to contribute to the “achievement of competitive advantage” (Armstrong & Taylor, 2020, p.93).

The most important issue that has been attracted much attention is the prerequisite for transforming parts of HR professionals’ responsibilities to be devolved to LMs. Moreover, considering that e-HRM enables both LMs and employees to accomplish HRM activities through Managerial Self-Service (MSS) and Employees’ Self-Service (ESS) respectively (Heikkilä & Smale, 2011; Marler & Fisher, 2013). If people are considered the greatest asset and human capital in the organization, then their awareness about the employee abilities and aptitudes must be exploited effectively, and in turn, they should implement additional high-tech approaches and offer more suitable means to enable the end-users to take part in a broad firm strategy (Omran & Anan, 2018). Additionally, HR professionals alone can’t develop a trusted environment, increase organizational commitment (OC), or guarantee that employees and line managers (LMs) are engaged, competent, and technologically advanced unless they receive TMS and organizational support.

1.1.1. HRM Transformation and e-HRM system Implementation

This section discusses the HRM transformation and the implementation of the e-HRM system process in the organization. HRM is considered a vital part of the organizational structure due to its reliance on

human capital. HRM goes through transformational technology applications to improve the firm's effectiveness and performance. It is assumed that "The HR functions are subject to radical and dramatic change because of the implication of web-based organizing" (Paauwe, Farndale, & Williams, 2005; p.4). Consequently, the e-HRM system is seen as "administrative support of the HR function in organizations by using internet technology" (Voermans & Van Veldhoven, 2007, p.15).

Currently, the main argument is regarding the necessity for resource sufficiency and cost-reduction in an organization. Thus, several developed countries believe that more adoption of technology in business administration and particularly in HRM aspects will lead to developing employees' or workforce efficiency and entire business productivity (Bondarouk & Brewster, 2016; Bondarouk, Parry, & Furtmueller, 2017; Marler & Fisher, 2013; Strohmeier & Kabst, 2014). Thus, it is assumed that e-HRM has a potential impact on the effectiveness of HRM system function and the efficiency of HRM activities. While efficiency refers to decreasing the time required for handling the administrative procedure, improving information accuracy, in addition to the possibility of downsizing HR staff, effectiveness is related to improving the capabilities of better and appropriate decisions making process. Where, e-HRM could support the HRM functions with the opportunity to form innovative approach that enhances the firm's effectiveness through knowledge management and the investment in intellectual capital (Lengnick-Hall & Moritz, 2003).

Meanwhile, top management support (TMS) attitude and arrangements impact the consequences of information system (IS) application in organizations. TMS for change management (CM) promotes the organizational acceptance of a newly implemented system by influencing the development of employees' abilities and performance in addition to LMs' buy-in (Dong, Neufeld, & Higgins, 2009; Ruta, 2005). Recently, Galanaki, Lazazzara, and Parry (2019) found out that the configuration of e-HRM implementation is widespread globally. The e-HRM configuration is the incorporation of technology that facilitates the dispensation of HRM applications. Meanwhile, the lack of cooperation between the IT section and

HR specialists produces a poor HRM system and lead to ineffective implementation of e-HRM systems.

Strohmeier and Kabst (2009) explored the aspects that impact the organizational acceptance of e-HRM in 2,336 firms across 23 countries in Europe. The results revealed that two-thirds of the targeted firms have already adopted an e-HRM system.

Organizations have been aware of the prominence of organizational sustainability for competition, selection, and retention of skillful employees. Organizations have paid great efforts to achieve a kind of sustainable environment for a long-term growth business and can cope with competitive economic and ecological variables. Taking into account the several benefits and limited difficulties, adoption of e-HRM technology is expected to advance HRM system effectiveness and the firm performance through e-HRM technology implementation (Deshwal, 2015).

The research highlights the roles of TMS, HR professionals, and OCM in e-HRM implementation from the perceptions of LMs with the presence of the perceived organizational support (POS). Considering the effective e-HRM system usage produce significant strategic value to the organization, particularly in terms of efficiency improvement, through the reduction of HRM transaction costs and saving of time and effort of the HR department in comparison with the traditional HRM function (Heikkilä & Smale, 2011).

The e-HRM in Jordan has recently been introduced and it is in the middle phases of implementation. Its progress and promise innovative changes are expected to occur in IT applications that should encourage more research in this area (Al-Dmour & Shannak, 2012). The telecommunications sector in Jordan has recently attracted numerous regional and international investors, where Jordan is considered a pioneer in IT application and business innovation at the regional level (Alnsour, Abu Tayeh, & Alzyadat, 2014; Hajir, Obeidat, Al-dalahmeh, & Masa’deh, 2015; Obeidat, 2016).

1.1.2. The transition from HRM to e-HRM

This section moves forward the discussion regarding the transition from traditional HRM to e-HRM. The e-HRM system implementation, the usage of technology applications, and the e-HRM consequences have a great effect on HR staff, LMs, and employees (Bissola & Imperatori, 2013). Meanwhile, the e-HRM system, which is an integration of HRM with IT, aims to strengthen HRM processes through standardization of HRM processes and practices. This process will free the HR department and HR staff from administrative burdens (Bondarouk et al., 2017; Stone et al., 2015). Organizations ought to focus on providing a clear strategy and policy for the integration of HRM applications with e-HRM system components. Moreover, the fit between the intended HRM practices and the actual e-HRM applications ought to be considered. All possible challenges through the integration and implementation process must be considered in order to assure the success of the implementation process.

The previous literature has advocated that the e-HRM system's actual usage (e-HRM SU) would enhance the effectiveness of HRM practices, improve HRM service quality, and make the HRM role more strategic. Even though the new technology deployment such an e-HRM system could be an additional expense (Parry & Tyson, 2011), HRM effectiveness and efficiency will lead to enhance the entire organization’s performance and advancements in strategic orientation (Stanton & Coovert, 2004). In their study, Purcell and Hutchinson (2007) targeted (12) organizations in the UK and explored the level of employee organizational commitment (OC), employees’ satisfaction (ES) with HR services as well as how jobs were influenced by manager behavior and quality. They found that the quality of leadership behavior and ES with HRM functions both have a significant relationship.

1.1.3. Jordanian Telecommunications Sector

This section presents an overview of the telecommunication sector in Jordan. According to Jordan - Telecoms, Mobile and Broadband - Statistics and Analyses report (2020); Jordan has hosted several numbers of ICT

organizations and has grown as a central technology initiator in the Middle East with great concentration on expanding the IT training, education, applications, and a guiding environment, advantageous investments in ICT applications. Jordanian telecommunications companies are Orange Jordan, Zain Jordan, and Umniah Company (Al-Dmour & Shannak, 2012; Khashman & Al-Ryalat, 2015; Obeidat, 2016).

Jordan National Information and Communications Technology Strategy (2013- 2017) related to the Ministry of Information and Communications Technology (Jordan) stressed that ICT offers a unique opportunity for Jordan to sustain and improve a competitive and viable export-oriented industry. Jordan's official strategic challenge is focusing on the national efforts and resources which include human capital to exploit the opportunity for creating new jobs and trade-driven economic growth. In this regard, the telecommunication sector is one of the vital successful investments in Jordan that attracted foreign investors (MOIC, 2013).

Accordingly, Jordan is considered a distinctive and attractive market in different ways, as a result of the high inhabitants' growth rate due to the arrival of refugees into the kingdom. The Jordanian Telecommunications Regulatory Commission (TRC) is an independent governmental commission regulates the performance of the ICT sector, encourages competition, protects the interests of the recipients, and monitors the implementation of quality of service indicators to achieve sustainable growth in all related sectors depending on highly enthusiastic intellectual capital (TRC, 2020).

According to TRC (2020) and the annual reports of the telecommunications companies (Zain Jordan, 2020; Orange Jordan, 2018; Umniah, 2020), the telecommunications sector, which includes mobile and internet service providers in Jordan, is considered a very competitive and challenging market for telecommunications, mobile services, and Internet providers because they all have similar unstable market share with some difference (Zain: 42%; Orange: 30% and Umniah 28%).

The launch of a standard wireless broadband service, which is the fourth-generation Long-Term Evolution (4G LTE), has, in turn, led to an advance in data profits for the mobile service providers and increasing data offerings. Accordingly, the sector is moving forward towards more growths concerning fifth-generation (5G), Machine to Machine (M2M), and the Internet of Things (IoT). The growth of the Fiber-based broadband network is currently spreading throughout the country (TRC, 2020).

Additionally, e-HRM expansion has forwarded the web-based HRM in a multinational corporation (MNC) to a new standpoint as a common practice beyond the IS's literature perspective (Heikkilä, Rentto, & Feng, 2017; Geffen, Ruël, & Bondarouk, 2013). Where the telecommunication sector in Jordan is mainly a foreign investment and the telecom companies are considered MNCs.

To sum up, the researcher chose to study the telecommunications sector since it is one of the main sectors that invest in human capital and strives for continuous innovation.

1.2. Problem Statement

This section builds on the debates regarding the research problem related to e-HRM implementation and actual usage in the Jordanian telecommunication sector. Despite the efforts that are allocated to improve the HRM system of the Jordanian telecommunication sector, it has suffered a lot from the low effectiveness of HRM (Zureikat, 2017; Obeidat, 2016; Obeidat, Masa'deh, & Abdallah, 2014).

Owing to the business enlargement and the increase in staff numbers, it becomes essential for organizations and the HR department to automate the HRM functions and actions (Al Shobaki, Abu-naser, Abu Amuna, & El Talla, 2017; Obeidat, Masa'deh, & Abdallah, 2014). Even the traditional IT that is related to HRM applications has limited capabilities. Additionally, a vast number of employees and staff required an enormous managerial HR staff, high cost, and excessive efforts. Meanwhile, the effectiveness of the HRM system is considered an enhancement of organizational performance (Ostroff

& Bowen, 2000; Wright, Dunford, & Snell, 2001). Moreover, according to Guest (2011) for around three decades of “extensive research” and reviews, the answer to the main questions regards the linkages and the relationship between HRM implementation and performance is not addressed yet.

Consequently, the telecommunication sector adopted electronic management for HRM functions. Therefore, the procedure of transforming part of HRM functions to electronic systems has assisted the achievement of responsibilities, and reduced cost and time for the HR department (Zureikat, 2017; Obeidat, 2016).

The use of e-HRM that relies on web-based technologies for the HRM system’s philosophy, policies, and practices, has been expanded within organizational life. According to the literature review, many indicators express the benefits of e-HRM implementation. Nevertheless, these arguments tend to base on a subjective approach (Ruël et al., 2007).

Even though several studies in the e-HRM have widely explored the relationship among the factors predicting the actual usage of the e-HRM system, to the best of my knowledge, no study examined the POS mediating role between the e-HRM SU and the organizational outcomes. Previous research has ignored the role of HR professionals, OCM, and TMS in e-HRM implementation and actual usage (i.e., Al-Dmour & Shannak, 2012; Khashman & Al-Ryalat, 2015; Obeidat, 2016). Additionally, Obeidat (2016) focused on HRM policy and practices without emphasizing the effectiveness of HRM philosophy in the Jordanian telecommunications sector. Moreover, they explored the consequences of e-HRM practices and functions from employees’ perceptions not from LMs or HR professionals' views. Nevertheless, the LMs’ attitudes and perceptions of the newly implemented e-HRM system have been neglected in most of the previous HRM-performance research.

Principally, this study examines how e-HRM processes, HRM practices, and the mechanism through which HRM responsibilities are performed. It explores the role of MSS and ESS applications by using e-HRM components from LMs perspective. This is in an agreement with previous research, which

reveals that the actual usage and adoption of the e-HRM system supports the HRM system application (Ruël et al., 2007; Obeidat, 2016), and increases HR responsiveness to users' needs (Strohmeier, 2007).

Most research analyses provided evidence of an association of the relationship, rather than explaining the causality, nature, and direction of the relation (Guest, 2011; Paauwe, 2009). Indeed, most of the previous HRM research has targeted developed countries (Omran & Anan, 2018; Thang & Quang, 2005) and only a few studies have focused on Middle Eastern countries like Jordan. Even e-HRM implementation in Jordan is still recent but it steps forward extensively (Al-Dmour & Shannak, 2012).

Parry (2011) claims that the use of the e-HRM system leads to supporting the effectiveness of HRM functions, improving the delivery of HR services, and orienting the HRM activities to be more strategic. Thus, this study aims at examining the assumption that e-HRM implementation affects HRM effectiveness and supports firm performance in the telecommunication sector. Therefore, the research problem can be stated in the following question:

"To what extent would e-HRM influence HRM effectiveness, firm performance, and organizational outcomes in the Jordanian telecommunication sector?"

1.3. Research Questions

Based on the problem statement, this study presents the main research questions as follows: (i) what is the main anticipated benefit of implementing the e-HRM system? (ii) How the HRM effectiveness within the Telecomm sector in Jordan is measured? And (iii) Do e-HRM implementation and usage have an impact on HRM effectiveness and organizational outcomes? To facilitate answering these main questions, it is important to pose the following questions:

1. Does the TMS have a positive influence on the successful implementation of the e-HRM system?

2. Does the OCM have an influence on the implementation process and the actual usage of the e-HRM system?
3. Will TMS moderate the relationship between OCM and e-HRM SU?
4. Does the role of HR professionals have a significant effect on the actual usage of the e-HRM system?
5. Is there a positive link between the actual usage of the e-HRM system and the effectiveness of HRM's philosophy, policy, and practice?
6. Does the actual usage of the e-HRM system have an impact on the POS?
7. Does the actual usage of the e-HRM system have an impact on behavioral outcomes as ES and OC?
8. Does POS positively influence on ES and OC?
9. Will POS mediate the relationships between e-HRM system usage and both of ES and OC?

Even though great attention has been paid to the trend to progress towards achieving the effectiveness of the HRM's philosophy, policy, and practice, less focus has been given to explain how to achieve this goal.

1.4. Research Objectives

Based on the research questions, this study aims to explore the link between organizational factors predicting e-HRM system usage and e-HRM implementation which in turn has an influence on HRM effectiveness in the context of technology and innovation in HRM evolution.

This study aims to incorporate e-HRM technology with CM and managerial roles (e.g., TMS and role of HR staff) into a comprehensive framework to evaluate how different proposed HRM determinants support achieving HRM improvement and add-value in organizations.

The main objective of this research is to focus on the nature of the link between all of HRM determinants and the usage of e-HRM functions, which are related to organizational outcomes.

For that, the main objectives of the study are:

1. To explore the impact of e-HRM system implementation on Telecommunication sector performance.

2. To investigate the importance of the e-HRM system to HRM effectiveness in the Telecommunication sector.

3. To determine the main issues that may hinder the e-HRM systems implementation in the Telecommunication sector.

4. To explore the role of TMS in motivating employees to accept and use the newly implemented e-HRM system.

5. To determine the main role of HR professionals in the e-HRM implementation process and the impact on the employee usage of the e-HRM system.

6. To assess the impact of OCM on employee usage of the e-HRM system and the success of the implementation process.

7. To determine the effect of POS on employee usage of the e-HRM system.

8. To explore the impact of e-HRM SU consequences on the perceived effectiveness of HRM Philosophy, policy, and practices.

9. To find out the effect of e-HRM SU on ES and OC.

10. To provide recommendations and suggestions on the results of this research; how to develop the procedure and best approach for deploying the e-HRM system in the Telecommunication sector for the achievement of better performance and HRM effectiveness.

1.5. Significance of the Study

This study places of interest in the prominence of e-HRM, as one of the main HRM-related topics that considerably influences the firm performance.

This study is, as one of the few studies, dedicated particularly to examine the influence of e-HRM on firm performance and the effectiveness of HRM philosophy, policy, and practice. It contributes to existing literature related to

HRM and current research in e-HRM applications through enriching the literature that is related to e-HRM system implementation and sequences, suggesting useful implications to specialists and the academicians as well as offering empirical guiding principles to future research associated with e-HRM functions.

This study contributes to existing literature related to HRM and current research in e-HRM applications by enriching the literature that is related to e-HRM system implementation and sequences. It suggests useful implications to specialists and the academicians as well as offering empirical guiding principles to future research associated with e-HRM functions.

Furthermore, this research is offering practical and conceptual references for the acceptance and the implementation of e-HRM system in different organizational levels and several types of operations. It supports the organization's ability to control different business responsibilities, builds a clear business environment; increases the degree of job and ES; expands the status of active communication within the organization and with targeted users as well as to foster the OC through improving the HRM service quality.

It is anticipated that e-HRM goals and applications will improve and assist different aspects of organizational functions, including the strategic role of HRM, a better quality of HR services, efficiency, and administrative processes. It will provide a shred of empirical evidence that e-HRM produces effective organizational outcomes and competitive advantage. It will also emphasize the critical role of senior managers' support, HR staff, and LMs.

Finally, the research will emphasize on understanding the gap between the actual HRM practices and what must be practiced as the best performance and then suggest practical solutions. The findings of this study will enhance the HRM effectiveness and firm performance of the telecommunication sector, through effective implementation of e-HRM functions. It is expected that this study will assist different companies in general and telecommunication companies to develop their strategies towards e-HRM

and HRM. It also will motivate the policymakers to issue new rules that interest in HRM and e-HRM.

1.6. Scope of the Study

The research aims to explore the link between e-HRM SU and HRM effectiveness in addition to organizational outcomes. Meanwhile, it is expected that e-HRM is capable of creating value for all key users, including employees, staff, and managers (Bondarouk & Ruël, 2009) with a direct effect on HRM effectiveness at different organizational levels.

SmartPLS software based on Partial least Square- Structural Equation Modelling (PLS-SEM) is applied to test the study framework and the proposed hypotheses. The sample consists of (306) survey responses from the LMs of two telecommunication companies in Jordan. Unfortunately, one telecommunication company refused to cooperate in this study.

This empirical research based on several e-HEM definitions and frameworks that are guided by Social Exchange Theory (SET), Resource-Based View (RBV) of firm theory, and Organizational Support Theory (OST) to find out the nature of relationships between HR determinants and e-HRM SU. The RBV is a guiding prototype for strategic HRM research dimensions, including HRM performance and competitive advantage (Kaufman, 2015).

Jordan is considered a pioneer in ICT application and business innovation at the regional level. The telecommunication, as well as the banking and hotel industries, have received a lot of attention to improve and advance national HRM effectiveness and proficiency (Obeidat, 2016).

1.7. Thesis Structure

This thesis includes six chapters as follows:

Chapter One: this is an introductory chapter that involves the research background regarding e-HRM implementation. It provides essential information about the telecommunication sector in Jordan and the importance of the ICT sector. It explains the research problems, research questions,

research objectives. The focus on the significance of the study and the scope of the study are introduced.

Chapter Two: this chapter tackles the literature review of HRM practices. The chapter commences by defining HRM and strategic HRM then emphasizes on e-HRM as the main concept in this thesis. It addresses e-HRM multidimensional properties and components. Furthermore, it moves forward to the relevant factors that are focusing on the impact of e-HRM SU on the effectiveness of HRM's philosophy, policy, and practices. Finally, it addresses the underpinning theories and the adopted approach by drawing on the HRM theoretical framework.

Chapter Three: this chapter covers theories and hypotheses related to the suggested theoretical model. The Hypotheses development of the conceptual framework is given in detail.

Chapter Four: this chapter introduces the methodology. In this respect, the details of data collection, population, sampling techniques are adopted in line with the objectives of this research. Additionally, it illustrates the instruments of data collection and questionnaire administration concerning LMs perspectives in the Jordanian telecommunication sector.

Chapter Five: this chapter describes the methods of data analysis by using proper statistical tools. It presents the results of the data analysis based on the survey data.

Chapter Six: the last chapter includes a discussion of the findings, conclusion, and recommendations for future studies. It explains and validates the research outcomes in line with the research objectives and main questions.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

The chapter begins by defining HRM and strategic HRM (SHRM) then focuses on e-HRM as the main concept in the study. It addresses e-HRM multidimensional properties and labels its components. It continues with factors that are predicting the e-HRM SU including TMS, the role of HR staff (HR), and OCM. It justifies how these factors are linked with the e-HRM system and consequently impact HRM effectiveness, POS, and organization's outcomes as ES and OC. Furthermore, the chapter discourses the main concepts related to e-HRM implementation and important researches. Finally, it moves forward to definite relevant findings that are focusing on the influence of e-HRM SU on the effectiveness of HRM's philosophy, policy, and practices. Moreover, it addresses the underpinning theories and the adopted approach by drawing on the HRM theoretical framework.

2.1.1. Human Resource Management (HRM)

This section will discuss HRM, which is one of the most critical issues among the vast numbers of competitiveness basics that have been credited globally for the last decades (Guest, 2011). Employees are considered the main assets in organizations. HRM is strategically considered one of the main significant innovations in the field of organization management. HRM is considered on the top of innovative ideas that influenced developing business and management functions (Wang & Zang, 2005).

According to Martín-alcázar, Romero-fernández, & Sánchez-gardey (2005), HRM includes several practices and functions," HR system can be divided into the following functional areas: job design, staffing, recruitment and selection, socialization, performance appraisal, motivation, compensation, training and development, and dismissal/ retirement management" (p.648).

However, HRM is a complicated system, vague, and active process. Due to the causal ambiguity and the nature of its social complication related to the improvement of desired continuous competitive advantage, considering the capabilities of competitors organizations to replicate the same resources are considered difficult (Barney, 1991). Furthermore, the distinctive situations inside each organization make it hard for competitors to get a similar quality of HRM (Barney, 1991; Barney, 2001). Even if the competitors recognize that the mechanisms of HRM system can enhance effectiveness, it is constrained to imitate and duplicate it for the reason time, expense, and management professionals participated in the advancement and implementation procedure of the HRM system (Becker & Gerhart, 1996). For that, the above standpoints advocate that HRM plays a pivotal part in effective organizational complex, distinct, harmonizing HRM applications and policies that contribute to significant organizational outcomes.

HRM includes the activities and tasks that are related to improving employees' organizational performance, it is an active and developing function exploited by different managerial levels to increase efficiency and effectiveness (Gilley, Gilley, Quatro, & Dixon, 2009). Further, HRM components could be assumed as a method for the firm's HR to realize the desired strategic business goals (Mondy & Noe, 2005).

The main elements of HRM system consist of an HRM approach related to formal policies, practices, and the technological medium. HRM systems become a real phenomenon through active social interactions between key elements in the organization, especially the HR staff, LMs, and employees who are the key actors involved in preparing, communicating, and reacting to the verities of the HRM system components (Jackson, Schuler, & Jiang, 2014).

HRM is considered a “black box” through which the HRM functions might positively affect employees’ perception, resulting in better performance (Purcell & Hutchinson, 2007). However, Paauwe (2009) considered HRM a growing field of academic research that focuses on the review of the employment relationship and of the way of people management at the workplace.

In conclusion, HRM is a set of strategies or philosophies, policies and programs, procedures, processes, and practices that are used to manage, evaluate, reward, compensate, appraise, and frame the whole business environment regarding the way of employees’ management.

2.1.2. Strategic HRM (SHRM)

This section aims to present the strategic HRM (SHRM) and the main concepts relevant to e-HRM. The direction of the link between SHRM and e-HRM is still unclear and considers the lack of empirical evidence (Marler & Fisher, 2013). The SHRM considers human capital as its main object, it is concerned about the process of alignment of HRM philosophy with business strategy, to enable the organization to achieve the intended goals (Martín-alcázar et al., 2005). Meanwhile, the HRM consequence affects employees’ satisfaction (ES), though e-HRM is linked to effective productivity and employee retention (Marler & Fisher, 2013). Furthermore, Boxall, Purcell, and Wright (2008) have viewed SHRM as an administration approach that relies on an HRM strategy that is formulated to improve and assess HRM's impact on a firm’s performance.

SHRM is considered the combination of strategies, policies, and practices that enable the organization to manage human capital following business strategy (Martín-alcázar et al., 2005). For that, drawing upon e-HRM perspectives, SHRM will be considered the planned HRM strategy, policy, and practices that involve TMS in strategy formulation and HR staff in HRM development and implementation; supporting the organization to achieve the intended goals. Meanwhile, the scopes of HRM strategy and functions had distinctive impacts on the firm’s performance; where the fit between SHRM functions, invention approach, and entrepreneurship considerably enhanced

the innovative organizational performance (Wang & Zang, 2005). Even though SHRM research has made remarkable growth, most of the recent academic studies focused on High-Performance Work Systems (HPWS) with organizational level-dependent variables (Chadwick & Flinchbaugh, 2020).

The SHRM aspects are mainly relevant to strategic outcomes as organizational effectiveness and proficiency in the context of firm's performance (Becker & Gerhart, 1996), HRM alignment with whole business strategy (Marler & Fisher, 2013), and the achievement of competitive advantage with rivals at the same business domain (Wright et al., 2001). Indeed, HRM Strategy is a fundamental part of business strategy. HRM strategy's main concern is to achieve organizational objectives. Therefore, the strategy is inevitable to a wide extent, while the firm's strategy appears in sequences practices during the time of planning and implementation (Boxall & Purcell, 2000).

One of the e-HRM key roles is to orientate HRM function and "to make the HRM function more strategic" (Marler & Fisher 2013: p.18). In the same perspective, Rothwell (2011) stresses the necessity for organizations to have skillful personnel to maintain the organization's strategic situation and to realize planned goals.

In the same context, Marler and Fisher (2013) categorized three major strategic meta-conceptual standpoints that outline well on the three phases of SHRM literature (Lengnick-Hall, Lengnick-Hall, Andrade, & Drake, 2009). The first is the industrial-organizational economic perspective based on the "five forces model, strategic positioning, and contingency theory" that emphasizes the fit between HRM practices and planned business strategy. The second category based on the RBV angle that focuses on "what and why HR bundles lead to positive organizational performance outcomes". Finally, the third perspective concerning strategic evolution that is enlightening how the anticipated SHRM's outcomes might differ depending on the type of HRM's implementation decisions and approaches (Marler & Fisher, 2013; p. 22).

Later on, Marler and Parry (2015) discussed the emergence of HRM web-based technology; rhetoric foreseeing as technological developments in e-HRM can enhance HRM to be more strategic in organizations. The main intent is to evaluate empirically the conceptual perspectives in available research based on a huge survey data-set covering (5665) organizations in (32) countries located in different regions including the USA, Europe, Australia, and New Zealand. However, such estimation is debated regarding the main role of the technological implementation in affecting the organizational outcomes. The main findings show that SHRM involvement and growing e-HRM competency are jointly supporting the theoretical perspectives.

Recently, Delery and Roumpi (2017) argued that the RBV of Barney (1991) has been mainly used as a backdrop and is the most common theoretical framework in SHRM studies that has the prospective to link the macro-micro divides and narrow the gap between different managerial organizational levels. The debate regarding the SHRM and the strategic perspectives of human capital literature implies that RBV has not touched its final potential.

Accordingly, SHRM streams from the combination of both superior organizational processes advantages and superior human capital resources. HRM practices can leverage and influence human capital and HRM. Consequently, the sustained competitive advantage might be reached through the interaction between HR pool and HRM practices that in turn create a superior firm’s outcomes and enhance whole performance.

In summary, the relationship between SHRM and e-HRM is not unidirectional as e-HRM enables HRM to be more strategic based on OCM and technological change that transform the role of the HR professional and contribute to achieving a competitive advantage. Accordingly, Marler and Parry (2015) empirically supported both mentioned perspectives with a reciprocal link. Thus, e-HRM can be considered an outcome of TMS and HR staff involvement in strategy formulation.

2.2. e-HRM Evolution and Implementation

Based on the previous arguments, this section discusses the e-HRM evolution. Meanwhile, after four decades of e-HRM initiation, it is still at its initial stages in most developed and developing countries (Bondarouk & Ruël, 2009). HRM witnessed great modifications in the way it has managed since the 1990s, owing to the introduction of web-based HRM systems; the implantation of e-HRM systems for employees, managers, and HR professionals as a replacement of face-to-face HRM activities (Ruël et al., 2007). That encouraged organizations to adopt a progressively e-HRM, which is produced due to the integration of IT applications and HR functions (Foster, 2009; Galve-Górriz & Castel, 2010).

The notion “e-HRM” first appeared in the 1990s due to the presence of electronic commerce (e-commerce) and generally referred to the conduct of HRM processes through the usage of the internal intranet or the Internet networks (Lengnick-Hall & Moritz, 2003). The growth in the current business environment paid more attention to HRM research and practice within organizations at more micro-level (Maatman, 2006).

Electronic business (e-business) and electronic administration serve the same intent as the electronic networks and communication networks in addition to IT in business processes (Viehland, 2000). These networks cover business processes and involve new business innovations’ models to achieve new profits and competitive advantage. The e-business applications are changing the way of processing the daily work and the way of conducting different tasks; therefore it has innovative implications for managing HR functions. Additionally, e-business applications have shaped organization structure and workplace administration (Gürol, Wolff, & Berkin, 2010).

The continuous progress of ICT in the last century has oriented the direction of business strategy from physical assets to information and knowledgeable domains. Where, the utilization of innovative technologies, digital information and ICT capabilities enabled a good integration of work procedures and decision circles with an effective and efficient effort to optimize smart assets

management accomplishments (Nel & Jooste, 2016), and the manifestation of digital business strategy (Millar et al., 2017).

In fact, e-HRM is a blend of electronic ‘e’ which stands for the web and online with HRM. This combination proposes the process of HR(M) planning, enactment, and application of information systems (IS) in the distribution of HRM practices and functions (Strohmeier, 2009). Many HRM scholars have recognized the consequence of e-HRM implementation in organizations. Strohmeier (2007) argued that e-HRM as collecting applications and mechanisms will facilitate the information integration between HR and IT departments.

IT integration with HRM produces an e-HRM system which is the main aspect that is expected to enhance the effectiveness of HRM practices (Strohmeier & Kabst, 2009). It’s argued that this integration will lead to improvements in the firm’s outcomes (Becker & Gerhart, 1996; Obeidat, 2016). Thus, the e-HRM system enables the HR department and HR professionals to adapt to new changes and achieve their goals.

In the same context, Bataineh et al.'s (2015) study explored the role of IT capabilities in maximizing market agility based on the sample of (192) IT staff in the Jordanian telecommunication companies (Zain Jordan, Orange Jordan, and Umniah) who are working at different managerial levels. Their findings revealed that “IT business spanning capability is the most influential dimension on market agility, and respectively, IT infrastructure capability and IT proactive stance capability” (p.90).

In merged e-Business firms, HRM presents electronic features in the network digital economy era. Meanwhile, e-HRM holds many advantages in comparison to traditional HRM, as the e-business concept is applied in both HRM and business functions (Gürol et al., 2010). Furthermore, in the selection of the HRM approaches of e-business organizations, the contextual of the e-business environment would address human capital investment in the form of talent selection and retention. That entails building deep knowledge regards different features and configurations of e-HRM not just

the nature of the e-HRM system. Meanwhile, e-HRM has introduced digital HRM and web-page HRM (Strohmeier & Kabst, 2009).
In conclusion, e-HRM aims to produce added-value for HRM's users within an organization. Moreover, e-HRM is a system that enables users more accessibility to HRM services and data by using web-based applications.

2.2.1. Digitalization of HRM System

This section presents the digitalization of HRM systems due to the digitization of HRM information and activities. HRM is an interdisciplinary issue and a combination of IT applications and people management (Bondarouk, 2014). The digitalization of the HRM system enabled users to communicate and interact from different locations without any time zone restrictions (Millar et al., 2017). Digital HR functions may offer a kind of competitive advantage to organizations (Beatty & Ulrich, 2001). Digital services related to business is a critical part of the organizational functions, the innovative technology implementation allows verities of activities and tasks to take place at any time and any place, through a wide variety of IT applications (Gani & Anjum, 2017). That allows users to exchange information, as well as timely access to different available resources (Stone & Dulebohn, 2013). For example, employees will be able to access the HR database and update their personal information (Gueutal, 2003). Additionally, the MSS application provides managers with access and authority to accomplish several HRM duties (Gueutal & Stone, 2005). MSS and ESS are the main goals of e-HRM. As through ESS and MSS applications, organizations tend to support the HRM requirements and simultaneously enhance the organizational business goals. Managers and employees can accomplish most of the basic HRM functions and practices via e-HRM system applications without the direct involvement of HR staff (Lengnick-Hall & Moritz, 2003).

Most of the organizations have undertaken several studies related to e-HRM and got findings that enhanced the effectiveness of HRM practices and e-HRM components through promoting HRM systems. Where IT is considered a lever for the achievement of the competitive advantage in the organization

(Hassanzada & Chatterjee, 2020). For that, the e-HRM system processes the digitized HR data and communicates the information among end-users (Suramardhini, 2012). Thus, e-HRM is formed as the result of the adoption of IT applications for HRM functions and procedures by primary HR actors, which facilitate appropriate contacts between the workforce and management (Bissola & Imperatori, 2014; Bondarouk & Ruël, 2009; Galve-Górriz & Castel, 2010). Accordingly, Strohmeier (2007) defined e-HRM as the "planning, implementation, and application of information technology for both networking and supporting at least two individual or collective actors in their shared performing of HR activities" (p.20).

Thus, technology is an essential medium for e-HRM where it connects and integrates the HRM activities of different actors, regardless of their working location, and enables them to accomplish HR responsibilities and needs (Bondarouk & Ruël, 2009). The e-HRM system also enables the end-users' interaction through the execution of HRM functions at all organizational levels (Suramardhini, 2012; Marler & Fisher, 2013). It is used for daily transactions and activities in addition to the traditional HRM practices (i.e., recruitment, appraisal and performance management, compensation, development and, training) and other HR staff-related transformational functions that contribute to the achievement of an organization's competitive advantage and to further strategic added-value HRM functions and activities. This could be realized through improved efficiency, more actual improvement, positioning of HR, and enhancement of the contribution to business strategy (Marler, 2009; Parry, 2011).

In summary, e-HRM has proved its effectiveness as an approach of implementing HRM philosophy or strategy, policy, and practice in an organization based on the usage of web-based technology (Gani & Anjum, 2017). Thus, the digitalization of HRM functions and activities facilitates the appropriate implementation of the e-HRM system and anticipated to enhance the firm's performance and employees' outcomes which enables the organization to achieve a competitive advantage. Meanwhile, human capital is the main concern in the HRM system.

2.2.2. The Configuration of e-HRM system

This main section aims to discuss the e-HRM system and relevant components to recognize the nature of the relationship between IT and advancement in the HRM field. As discussed and presented earlier in the introduction, merging an HRM functions and IT applications enable a certain IT perspective to support HRM web-based functions. Technology has a strong influence on HRM functions and practices (Stone & Dulebohn, 2013).

It's worth mentioning that before the adoption of computerized IS, HR departments used manual records until the middle of the twentieth century (Stone & Dulebohn, 2013). In the mid-1980s, HR programs were developed to facilitate HRM functions, known as Human Resource Information Systems (HRIS) (Lengnick-Hall & Moritz, 2003; Stone & Dulebohn, 2013). This was followed by the use of secured internal networks (Intranet) to save and disseminate information. In the mid-1990s, digital HRM and web-page-enabled HRM systems were introduced, which led to the centralization of HRM information. The implementation of e-HRM systems shifted most of the HR professionals' responsibility to the LMs and employees themselves (Ruël et al., 2004), and organizations began to use this new HRM software to interact with HR stakeholders (Stone & Dulebohn, 2013). Accordingly, Most of HRM practices and functions were decentralized, though, the authority was decentralized. Meanwhile, HRM functions were centralized in the e-HRM system.

ICT has changed our communication approaches, daily routine, the way we think, and business innovations (Piabuo et al., 2017; Suramardhini, 2012). Following the technology revolution, automation has led to a massive transition in the HRM function and a considerable proliferation in the businesses' usage and adoption of e-HRM systems (Gürol et al., 2010).

The implementation of HRM practices through ICT is an essential strategy for firms to maintain a competitive advantage (Stanton & Coovert, 2004). HRM was previously dependent on computer networks to store and retrieve information, but it has been affected by the IT functions which have enhanced the usage of e-HRM applications (Stone & Dulebohn, 2013). IT

has empowered HR staff to be more supportive and reactive to dynamic business environments and HRM's requests (Strohmeier, 2007). Consequently, technology adoption has changed the strategies of HRM functions due to the increasing reliance of organizations on human capital, skills, and talents to gain a sustainable advantage (Ulrich, Younger, & Brockbank, 2008; Strohmeier, 2013).

The e-HRM which is well-defined by Ruël et al.'s, (2007) as "a way of implementing HR strategies, policies and practices in organizations through conscious and direct support of and/or with the full use of web-based-technology channels" (p.281).

The goal of the digitization process is to improve HRM productivity through automating HRM's administrative responsibilities and switching form low-value functions to more effective higher-value functions (Marler & Parry, 2015). For example, through employee self-service (ESS) applications, employees will be able to access their organization's HRM applications and update their essential personal information (Gueutal, 2003). Furthermore, the implementation of MSS enables managers to access several HR aspects and manage most of the HRM-related functions (Gueutal & Stone, 2005). Hence, e-HRM is supporting all level managers, LMs, and employees in their traditional responsibilities to enable the processing of the desired organizational change. It can correspondingly support the best management of HRM policies, decrease costs, maximize productivity, and authorize LMs and employees to accomplish their tasks (Hassanzada & Chatterjee, 2020).

The configurations and adoption of e-HRM systems reached the worldwide business levels; e-HRM structure is operationalized according to the extent to which the technology usage enabled HRM functions (Galanaki et al., 2019). Thus, e-HRM has introduced a digital HRM and web-page HRM (Stone & Dulebohn, 2013).

Technology adaptation in business models has changed the strategies and the principles of HR functions due to the increasing reliance of organizations on human capital, skillfulness, and talents on the way to gain a competitive

advantage (Ulrich et al., 2008; Strohmeier, 2013). Additionally, IT has enabled HR departments to be more cooperative and responsive to dynamic environments, employees' requirements, and to gain a competitive advantage (Strohmeier, 2007, 2013).

Previous researches demonstrated positive indicators towards the opportunity for HRM to advance further strategic with ICT application to execute different administrative missions and responsibilities (Galve-Górriz & Castel, 2010; Piabuo et al., 2017; Ruël et al., 2007). Accordingly, there is an increase of academic research's concerns in e-HRM, as several articles and studies demonstrated through several HR-related journals and publications, e-HRM research stems from several disciplines (Bondarouk & Ruël, 2013; Marler & Fisher, 2013; Strohmeier 2007). Thus, the acceptance of the e-HRM system and Implementation has devolved and shifted most of the HR professionals' responsibility to LMs and employees (Ruël et al., 2004).

There are several HRM applications based on technology with similar functionality, as the HRIS and ERP. The HRM system is a combination of computerized applications based on databases or data-mart to be processed for HRM benefits and functions. All HRM technology stems from the same perspective and served similar purposes. Hence, Bondarouk and Ruël, (2009) emphasized that "e-HRM was interchangeably coined with HRIS, virtual HR(M), web-based HRM, intranet-based HRM" (p. 506).

Accordingly, HRM web-based technology applications changed the nature of communication and interactions between HRM end-users and stakeholders including employees, LMs, and HR staff. The alteration in the nature of interaction implies that e-HRM applications extensively mediate the face-to-face relationships among stakeholders in organizations. Technology adaptation has changed the strategies for HR(M) functions. These strategies have attracted significant attention due to the increasing reliance of organizations on human capital, knowledge, skillfulness, talents, and other features to gain a competitive advantage (Ulrich et al., 2008; Strohmeier, 2013). Additionally, IT has enabled HR departments to be more cooperative

and responsive to dynamic environments, employees' requirements, and to realize a competitive advantage (Strohmeier, 2007).

Galve-Górriz and Castel (2010) emphasized that organizations should move towards advanced IT applications instead of maintaining their dependence on machine technology, shifting from physical assets to a human capital oriented economy, and from the state of conflicting to supportive and cooperative relationships in the work environment. Moreover, Bondarouk and Ruël (2009) argued that HRM has been greatly affected by digitalization and technology diffusion, as HRM functions had adopted these changes to have the ability to support organizational development. In this sense, IT development and digitalization influence organizations at different levels, as that entails the adoption of new ways of working. Digital technology is continuously changing different aspects as hiring, manage, and support people (Bondarouk & Ruël, 2009).

The processing of digitalized HRM data and information is taking place through using e-HRM systems. The adoption of ICT applications for HRM functions and practices by primary HR actors, which facilitate appropriate contacts between the workforce and management (Suramardhini, 2012). Accordingly, e-HRM definition according to Strohmeier (2007) is the process of "Planning, implementation, and use of IT for mutually set of connections and sustaining the HR system users in their joint activities" (p.20), where the focus is on the process, actors, and goals of the e-HRM system. On the other hand, e-HRM is also defined with more details of the system components:

> "configurations of computer hardware, software and electronic networking resources that enable intended or actual HRM activities (e.g. policies, practices, and services) through coordinating and controlling individual and group-level data capture and information creation and communication within and across organizational boundaries" (Marler & Parry, 2015: p.2).

For that, technology is considered the central feature of e-HRM, where users' interaction takes place, for the accomplishment of HRM activities and related tasks (Bondarouk & Ruël, 2009). Though Bondarouk and Ruël's (2009) definition seems more comprehensive and offers an extensive perspective

concept covering e-HRM system involvements and consequences, they defined e-HRM as “an umbrella that covers all possible integration mechanisms and contents between HRM and information technologies aiming at creating value within and across organizations for targeted employees and management” (p.7)

Based on the different previous definitions, a great deal of e-HRM academic research focused on technology role in HRM processes for example; planning, recruitment and performance management through the use of IT and digital applications (e.g. Bondarouk & Ruël, 2009; Marler & Fisher, 2013; Obeidat, 2016; Stone & Dulebohn, 2013; Voermans & Van Veldhoven, 2007).

Actually, e-HRM is the means for the enhancement of HRM strategy, policy, and practice in organizations to meet the HRM demands (Ruël et. al., 2004). Consequently, the successful enactment of the e-HRM system within the organization will demonstrate its impact on HRM effectiveness (Bissola & Imperatori, 2014). e-HRM performance will be an added strategic value to the company (Ruël & Kaap, 2012), particularly, the efficiency enhancement through reducing the cost of HR transaction, and grant HR expertise enough time to involve in strategic issues, instead of being busy with traditional HRM function (Heikkilä & Smale, 2011; Paauwe, 2009).

For that, human capital is considered one of the main assets in the organization (Paauwe, 2009), where HRM effectiveness and efficiency will lead to enhancing the organization whole performance. Indeed, the academic arguments suggest three main goals of e-HRM which: decreasing the cost, effectiveness of HR functions that contribute to organizational performance, enhancements, and developments of strategic positioning (Stanton & Coovert, 2004).

To sum up, due to the digitalization of HRM functions approaches, e-HRM has a resilient emphasis on the digitalization of HRM practices at different organizational levels, although, the digitalization produced real challenges for HR staff and LMs. Even though, the digitalization supports different MSS and ESS applications.

2.2.3. The e-HRM System Implementation

Building on the previous discussion, this section continues the debate regarding the implementation of the e-HRM system in the organization. The common elements that liable for the acceptance and the adoption of e-HRM systems in organizations are the individuals' factors such as innovative and visionary leaders, OCM, confidence with technology skills that is achieved by training, communication regarding system's goals and usefulness. These factors are considered the most significant variables for predicting a successful adoption and implementation of e-HRM systems (Bondarouk, Parry, et al., 2017).

Stanton and Coovert (2004) point out that the implementation of HRM practices through ICT has become an essential approach for achieving a competitive advantage. Moreover, ICT has changed our communication methods, daily routine, the way of thinking, and new business innovations (Suramardhini, 2012). HRM used to depend on the internal Local-Area Network (LAN) and external Wide-Area Network (WAN) to store and retrieve information, then verities of similar systems were affected by the Internet spreading out through World Wide Web (www) and ICT functions' expansion, which enhanced the usage of e-HRM applications (Stone & Dulebohn, 2013).

The implementation process requires a well-designed stage to cover the HRM policy and practice based on HRM strategy and the organization's philosophy regarding the HRM system. Meanwhile, the effective HRM implementation should lead to the perception that intended and implemented HRM practices are equal without contradiction between what is planned and executed, in which employees and LMs are the main actors. Thus, the effective implementation of the HRM system is the realization of anticipated organizational consequences related to employee's job satisfaction with HRM practices (Bondarouk, Trullen, & Valverde, 2016) and OC. Under this conceptualization, organizations may reach important competitive advantages through digitalizing HRM practices (Beatty & Ulrich, 2001).

In this context, one of the fundamental properties of knowledge-intensive organizations is the dynamic, progressive nature of their operations

management and innovation systems (Pina & Tether, 2016). For that, the organization needs the capability to continuously develop and adopt innovation. Additionally, the organizational culture requires to be developed to encourage the improvement of innovative systems such as e-HRM and its related practices (Millar et al., 2017). In this perspective, the roles of leaders and managers need to be emphasized through the actions and specific producers to influence the attitude and the behavior of the individual regarding the usage of the newly implemented system (Liu & Batt, 2010).

The diffusion of knowledge and information is expected to grow in terms of what so-called the "*Fourth Industrial Revolution*", characterized by the combination and interaction between technologies which will lead to "*blurry the lines between the physical and digital spheres*" (Schwab, 2015).

Based on the organizational culture, business environments, and organizational behavior concepts, the main aim of organizational studies is to understand, predict, and influence employees' behaviors. This aim depends on leaders' and HR professionals' ability to assess the desired changes in administration producers related to the employee's acceptance of the implemented HRM system (Bae & Lawler, 2000, Dobre, 2013). It's necessary to assess if the employees' attitudes and behavior in parallel with the strategic orientation. The employees' acceptance and use of the new system will lead to HRM outcomes that required for the achievement of the organization's business goals (Cania, 2014).

The actual usage of the e-HRM system enables the HRM functions and practices to meet HR requirements at different organizational levels through web-based technology channels (Ruël et al., 2004). The functions of HRM's strategy, policy, and practices are prolonged to include LMs and employees themselves in addition to HR professionals (Strohmeier, 2007). Considering that, the execution of HRM practice is the process and producers in which the planned HRM practices need to formulate employees' perception (Bondarouk et al., 2016; Bos-nehles et al., 2017). Thus, the success of e-HRM implementation and actual usage is expected to have a positive effect on HRM effectiveness (Bissola & Imperatori, 2014).

The e-HRM system enables HRM daily activities and practices (i.e. staffing, recruiting, hiring, compensation, appraisal, and performance evaluation) and other transformational functions that are related to the achievement of value-added to the organization (Parry, 2011; Piabuo et al., 2017). HRM implementation is the process and producers which through planned HRM practices leads to formulating employees' perception (Bondarouk, Trullen, & Valverde, 2016; Bos-nehles, Bondarouk, & Labrenz, 2017). Consequently, successful e-HRM implementation will positively affect HRM effectiveness (Bissola & Imperatori, 2014).

Moreover, Bondarouk et al., (2017) in their research regarding e-HRM adoption and consequences; found that the constructs that are predicting the usage and the adoption of e-HRM are classified in three categories: Technology (T), Organization (O), and People (P), abbreviated as TOP factors. They found also a distinguished shift in e-HRM goals, from the efficiency concerns to enhanced HRM service, in addition to the strategic repositioning of HR department activities. These factors are highly affecting e-HRM system success.

Geffen et al.'s (2013) study analyzed 53 articles published during the period 2006 – 2013 and concluded that the research related to e-HRM was generally concentrated on the system's acceptance and end-user satisfaction. Their findings confirmed the productivity of research on IS in MNCs and revealed that e-HRM's main focus was on the post-implementation issues.

Recently, Heikkilä et al., (2017) qualitative study examined the motives behind e-HRM implementation in MNCs venue from different end-users' perceptions. They tried to realize the impacts of e-HRM on different stakeholders (TM, HR staff, and LMs) in order to offer a clear awareness of the strategic concepts related to e-HRM in Finish MNCs. Their Key findings proposed that the implementation of e-HRM systems was driven by matters associated with HRM regularization and inclusive overview of a strategic approach of work processing. Consequently, the effect of e-HRM implementation leads to make the control of subsidiaries easier; the

transparency and HR image were improved; more efficiency of HRM operations; and the prospect for “fact-based decision making” empowered strategic e-HRM insight for different HRM actors (p.174).

Al-Dmour & Shannak, (2012) explored the key factors predicting the implementation level of e-HRM functions in (121) Jordanian shareholdings companies in Amman Stock exchange Market database. The research-based on Innovation Diffusion Theory (IDT) and the respondents were the HR managers. The main findings were: (i) the implementation level of e-HRM is moderate; (ii) perceived benefits of e-HRM applications explained around 60% of the variations in e-HRM implementation level, organization readiness, and commitment, (iii) External characteristics as the macroeconomic explained around 14% of variations in the implementation level of e-HRM which is the most significant one, and, (iv) 27% of companies are still adopting traditional HRM as compared to the e-HRM system.

In the same context, Shilpa and Gopal (2011) in their study aimed to recognize the challenges that are affecting the implementation and adoption of e-HRM systems in (1,000) Indian private companies. in addition to the issues and necessities for the system's successful implementation to enhance the e-HRM functions’ effectiveness through comparative research between (656) industrial and (344) services companies in respect to the e-HRM system implementation. Their findings showed that the most influential factors for the acceptance of the e-HRM system which will enable companies to reduce the HRM expense and decrease burden are the need to advance accuracy, speed, and integration for HRM transactions and processes in both sectors. Nevertheless, the main obstacle hindered the e-HRM implementation process was the insufficient financial fund in both sectors. While the other obstacle for the industrial sector was related to the resistance to changes in organization due to the absence of suitable training and humble infrastructure that did not meet the requirements for the new technology system implementation.

In a nutshell, the success of e-HRM implementation depends on the effectiveness of the system itself, the end-users’ acceptance, and actual

usage of the newly implemented system. The HRM functions are responsible for fulfilling the HRM requirements of the organization. As well as other business functions that aim to sustain organization effectiveness and continuity. Accordingly, e-HRM system components are considered the proper means for the implementation of HRM strategy, policy, and practice in the organizations.

2.2.4. e-HRM Goals

This section moves forward the debate regarding the goals behind the implementation of the e-HRM system. Bear in mind, there are three main reasons for all the e-HRM implementation including and not limited to (i) cost reduction, (ii) leveraging the utilization of the human capital, facilitating sustainability in terms of the firm's intention and capability to gradually advance and (iii) enable the e-system to meet the varying requirements of change and innovation (Wright et al., 2001; Ruël et al., 2007). For that, organizations may require maintaining sustainability by emphasizing the financial strategy, business involvement, user satisfaction, and HR expert support.

There is a need for a comprehensive methodical framework that able to justify the e-HRM system implementation process and goals. One of these e-HRM frameworks was established by Ruël et al., (2004) that focused on the improvement of the HRM system and relied on the four types of pressures positioned on the current HR departments were introduced by Lepak and Snell (1998) as they argued that HR departments have to find out unconventional methods for the performing of HRM functions and procedures in order to meet the increased loads on the HR departments. These types of identified pressures are:

1. The growth strategic orientation of HR professionals and their departments.
2. The increasing demand for flexibility in HRM functions.
3. The pressure and demands for HR departments to be effective.
4. Maintaining the role of service and support to managers, LMs, and employees.

Ruël et al., (2004) also identified four main goals that make the organizations step forward towards the implementation of e-HRM:

1. **Cost reduction and effectiveness**. The cost reduction of the HRM functions is often considered the main motive for implementing e-HRM technologies. That could be minimized through the adoption of the e-HRM system by offering Full-Time Equivalent (FTE) of the HRM services and reducing the admin's expenses through decreasing the use of paper in addition to a reduction of traditional HRM transactions (Lengnick-Hall & Moritz, 2003).

2. **Service improvement**. Enabling better services to end-users through relying on ESS and MSS applications that are principally the main goal of e-HRM implementation (Lengnick-Hall & Moritz, 2003; Stanton & Coovert, 2004). Where MSS and ESS enhanced the organization's intent to meet the HRM needs of HR's clients and simultaneously support business objectives. Moreover, to improve the client's service, it is essential to emphasize the structure of the system's interface that enhances active interaction between the HRM's clients and the HR department in addition to the content of the system (Gueutal, 2003; Stone & Dulebohn, 2013). The content should focus on the usefulness, personal character, availability, accessibility, and timeliness of services.

3. **Successful orientation** and alignment of HRM philosophy with business strategy.

4. **Allowing integration of HRM function**. The integration and the distribution of HRM function in different organizational units or entire organizations as an e-HRM goal. Accordingly, there is a need for the standardization of the HRM function which focuses on equalizing the content of the HRM processes of different organizations. Moreover, the necessity for the synchronization of distributed HRM functions that enable the interaction and cooperation of different organizational units (Ruël et al., 2004).

Additionally, Parry and Tyson (2011) explored the anticipated objectives and organizational consequences of e-HRM systems implementation in several UK organizations. Their findings revealed that these firms undertook e-HRM initiatives to improve HRM efficiency, service quality and standardization, devolve HR tasks to managers, and direct HR professionals towards a more strategic role. Moreover, Parry (2011) investigated the prospective of e-HRM SU as a means to leverage the HRM functions' value based on the RBV perspective, where HRM functions were considered resources. The study involved a large-scale survey of firms in 12 countries and revealed that e-HRM could support HRM systems to play a more strategic role in HR functions. Like other similar studies, (Parry, 2011; Stone et al., 2015) found that adoption of e-HRM could enable the HRM process and practices to be more effective, improve the delivery of HRM's service, contribute to the firm's strategy and the achievement of competitive advantage.

Likewise, Khashman and Al-Ryalat (2015) explored the influence of e-HRM functions on the firm's performance in the Jordanian telecommunications sector using a sample of managers. Their findings showed a positive significant impact of e-HRM dimensions (e-performance and e-appraisal, e-selection, e-training and developments, rewards, and compensation) on several operational performance measures, including time-saving, cost-reduction, service quality and flexibility.

More recently, Galanaki et. al., (2019) implemented an empirical cross-national exploration design covered (5854) corporations operating in 31 different countries, one of most important findings is that the insufficient collaboration between IT department and HR staff produces improper e-HRM structures and lead to ineffective e-HRM implementation. That finding should bring the attention of technical support, top management, and HR staff for the essential factors that could enhance the success of e-HRM implementation in organizations. Considering the main factors that impact the HRM effectiveness in organizations, the desired HRM outcomes and long-term consequences related to the firm's effectiveness according to the Harvard model perspectives of Beer et al., (1984).

In summary, streaming from some definitions, frameworks, and conceptual standpoints, we conclude that e-HRM is considered an administrative web-based technology, which facilitates changes to take place in the organizational structure. Automation, standardization of several managerial responsibilities, and providing extra timely and appropriate HRM data enables more well-organized and effective HRM practices.

2.2.5. Advantages of e-HRM Implementations

Theoretical arguments propose three main advantages related to e-HRM implementation: cost reduction, improvement in the HRM function's efficiency, and development and advancement of strategic orientation (Snell, Stueber, & Lepak, 2001; Stanton & Coovert, 2004). The implementation of an e-HRM system will improve a firm's effectiveness (Ruël et al., 2007; Marler, 2009) and the effectiveness of its HRM functions (Bondarouk & Ruël, 2009) through time-saving and strategic alignment of HRM strategy with organization strategy, which leads to the reaching of competitive advantage for the organization (Wright et al., 2001).

As a result, one of the main anticipated effects of e-HRM implementation is to enhance the whole HRM functions' outcomes and to offer more strategic alignments with organization strategy (Marler & Fisher, 2013). Thus, there is adequate evidence to argue that e-HRM implementation is considered an innovative, long-term and extensive advancement in the HRM field, which requires more exploration as a real and permanent fact (Strohmeier, 2009).

The literature review demonstrated many advantages and positive outcomes of e-HRM implementation as cost reduction and saving of a resource and time (Wright et al., 2001; Ruël et al., 2007), in which the influence of TMS is required to enhance the HRM aspects and having a great impact on practices related to management activities (Strohmeier, 2009). For that, the e-HRM system offers an opportunity for the HRM function to contribute to the firm's effectiveness through knowledge management and intellectual capital (Lengnick-Hall & Moritz, 2003). Consequently, the e-HRM effective utilization offers important strategic value in the context of effectiveness and firm's

performance development (Heikkilä & Smale, 2011). Thus, e-HRM effectiveness is a strategic value-added and enhances the achievement of competitive advantage for the organization (Bondarouk & Brewster, 2016).

Finally, in the context of the HRM functions, e-HRM is expected to have a positive impact on HRM efficiency and effectiveness. Efficiency is related to time-saving in the processing of form-filling, improving the accuracy of HR information, and downsizing the number of HR professionals. On the other hand, effectiveness is interrelated to the improvement of LMs' capabilities to have rational decisions and employees to access the required information.

2.2.6. Types of e-HRM

This section focuses on the types of e-HRM that were identified by Lepak and Snell (1998): operational, relational, and transformational that are adopted by many researchers (Bissola & Imperatori, 2014; Parry & Tyson, 2011).

Recently, Iqbal, Ahmad, Raziq, and Borini (2019) explored the impact of these three types of e-HRM practices on organizational consequences by including the quality of HRM service as an intermediate value-creating variable. Moreover, the research emphasizes on the outcomes of e-HRM practices for enhancing the firm's effectiveness, which in turn could lead to achieving an organizational competitive advantage. The analysis of LMs perception in commercial banks that used e-HRM revealed that all of these types of e-HRM practices have a significant positive effect on the quality of HRM service and employee productivity. Meanwhile, the link between organizational outcomes and different types of e-HRM practices was mediated by the quality of HRM service.

2.2.6.1. Operational e-HRM

The operational e-HRM is the first type that includes the basic HR administrative activities (i.e. payroll, data management, and personnel record) and extra parts of the routine work related to the HR Department (Marler, 2009; Ruël et al., 2004). These operational e-HRM practices are the basic level functions that are considered necessary for the existence of HRM

practices (Bondarouk & Looise, 2009; Maatman, 2006). This leads to minimizing the workload of HR staff and accelerating the processing of HRM activities and decreasing the quantity of regular managerial work, in turn, freeing more time for productivity improvements and other activities (Bissola & Imperatori, 2014; Ruël et al., 2004; Strohmeier, 2007). Hence, most of these HRM activities can be accomplished through ESS applications.

2.2.6.2. Relational e-HRM

The relational e-HRM is the second type that covers the HRM activities related to the shared relationship of the HR department with other departments within and outside the organization. These activities comprise different HRM functions such as e-selection and staffing, e-training, and e-performance (Ruël et al., 2004).

Relational e-HRM might enable end-users to have remote access to HRM data and required information, consequently that will increase their ability to interact internally and externally with other stakeholders, in addition to providing them with the essential means to accomplish HRM functions without direct interfering of the HR department. This will decrease the direct involvement of HR professionals, letting them refocus on more important issues. Thus, relational e-HRM practices focus on inter-personal relationships (Iqbal et al., 2019).

Relational e-HRM practices are described as a means “to manage the relationship between organizations and their employees” (Bissola and Imperatori, 2014, p. 453). Accordingly, the main objective of these practices is to improve the HRM services quality and to ensure procedural and organizational justice through empowering employees and managers (Parry & Tyson, 2011). Thus, this type supports the decentralization of the main parts of HRM responsibilities that are delegated to LMs by using e-HRM functions and MSS applications.

2.2.6.3. Transformational e-HRM

The transformational type of e-HRM activities mainly relates to the HRM’s strategic actions such as organizational change procedures, strategic

redirection, strategic capability, and strategic knowledge management. Meanwhile, e-HRM has the ability to transform the HRM function through enhancing the strategic orientation of several HRM processes and practices (Ruël et al., 2004). The strategic HRM function interconnects the verities of HRM procedures with strategic management practices and business' strategic goals. This, in turn, produces a developed incorporated set of HRM policies and practices that enable the organization to implement the intended business strategy through the effective management of human capital. Thus, the strategic configuration of the HRM function with business strategy is considered the main transformational e-HRM contribution, which enables LMs to have access to accurate information that supports business decisions. Additionally, it aims to align users' attitudes and behavior with the organization's strategy (Bissola & Imperatori, 2014; Bondarouk & Ruël, 2009; Marler, 2009; Parry & Tyson, 2011).

2.2.7. e-HRM Functions

This section aims to link the three types of e-HRM (operational, relational, and transformational) to e-HRM function. which the organizations rely on to offer innovative management solutions that could enhance human capital effectiveness (Al Shobaki et al., 2017). Accordingly, e-HRM functions are part of these solutions that include some or all of the components as "e-recruitment, e-selection, e-training, e-compensation, e-performance appraisal, and e-communication" which enhance the operational performance (Khashman & Al-Ryalat, 2015; p. 115-116).

Recently, Piabuo et al.'s, (2017) results of an exploratory study with a sample of 120 management from three main mobile service providers in Cameron showed that the use of ICT has a positive significant impact on HRM functions (selection and recruitment, training and development, HR planning, evaluation and compensation, and HRM efficiency). This emphasizes the role of ICT as an effective means in HRM of organizations and the use of ICT for assuring HRM efficiency, where HRM functions based on ICT should be improved to offer suitable interactions between HRM aspects and the

different departments which in turn, would lead to the desired organizational efficiency.

More recently, Umar, Yammama, & Shaibu's (2020) study explores the relationship between “e-HRM practices (i.e, e-performance, e-training, e-compensation, e-communication, e-training, and e-appraisal) and job performance (i.e. task, contextual, adaptive performance, and counterproductive work behavior) at an individual level” including 214 staff in the Nigerian public sector. Their findings revealed that both e-compensation, e-communication have a significant relationship with all dimensions of job performance. Meanwhile, the practice of e-performance appraisal has a positively significant relationship with “contextual performance and counterproductive work behavior”, not with “task and adaptive performance”. In contrast, e-training has no significant impact on “contextual performance and counterproductive work behavior”, but it has a positive relationship with “task and adaptive performance” only (Umar et al., 2020, p.96). Consequently, e-HRM practices are related to some aspects of job performance that in turn will affect the HRM effectiveness and organizational outcomes.

The operational definitions for the e-HRM functions are provided in Table 1 (AL-Kasasbeh, Halim, & Omar, 2016; P. 10681), these functions consist of:

2.2.7.1. e-Recruitment and e-Selection

The usage of the e-HRM system includes e-recruiting which relates to the use of the internet and webpages for online job applications. The organizations can announce and post job vacancies immediately, producing applications and resumes for positions instantly. Meanwhile, the web can facilitate the staff selection and hiring process by using video conferencing over the Internet to assess and interview potential employees with benefits of time-savings and cost-reduction (Khashman & Al-Ryalat, 2015).

2.2.7.2. e-Compensation

The e-compensation is one of the main e-HRM components that is related to the use of webpages technology that enables LMs’ effective admin

and communication of reimbursement and required information. Moreover, the use of e-compensation will enhance employees' satisfaction (ES) through the perceived benefits (Stone & Dulebohn, 2013).

In general, the e-compensation application will provide HR staff and LMs with appropriate access to information that can maximize compensation initiatives' effectiveness (Al Shobaki et al., 2017).

2.2.7.3. e-Training

Another function of e-HRM system is the e-Training. In terms of workspace learning and education for more knowledge and skills acquiring, such an application offers verities of learning materials for employees through computers and smartphones. Employees can access different contents of work-related knowledge and skills where the available digital resources are projected to support employees' online learning and training (Brown & Charlier, 2013; Khashman & Al-Ryalat, 2015).

2.3.7.4 e-Performance Appraisal

The e-HRM functions enable LMs and HR staff to use the e-Performance process to assess the employees' performance and evaluate their efforts (Stone & Dulebohn, 2013).

The e-HRM contributes to ES with appraisal and performance management where web-technology facilitates the evaluation of the individual's performance in an automated means that requires slight input from individuals and the procedure of writing reviews or making performance feedback. The e-performance appraisal function which is offered by the e-HRM function is extensively used by LMs at a managerial level to provide continuous evaluation of employees' performance (Khashman & Al-Ryalat, 2015).

2.2.7.4. e-Communication

The e-HRM function enables suitable interaction between the end-users. The web-based technology will advance employees' online interactions and active communication through the e-HRM system and facilitates personnel communication by using different means as emails

(Khashman & Al-Ryalat, 2015). Thus, e-communication is playing a vital role in OCM which enables the top management to communicate the anticipated benefits of e-HRM implementation.

Table 1: The definitions of the e-HRM functions

Source: (AL-Kasasbeh et al., 2016, P. 10681)

Dimension	Operational definition
E-Recruitment	The use of the website of the company as a recruiting tool via attracting candidates and receiving e-applications (Swaroop, 2012).
E- Selection	The use of the website of the company to facilitate the selection of staff, particularly in long distances. Using video conference over the internet; for instance, when used in the early stages of the selection process, it can bring about cost reduction and time-saving (Khashman & Al-Ryalat, 2015).
E-Compensation	The use of the website of the company for planning employees' compensation (Swaroop, 2012).
E-Training	The use of the company's website to carry out learning or training, where e-devices, applications, and processes are employed for the creation of knowledge, management, and transfer (Swaroop, 2012).
E- Performance Appraisal	The use of the company's website to conduct an evaluation online on the employees' skills, knowledge, and performance (Swaroop, 2012).
E-Communication	The use of the company's website to bring about communication through e-mails – e-mails has become the communication medium of choice in firms (Khashman, & Al-Ryalat, 2015).

2.2.8. e-HRM Aspects

To realize the way in which IT is used to perform the HRM activities in the form of integration between web-based technology and HRM functions, it is essential to highlight the three main aspects interrelated to e-HRM system that include, first: the e-HRM activities, second: the HR architecture and the

technical support that is required for e-HRM, and finally: the issues that are related to the acceptance and adoption of the e-HRM system (Maatman, 2006). In nutshell, the e-HRM aspects are estimated to influence the effectiveness of the HRM system.

2.2.8.1. e-HRM activities

As mentioned in previous sections, MSS and ESS are the main components of e-HRM web-based technologies that enable the devolution of HRM practices. Both managers and employees, through using the e-HRM functions became responsible for accomplishing most of the HRM functions and related activities (Bissola and Imperatori, 2014; Deshwal, 2015; Heikkilä et al., 2017). As a sequence of e-HRM technologies implementation, HRM architecture amplified the role of ESS and MSS in the realization of the actions related to the execution of the HRM function (Gueutal & Stone, 2005). For instance, the implementation of the e-HRM system modified the HR structure and established a new architecture of HRM.

2.2.8.2. The HR architecture and technological support for e-HRM

Lepak and Snell (1998) focused on how the HRM function ought to be structured in order to be able to enhance organizations' competence of the 21st-century acceleration and consequently to rearrange the responsibilities for the different HRM activities and end-users. Therefore, the HR architecture could be assumed as the demonstration of the duties interrelated to different actors for the implementation of the HRM function.

Once the e-HRM system has been implemented in an organization, most of the activities that are associated with the HRM function will be delivered through using web-based technologies instead of traditional ways which are known as the devolution or delegation process. On the other hand, part of HRM activities is not appropriate for decentralization in the form of MSS and ESS (Martin & Reddington, 2010) while other parts will be kept centralized for the HR department, particularly, some activities may require specific HR involvement. For that, the main defy is the classification of the diverse types of HRM activities, and the evaluation of the appropriateness for delegation of

HRM responsibilities through using the e-HRM system. This might support clarifying the grounds of e-HRM effect of on the HRM system.

The value of HR activities is another vital factor to be considered for the achievement of desired e-HRM goals, meanwhile, "*the value of an HR activity depends on its ability to help firms achieve a competitive advantage or develop core competencies*" (Lepak & Snell, 1998, p. 222). According to Lepak and Snell (2002), the valuable activities ought to be delivered internally, where the other invaluable activities may recommend for outsourcing. For that, the value of different HRM activities can be categorized according to its ability to enhance the creation of value, affecting the efficiency of the organization, impact the service quality, cost and the most important in relative to the expense of its implementation to be able to offer strategic benefits as a consequence of specific HR activities. Finally, the time expended on various HRM activities by HR staff should be considered also as the e-HRM system implementation will enable MSS and ESS applications to be handled through using e-HRM system without the direct involvement of an HR staff (Lengnick-Hall & Moritz, 2003; Stanton & Coovert, 2004).

2.2.8.3. The end-users' acceptance of the e-HRM system

IT research has extensively explored the adoption and application of new technology in different aspects related to organizational intent and individuals' perspectives. In that wide-ranging extent of review, the bulk of research has been offered (Venkatesh et al., 2003). Part of the exploration focused on individuals' adoption and acceptance of new technology depending on employees' attitudes towards the acceptance and use of technology and the behavior to actual usage, while other parts have focused on the factors predicting the implementation success at the organizational level (Venkatesh, Thong, & Xu, 2012).

The TAM of Davis et al., (1989) explains conceptually the motivation for end-users to accept and adopt the technology. The bulk studies regarding technology acceptance were more expanded, as these models assumed to help enlighten what factors have impacts on the effectiveness of IT applications. Previously, some models proposed based on TAM have been

reviewed by Venkatesh et al., (2003) as those models were refined and unified to be known as UTAUT.

TAM (Davis et al., 1989) has been grounded on the adaptation of Theory of Reasoned Action (TRA) and principally based on the *perceived usefulness* in addition to the *perceived ease of use* which is mainly related to technology acceptance behavior. TAM assumes that behavioral intention (BI) towards the usage of the newly implemented technology affects the actual usage of the system; TAM is shown in figure 5 below:

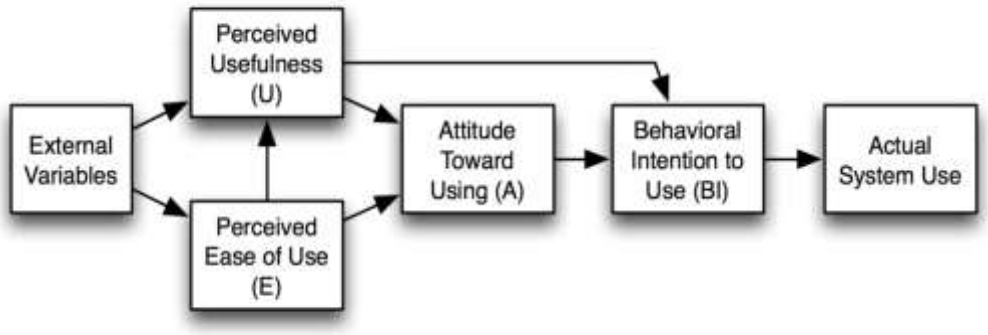


Figure 1: The Technology Acceptance Model (TAM)

Source: Davis et al., (1989)

The previous section gave details on how the actual usage of the e-HRM system may affect the HRM system; as the e-HRM goals determined e-HRM usage that in turn affect the HRM effectiveness. This expected impact can be explored from two different perspectives, firstly: the influence of e-HRM system usage on the HRM effectiveness and secondly; the effect of e-HRM system actual usage on HR staff and the HR role of LMs.

Despite the numerous benefits of e-HRM implementation for organizations, it also includes some challenges and restrictions that are related to the costs of the system implementation and training for users, accompanied by the prerequisite to improve the skills and capabilities of HR professionals (Hassanzada & Chatterjee, 2020). In addition to some challenges that are related to e-HRM implementation in the organizations include the cost, possible data-entry mistakes, inappropriate use related to some rigid

mindsets, the challenges to HR departments, aligning the goals of e-HRM system with the business objectives, information security and proper training for the end-users (Deshwal, 2015). Moreover, cyber and network security are the main threats that may face the e-HRM system in organizations. Moreover, insufficient funding and resistance to changes may hinder system implementation (Shilpa & Gopal, 2011).

Some of the e-HRM challenges are long-term which require a major change and commitments from the entire organization, such as the integration of e-HRM systems, or implementation of a particular e-HRM system that will offer all relevant e-HRM functions. Further challenges may encounter e-HRM applications, such as improving HR professionals' awareness of the overall e-HRM system's potential and their experiences associated with e-HRM (Ceric, 2017).

The important requirements for successful implementation of e-HRM system applications are the OC to the OCM. Since the beginning of the system implementation, the presence of the IT staff to support the technical requirements, and the active involvement of all stakeholders with TMS. Moreover, communicating the value of high-tech solutions offered for all end-users through using the new system and demonstrating the importance of system usage for managers and employees and the expected advantages. In addition to offering adequate training for all users before and during the implementation process (Shilpa & Gopal, 2011). Consequently, the system's ease of use, its high quality, and friendly interface will enhance the trust and increase the efficiency of the system usage (Ruël et al., 2007).

2.3. Key actors (Top management, LMs, and HR professionals)

This subdivision discusses the role of TMS, HR professionals, and LMs in the e-HRM implementation process and the actual usage of the e-HRM system. Highlighting the vital role of all key actors that are concerned with e-HRM adoption and institutionalization in the organizations is essential for understanding the e-HRM implementation process. The main focus is on the social interaction that affects the employees' attitudes and behaviors towards the e-HRM system.

2.3.1. Top Management Support (TMS)

Top management plays a vital role in enhancing the implementation and usage of the e-HRM system. For that, knowledge and skill development have been realized as one of the main strategically considerable resources of the organization, which is supported by strategic level management to assure a better function (Lengnick-Hall et al., 2009). In this regard; transformational leadership which mainly focuses on enthusiasm and inspiration; “occurs when one or more persons engage with others in such a way that leaders and followers raise one another to higher levels of motivation and morality” (Burns, 1978, p. 20). For that, senior management support is an essential aspect during the process of creating a helpful environment and providing sufficient resources for the implementation and acceptance of new technologies (Schein, 1992).

The TMS includes the approaches that were adopted by senior managers and supervisors for encouraging their subordinates to accept and use the new technology and influence employees' behavior (Liu & Batt, 2010). A fundamental feature of successful leadership is the ability to influence the employees' behavior, and to motivate them to participate effectively in innovations, influence their attitude towards newly implemented technology (Nodeson, Beleya, Raman, & Charles, 2012).

There is a need to consider the employees' response to any changes in HRM’s policy and practices that affect subordinates’ determination and behaviors (De Jong & Den Hartog, 2007). For example, transformational leadership is considered more effective than transactional leadership in driving the organization towards change and innovation (Avolio, Zhu, Koh, & Bhatia, 2004; Millar et al., 2017). Managers ought to make employees fully aware of the strategic vision and organizational goals for the planned changes; this can be achieved through the creation of an appropriate organizational culture (Schein, 1992). TMS in the CM context can affect employees’ competence and satisfaction with the newly implemented system while TMS vision will impact the desired implementation outcomes (Dong et al., 2009). Thus, TMS is essential for encouraging e-HRM usage and the

allocation of the required resources for the institutionalization of the system (Marler & Fisher, 2013) and decrease the resistance to new systems implementations (Dong et al., 2009).

Ostroff, Kinicki, and Muhammad, (2013) argued that top management and senior managers play a crucial role in organizational climate and culture changes. Moreover, leaders ought to model values, enact practices, and actively communicate environment content in a consistent way in order to enhance the required alignment among culture, functions, and climate. Once the culture and climate became a strength and aligned; the estimated relations between both climate and organizational outcomes will be realized (Ostroff et al., 2013). Thus, the top management set up and communicates the strategies that fit the innovation and adaptation of the new system, as well as pass the message to influence the employees' attitude and behavior. Leadership style and procedures affect the strategic options and the decisions making process in the organization, and sequentially, these actions influence the subordinates' attitude and behavior (Schein, 1992).

Moreover, Vasilaki, Tarba, Ahammad, & Glaister (2016) highlighted that transformational leadership has the main role in the achievement of HRM integration and the firm’s identification. Meanwhile, communication, employees’ participation, cooperation, training, and development are expected to have a significant positive influence on employees’ attitudes and behaviors. Additionally, they argued that the behavior of transformational leadership will moderate the application of HRM practices in mergers and acquisitions organizations.

To sum up, Leaders and senior managers should demonstrate a serious determination to direct the employees towards innovation and changes.

2.3.2. Line-managers (LMs) and HR professionals

Previous research didn’t pay much attention to the vital role of LMs and HR professional as the main actor that influence the link between HRM practices and expected organizational outcomes such as HRM effectiveness, even these managers are mainly responsible for the formulation and

implementation of whole HRM functions and practices (Purcell & Hutchinson, 2007; Jackson et al., 2014). LMs perception of the HRM implementation to be considered effective depends on the degree of their satisfaction with the delegation of HRM practices and employees' involvement in the implementation process. Employees can evaluate HRM performance of their LMs' according to their experience of exactly how LMs execute different HRM daily practices. In current literature, there is an evolving support and evidence for evaluating HRM effectiveness from the end-users' perspective, particularly the employee (Bowen & Ostroff, 2004; Purcell & Hutchinson, 2007).

In the devolution of HRM, HR executives are the primary research group used to assess the delegation of HR responsibilities to LMs and their actual performance. In this context, from the perspective of Leader-Member Exchange Theory (LMX), the relationship between leaders and employees impacts the outcomes of job satisfaction and turnover, in addition to job performance and citizenship behaviors. Where there is a piece of evidence that empowerment moderates the relationships between LMX and job outcomes (Harris, Wheeler, & Kacmar, 2009).

The process of evaluating HRM effectiveness from different stakeholders' perspectives will lead to diverse points of view and assessments. The adoption of e-HRM as a new technology motivates HR professionals and LMs to look for innovation and change the way of implementing HRM traditional practices. It also handles the overload duties and main concerns due to HR responsibilities devolution to LMs and employee's needs (Zhang & Wang, 2006).

HR department contributes to LMs' effective implementation of HRM practices and overall HRM effectiveness. An HR professional can be a change agent by motivating and enhancing LMs' implementation abilities, including LMs in the process of developing HR practices and seeking TMS (Trullen et al., 2016). Accordingly, HRM functions and practices that conducted through the e-HRM system need to be perceived by the end-users as practical and effective in terms of credibility, fairness, validity, and

reliability (Vanhala & Ahteela, 2011). Furthermore, LMs play a vital role in HR performance as they are considered the main implementers of HRM functions in the context of their proficiencies, time capacity, and the ability to provide HR support (Purcell & Hutchinson, 2007).

Ruël et al., (2004) argued that implementation of the e-HRM system needs sufficient and proper HR capability for the renovation of HRM mechanisms and preparing these tools for easy use of the web-based system. Despite the critical role of LMs and TMS in the HR implementation, many studies have neglected their roles; even LMs are empowered for the responsibility of HRM performance (Purcell & Hutchinson, 2007). Hence, The HR staff plays the main role in the process of adoption of the newly implemented technology and supporting the end-users with suitable training as well as motivating them to use the new system. The HR specialists are principally responsible for directing the employees for accepting the new technology and the acquirement of the right technical skills (Snell et al., 2001). It's anticipated that the implementation and acceptance of e-HRM systems will lead HR staff to be more functional experts and provide support to end-users in MSS and ESS applications instead of being administrative experts (Mueller, Strohmeier, & Gasper, 2010).

Purcell and Hutchinson (2007) focused on the level of employees' commitment to their managers and the factors that influenced the employees' jobs and their satisfaction with HRM services. The study found that managers' leadership style and behavior have a strong influence on employees' attitudes and perceptions. Likewise, Bondarouk, Ruël, & van der Heijden (2009) found that the actual usage e-HRM system was positively related to LMs and employees' perceptions of HRM effectiveness. Correspondingly, the positive reaction to the web-based system is more than the response to the traditional system. Additionally, it's worth to explore from which side that LMs want to be supported. Reasonably, LMs need support from HR professionals and benefit more support of their senior managers besides cooperation with their fellow (Bondarouk, 2014). Therefore, it will be beneficial to examine the way in which HR staff will be active in supporting LMs in order to create an effective partnership between HR actors

(employees, LMs, HR professionals, and top management). In addition to their main role as a change agent that supports the acceptance of changes in HRM functions in the organization (Ruël et al., 2004).

De Alwis (2010) studied the influence of the e-HRM implementation on the role of HR professionals and HRM function in 30 large companies in Colombo city, Sri Lanka. The aim was to explore the level and the motivations for the adoption of technology in targeted organizations. The study main findings revealed that 70% of the targeted companies have a moderate awareness of e-HRM usage while 30 % have very high familiarity. Additionally, the main role of HR staff has been transformed from traditional administrative professionals to a strategic agent. There were also several reasons for driving organizations towards the adoption of e-HRM and the intent to be the leading edge. Moreover, the successful implementation depends on the critical success factors like employees' attitudes and behavior, organizational culture, and the mode of cooperating between HR and IT. It's recommended that the adoption of a new HRM system ought to be prearranged and implemented appropriately. The organization had better recognize the appropriateness of the adopted system through appropriate evaluation since it critically influences the effectiveness of the whole HRM system.

Recently, Ceric (2017) focused on the actual organizational practices and challenges associated with using the e-HRM system that is related to technical issues, HRM concerns, and e-HRM improvement matters. The main concern was highlighting the challenges that encounter Australian HR staff thru e-HRM SU and the efforts for achieving the desired e-HRM outcomes. The main results showed that the potential of the e-HRM system to deliver effectiveness, enabling proper access to HRM information and reporting, other than contributions to the business strategy is affected by main e-HRM challenges that are perceived by HR staff.

Zureikat (2017, p. 54) explored the scope of e-HRM implementation in the Jordanian banking sector from HR staff's perspective with a focus on factors that affected the degree of applying the "e-HRM practices and approaches

(management support, degree of awareness, IT infrastructure, and the current HRM approaches adopted)". The findings indicated that all the factors have a significant influence on e-HRM implementation. The most significant and strongest factor was the level of awareness of e-HRM perspectives among LMs and HR professionals, which can enhance the e-HRM implementation process within organizations.

Accordingly, special training and education are required for evolving new HR skills. Thus, due to the introduction of the e-HRM system; organizations attempt to restructure the HRM procedure to be more strategic, which calls for more skills and competencies of the HR experts. Though, many organizations intent to invest in e-HRM to decrease the business costs and lower the headcount (Heikkilä et al., 2017). Concerning LMs, since more HRM duties are transferred from HR staff to LMs and an extra HRM load is being devolved to them; LMs are anticipated to accomplish more MSS while they can get advantage from cross-training in HRM processes (Dong et al., 2009).

It is argued that LMs are considered a medium that integrates HRM functions with the firm's actual business management. LMs ought to adopt a partnership method among HR staff and line-management in addition to employees to be able to manage the HRM responsibilities (Heikkilä et al., 2017). However, the role of LMs has been ignored in many studies related to exploring the type of relationship between HRM system and e-HRM actual usage, even though LMs are considered the main actor in the implementation of several HRM functions (Purcell & Hutchinson, 2007).

Recently, Bos-Nehles and Meijerink's (2018) research explored HRM implementation in a Dutch engineering firm based on the social exchange relationships among LMs, HR staff, and employees. Data was collected in multilevel from 20 LMs and 75 employees. Findings revealed that employees' perception of HRM practices depends on the quality of relationship with their LMs.

The adoption and implementation of the e-HRM system motivate HR professionals and LMs to participate in innovation and in changing the way in

which HR functions are accomplished. It enables the delegation of HR responsibilities from HR professionals to LMs (Zhang & Wang, 2006). The HR department supports LMs' operating of HR practices and whole HRM effectiveness (Trullen, Stirpe, Bonache, & Valverde, 2016). Therefore, the HR role of LMs, decentralization of HR practices, and managers' behavior have to be the central part of any causal chain seeking to investigate the association between HRM practices and organizational performance outcomes (Purcell & Hutchinson, 2007).

Finally, the institutionalization of new technology as e-HRM leads to new challenges for HR professionals and HRM function. The approaches of work processing ought to be modified and some new skills are also prerequisites, which causes a modification in the role of HR staff (Marler & Fisher, 2013). However, there are practical problems that may be related to this expansion as LMs may not have the willingness to assume this responsibility, as well as may not have sufficient time or the proper capability to deal with HRM issues.

2.4. Organizational Change Management (OCM)

This section emphasizes the role of OCM in the success of e-HRM implementation. OCM is considered the most important factor that is responsible for the e-HRM implementation success in the organization. The organizational procedure is directed to influence and empower users to adopt and accept the planned changes and modifications in the recent business environment (Gilani, Kozak, & Innes, 2017; Hiatt & Creasey, 2012). OCM has been usually considered as a dynamic success influence in the execution and expansion of several software systems (Apostolou, Mentzas, Stojanovic, Thoenssen, & Pariente Lobo, 2011), as well as in e-HRM system implementation and actual usage.

CM or OCM can be used interchangeably in the context of e-HRM implementation and its actual usage, it should entail the features of the e-HRM system and its benefit, in addition to the training session's pre and post-implementation, as well as the communication, to pass the top management message and vision regarding system's goals and usefulness (Apostolou et al., 2011). CM responding to changes in the macro setting will be considered

a reactive process. On the other hand, it can be proactive for achieving the organization's objectives (Sacheva, 2009).

The holistic approach as part of the strategic approach in social science research would enhance the effective usage of the implemented system. Characteristics of the HRM system, communication, and training are the common means that support addressing fears of change, and to enhance trust towards e-HRM goals. The employees' perceptions of OCM strategy will enhance CM's success (Hiatt & Creasey, 2012). For leading the CM success; it's recommended for managers to identify the types of resistance they may encounter and modify their countermeasures accordingly. The OCM requires providing training in new skills for employees who fear the adjustments to a new situation or environment. Adapting the CM strategy to fit the situation may require the acceleration of the innovative initiative (Kotter & Schlesinger, 2008).

Additionally, OCM has been extensively recognized as the main factor for the successful implementation of a new software system (Apostolou et al., 2011). OCM is responsive to new changes that took place in the business environment, and practical application for achieving the preferred business' goals, continuous process, or stagy basis (Sacheva, 2009).

The OCM is not limited to the hard side that includes the practices, systems, strategies, procedures, and technologies that support the process of changes' implementation. It includes the soft side which encompasses behavioral and attitudinal modifications through encouraging, communicating, influencing, and encouraging which will lead the anticipated changes to be managed effectively (Dias de Lima, 2009).

In sequence, the empirical research indicated that HRM system implementation success was widely affected by e-HRM user's satisfaction, which is influenced by employee's perception regarding the features of the new system and quality of information, ease of system's usage, and perceived usefulness (Al Shibly, 2011). Thus, OCM enables the modification of HRM procedures and employees' attitudes and behaviors.

2.4.1. Characteristics of the HRM system

Even though CM has received much attention, there is a little consensus on the nature of organizational change and related factors affecting successful system implementation and actual usage (Apostolou et al., 2011). In addition to communications and adequate training during and post system implementation. The design and content of the HRM system associated with HRM effectiveness (Bondarouk & Ruël, 2005).

Guest (2002) argued that communication, training and development, employee involvement, and teamwork are widely emphasized by HRM practices and are significantly correlated with constructive employee comportments and their well-being. Accordingly, the features of the HRM system are expected to affect the end-users' perception of the HRM system.

2.4.2. Communication

Active communication is a key factor for successful CM, its vital issue establishes a clear and realistic vision, through top management and change agents who are responsible for communicating shared visions and goals within the organization (Kotter & Schlesinger, 2008); regarding the new e-HRM system characteristics and benefits. The communication ought to be centered on the strategic and organizational aspects of the implemented system usage, as well as on technical aspects and ES, as end-users prerequisite knowledge and skills are required to operationalize the system efficiently.

According to Bastien (1987), the more communication takes place and the more alignments with employee awareness of reality, the extra stability it maintains in unsettled conditions. Consequently, communication is crucial in the smoothing change process, producing a mutual vision, and creating a sense-making and common realize of meaning. Employees expect managers to take care of effective communication channels since active communication facilitates producing a common objectives' orientation, assisting the minimize of the employee's intention to resist changes and encourage the employees' positive behaviors towards alterations in business environments. In this

regard, top managers need to stay engaged in the procedure of preserving decent relations, decentralizing duties, and communicating decisions that support the process of CM.

2.4.3. Training

Training is assumed as the base for the construction of required knowledge on OCM and the essential skills. For that, knowledge, behaviors, and skills as the training requirements will be inevitably improved by the change agents (Sacheva, 2009; Shilpa & Gopal, 2011).

Training is considered a fundamental part of the system pre and post-implementation. Proper and effective training will assist and provide the objectives of the new system, overcoming any technical problems, and achieving the desired employees' behavioral changes (Deshwal, 2015). Training and support for the end-user need to be accompanied by adequate resources and the necessary budget. Finally, after the system has been implemented, during the institutionalization phase there is a need for an appropriate support plan to be conducted through the change agents (HR professionals) alongside continuous efforts regarding the top management vision to be communicated also. That will enhance the employees' perception of organizational support.

The advancement of employees' development and training is an important goal for HRM practices regarding long-term investment in human capital. Nikandrou and Papalexandris's (2007) findings stated that training and enacted HRM is the major distinguisher of organizational performance throughout the merge and acquisition process. Training will enable the progress of new procedures, developing current systems, and supporting employees to get along with changes in the business environment. In turn, training facilitates OCM and enhances the level of ES and OC accompanied by the presence of active communication which increases the cultural awareness among employees.

2.5. HRM effectiveness

This section will cover HRM effectiveness; which is the consequences of e-HRM functions; it includes the technical functions of HRM, such as selecting, training, reassignment, individual job enlargement, compensation, appraisal, retention, and turnover. In addition to the strategic domain that focuses on delivering HRM practices in alignment with organizational strategy; this demand theorizing the links between e-HRM and the strategic aspects (Martin & Reddington, 2010). Meanwhile, the RBV suggests that performance can be determined by firms' resources and their effectiveness in transforming these resources into real capabilities (Paauwe, 2009).

Undoubtedly, the association between e-HRM and HRM effectiveness is the cornerstone of the firm's performance, where e-HRM is expected to orient the HRM processes and practices to be further strategically positioned (Marler & Fisher, 2013). Meanwhile, organizations are increasingly considering HR as a unique asset that can provide and maintain 'sustained competitive advantage' (Lengnick-Hall et al., 2009), and effective performance (Crook, Todd, Combs, & Woehr, 2011). HRM has a strategic alignment and contribution to business strategy, along with the more active involvement of applicants, employees, and the LMs in HRM functions (Paauwe, 2009).

Previous research related to HRM and its interrelation to the firm's strategies focused on particular HRM functional aspects such as compensation, rewards, training, and their effect on the achievement of the desired business strategy. Jackson et al., (2014) findings emphasized that HRM functions might be aligned with business strategy, and such a form of alignment will lead to gain long term competitive advantage. Meanwhile, HRM effectiveness and efficiency will lead to the enhancement of the entire organization's performance and strategic orientation (Stanton & Coovert, 2004). Furthermore, employees' commitment in addition to managers' quality and behavior, affect satisfaction with HRM functions and services.

Indeed, the HRM system is composed of a "bundle of HR practices or policies oriented towards some overarching goal" (Lepak, Liao, Chung, &

Harden, 2006, p.221). The HRM system is categorized into three levels: HRM philosophy, HRM policy, and HRM practices (Becker & Gerhart, 1996; Lepak et al., 2006; Monks et al., 2013). This labeling of HRM levels (HRM philosophy, HRM policy, and HRM practices) is in affiliation with Ruël et al.'s (2004) definition which is assumed e-HRM as “a way of implementing HRM strategies, policies and practices in organizations through the conscious and direct support of and /or with full use of channels based on web-technologies” (p.16).

Effective HRM entails taking full advantage of the added-value resulted from HRM policy and practice. Previous research reveals that HRM policy and practice strengthen the relationship between managers and employees. Organizations and managers are paying great efforts to enhance the positive outcomes of POS as well as employees’ outcomes (i.e, affective OC) to improve the consequences of the investment in HRM policy and practice (Zagenczyk, Purvis, Cruz, Thoroughgood, & Sawyer, 2020). Thus, the social context of POS ought to be realized to achieve behavioral and organizational outcomes (Eisenberger et al., 2014).

Bondarouk (2014) in her article “Orchestrating the e-HRM Symphony”; emphasized that the interrelation and synchronization of HRM practices and IT demands the proper balance and unification with their diverse aims and objectives; special experiences; high skills; and mind-set, as an orchestrating action. Meanwhile, HRM and IT being in good harmonization will produce a nice “symphony” that should motivate the stakeholders and the organization to achieve better performance. Unfortunately, all ambitions of organizations will likely vanish if HRM and IT integration and implementation lack the TMS, LMs understanding, and the employees’ cooperation (Bondarouk, 2014). Furthermore, HR scholars argued that an organization’s success regardless of its size was to some extent dependent on its employees’ capabilities and their behaviors in accomplishing the strategies of the business success (Becker & Gerhart, 1996).

Likewise, a lot of researches tried to empirically analyze and find the relationships between HRM practices and firm performance as an outcome of

the integration between IT and HRM systems, which produced e-HRM (Foster, 2009; Lengnick-Hall & Moritz, 2003; Obeidat, 2016). Meanwhile, there is a debate over an effective HRM system and its functions sequences (Guest & Conway, 2011). A lot of previous studies examined the correlation between HRM and the firm's performance. The bulk of empirical studies found a significant link between HRM systems and the firm's performance, where there is evidence of a correlation "association", but not the causation and the direction of the relation (Guest, 2011).

HRIS, as well as e-HRM system success factors, consists of six measures: perceived system quality, the perceived information quality, system simplicity, perceived system practicality, system satisfaction, system success, or the net benefit (Al Shibly, 2011). Users' satisfaction with system usage is an "evaluative judgment" concerning an exact system experience and the affective attitude of the employees who interact directly with the implemented system. In the same context, HRM system success will be affected by HRM Internet-based or web-based system satisfaction, which relies on the employees' perception of system quality, information quality, ease of use, and usefulness (Al Shibly, 2011).

Perceived ease of use is affecting the attitudes during the pre-implementation of the system. Though, the direct influence on attitude disappeared after adjusting the perceptions of the system's usefulness. By the time, that perception of usefulness will be more imperative to encourage actual usage when users gained knowledge and experience with the new system (Marler et al., 2009), which aims to enhance HRM effectiveness. Furthermore, HRM literature established a concept indicated that progressive HRM performance leads to improve the firm's efficiency and effectiveness (Parry & Tyson, 2011).

The literature reviews showed an agreement concerning the link between HRM system and organizational performance, as HRM effectiveness will lead to enhance overall firm performance. Even though, a disagreement appears about the nature of such a relationship (Becker & Gerhart, 1996). Where the HRM system has a positive relationship between a variety of fundamentals of

HRM and overall business performance (Wright et al., 2005). Thus, The HRM effectiveness can be assessed by evaluating HR department response, as the e-HRM actual usage is expected to improve the managerial functions of HRM practices and different components, for example, payroll, rewards, and information management, consequently developing the quality of HR service (Lengnick-Hall & Moritz, 2003).

Accordingly, HRM effectiveness is the outcome of e-HRM implementation. It constitutes of two important domains: the first is the technical application of HRM, which consists of HRM fundamental functions such as recruiting, training, compensation, evaluation, retention, and separation. The second is the delivering HRM basic functions in alignment with the organization's strategy, this required hypothesizing the link between e-HRM and the strategic aspects (Martin & Reddington, 2010). To achieve this, HRM effectiveness ought to be evaluated at different HRM system levels in the direction of assessing the influence of e-HRM application and actual use on HRM effectiveness. The e-HRM literature has revealed that the digitization of HRM components will reorient the HRM system more strategically by freeing HR staff from traditional work through delegating HRM responsibilities to LMs and employees themselves (Bondarouk et al., 2009).

Recently, Obeidat (2016) empirically examined the prospective outcomes of e-HRM system usage in the Jordan Telecom Group - Orange Jordan. Her exploration based on UTAUT including a sample of 450 staff who used e-HRM regularly. The results indicate the presence of a strong association between e-HRM SU and HRM effectiveness at policy and practice levels, in addition to the mediating role of BI. Furthermore, A multiple constituency approach that was confirmed by (Guest & Peccei, 1994) reveals that the HRM system should meet the needs of different end-users, that’s to be considered as an indicator for the assessment of the HRM effectiveness. Meanwhile, the HRM effectiveness ought to be analyzed at different strategic, policy, and programs in addition to practice levels (Lepak, Marrone, & Takeuchi, 2004).

Lepak et al., (2004) indicated that the HRM system can be analyzed at three sequenced levels considering all levels' interrelations to be able to comprehend HRM practically. The arrows in figure 6 show the sequences of the influence from the top down in the HRM system. This indicates that when the HRM system is ineffective at the top level that particularly will produce a negative impact on the effectiveness of the HRM system at the down levels. As discussed earlier, the categorization of the HRM system is vital for comprehending the interrelationships between different levels and the sequences of the impact of each level. In that context, taking into consideration that analyzing these levels is very important for understanding the best use of human capital and HRM system effectiveness (Lepak et al., 2004). If for instance, the main focus is limited to the HRM philosophy then it improves generalities but it could reduce the accuracy of the findings due to the neglecting of other aspects or levels of HRM implementations. On the other hand, concentrating exclusively on HRM system practices could enhance the accuracy of the assessment but that may lead to neglect of the importance of other HRM levels. For that, this research considers all levels of HRM effectiveness without ignoring any category.

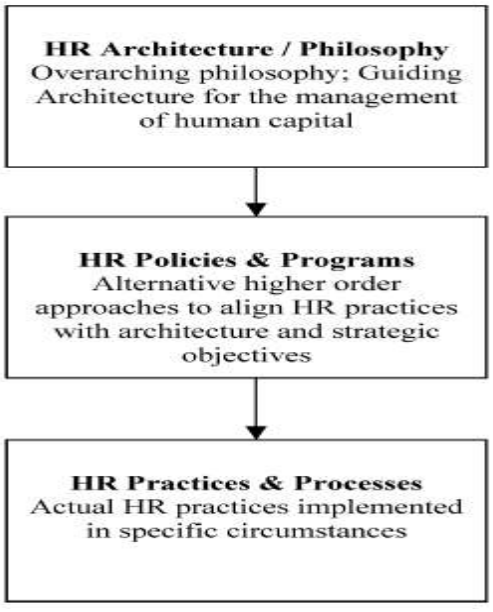


Figure 2: Level of analysis within the HRM system

Source: Lepak et al., (2004, p. 644)

Accordingly, the following levels concerning HRM system effectiveness will be discussed in more details:

2.5.1. HRM Philosophy/ Strategic level

The HRM philosophy or strategy is the top level of the HRM system which entails a fit and incorporation of the organizations' strategy with the HRM strategy. Managers are involved in decision making regarding HRM. The HRM philosophy is " a statement of how the organization regards it's HR, what role the resources play in the overall success of the business, and how they are to be treated and managed" (Schuler, 1992, p. 21). This general explanation ought to be considered a guideline for the proper interpretation and implementation HRM system through several means and can be realized clearly in the organization's "statement of business values". However, It does not define the producers and what type of functions that need to be implemented to manage different HRM activities in the organization (Schuler, 1992).

HRM philosophy has been defined as " the guiding principles that identify and characterize the value and treatment of employees covered within particular HRM system" (Kepes & Delery, 2009, p. 390). For that, the HRM system is considered effective when both HRM philosophy and HRM strategy are integrated and unified with organizational strategy as there is a fit between HRM strategy and business strategy and these strategies complement each other (Bowen & Ostroff, 2004; Guest & Peccei, 1994). This integration is related to coherence between HRM strategy and philosophy, which is set by the top management and willingly accepted by the LMs who participate in the decisions about HRM dimensions (Guest & Peccei, 1994; Maatman, 2006). However, in the case of e-HRM, HRM functions and activities are planned to enable the processing of HRM practices through web-based technologies.

The expected outcomes of this process are the realization and presence of orientation and affiliation of the e-HRM applications with business strategy. Therefore, the e-HRM system usage is expected to contribute to a better fit and alignment of the HRM philosophy and strategy with the organization's general strategy (Maatman, 2006). Meanwhile, HRM philosophy plays a vital role in shaping HRM policy and practices that influence employees'

perceptions of the implemented HRM system effectiveness (Monks et al., 2013).

The formulation of HRM philosophy/ strategy is the responsibility of top management regarding how resources are managed to support business goals. Consequently, the HRM philosophy, policy, and practices could differ significantly between the intended HRM system and what is carried out by LMs on the ground. There are strong connections between different types of HRM systems, and employees' attitudes and behavior (Monks et al., 2013). Bondarouk and Ruël (2005) focused on the contribution of an e-HRM system to HRM system effectiveness. Their sample consisted of (370) respondents from Dutch organizations in 2003 and (215) in 2005. The findings showed that the perceived quality of the e-HRM system components was the single significant explanatory factor of HRM effectiveness. Additionally, the content and design of the e-HRM system correlated with HRM effectiveness. These findings are consistent with the debate surrounding the shift of focus from people management to the issues of producing more strategic contributions, for instance, the contribution of human capital, realizing the strategic capabilities, and supporting the organization to gain a competitive performance after the introduction of strategic HRM (Lengnick-Hall et al., 2009).

In summary, the e-HRM systems actual usage (SU) is anticipated to enhance the perception of HRM effectiveness at the philosophy level, which can be operationalized depending on the assessment of the main factors: the fit and integration between HRM strategy or philosophy and business strategy; the complementary relationship between HRM philosophy and business strategy, and the LMs' involvement in the HRM decision-making dimensions (Maatman, 2006).

2.5.2. HRM Policy and program level

The second level of HRM system is the policy and program level which indicates that there should be distinctiveness, consistency, and consensus of HRM policy. When the HRM system is perceived positively it will create a

strong situation. The HRM policy, in this context, does not refer to the HRM policy manual because the HRM policy does not hold the specific rules describing how HRM activities to be accomplished. It conversely, offers a general guiding principle initiated from the organizational strategic goals to line up the various HRM activities to produce an effective HRM system that able to meet the business requirements. For that, HRM programs are considered the efforts, which ought to be established towards aligning these HRM activities (Schuler, 1992). Accordingly, the HRM policy provides a guiding principle for HRM issues related to the organizations' strategic requirements. Where HRM programs represent synchronized efforts for the implementation of HRM policies that interrelated to the organization's strategic goals (Lepak et al., 2004).

HRM policy comprises the guidelines and references for particular HRM functions that reflect an organization's intention to achieve its objectives (Kepes & Delery, 2009). HRM policy is considered " an organizationally articulated proposal with theoretical and practical constructions within human relations which aims to reach the desired results" (Demo, Neiva, Nunes, & Rozzett, 2012, p. 398). Thus, HRM policy represents a reference guide for HRM propositions that supports the achievement of the organization's goals and objectives which in turn enhance the effects of the HRM system on the desired employee-organizational outcomes (Demo et al., 2012). Meanwhile, HRM policy considerations and content are reflected in the manner that an organization exhibits a clear and consistent HRM policy resulting from a coherent HRM strategy (Guest & Peccei, 1994).

Web-based technology produces strong HRM conditions and clear HRM policies. Accordingly, "the strength of the HRM system can be conceptualized in terms of its effectiveness in conveying the types of information needed to create a strong situation". Thus, a degree of strong HRM system will produce "a strong organizational climate", which in turn leads to a common understanding among individuals of behaviors that are acceptable and worthy of reward (Bowen & Ostroff, 2004, p. 208).

The e-HRM system's actual usage enables the HRM policy to be communicated between HRM stakeholders – namely employees, HR professionals, and LMs – which leads to the appropriate desired attitude and behavior towards the HRM system. Consequently, it is estimated that actual e-HRM usage creates a distinctive and consistent situation, which may raise consensus among HRM system key-users (Maatman, 2006).

2.5.3. HRM Practice level

The HRM practice level is the lowest level of HRM system; it emphasizes the responsiveness, service quality, and helpfulness of HRM practices. It is about how different activities are performed. HRM practices identify HRM activities and procedures that clarify how HRM policies will be implemented and performed (Guest & Peccei, 1994; Lepak et al., 2004). The central issue is the way in which HRM practices would fit with or complement each other (Kepes & Delery, 2009). The more details of how HRM practices to be executed will appear in the HRM process explanations. Meanwhile, HRM practices are in standard sets to exert an additional direct impact on employees' behavior and attitudes than HRM policies have (Kepes & Delery, 2009, pp. 390–391).

More recently, Wang, Kim, Rafferty, and Sanders's (2020) study highlights on the employees' perception of different HRM practices based on the critical review of (105) articles that were published in distinguished HRM journals. The authors find that the employee perception of HRM practices is not solid but is related to what, how, and why these practices are implemented.

The HRM practice level is also labeled the actual HRM practices that are implemented in exact conditions and develop the accuracy of evaluation (Lepak et al., 2004). Accordingly, HRM processes are preceding HRM activities where "The HR processes area deals with how all other HR activities are identified, formulated, and implemented" (Schuler; 1992, p. 26). On the other hand, HRM practice is used to produce and support desired behaviors by employees, where, HRM processes indicates in what manner these activities to be performed (Lepak et al., 2004).

However, the employee's perception of whether the e-HRM system is of high quality, well-designed, and is properly implemented will impact their acceptance and actual usage of the HRM system (Martin & Reddington, 2010). The improved HRM service quality is a consequence of e-HRM system implementation which relies on the combined strength of both HRM and the e-HRM system (Bondarouk, Harms, & Lepak, 2015).

Sanayei and Mirzaei (2008) study covered 110 HR managers; explains and introduces e-HRM activities and tools. They investigated the effect of job satisfaction in addition to OC on the effectiveness of the HRM system. The findings revealed that e-HRM tools were infrequently used. Nevertheless, according to the HR' professionals that e-HRM tools could produce an impact on HRM outcomes if they are used frequently and properly in the organizations. In conclusion, they proposed a model for evaluating HRM effectiveness as shown in Figure 3.

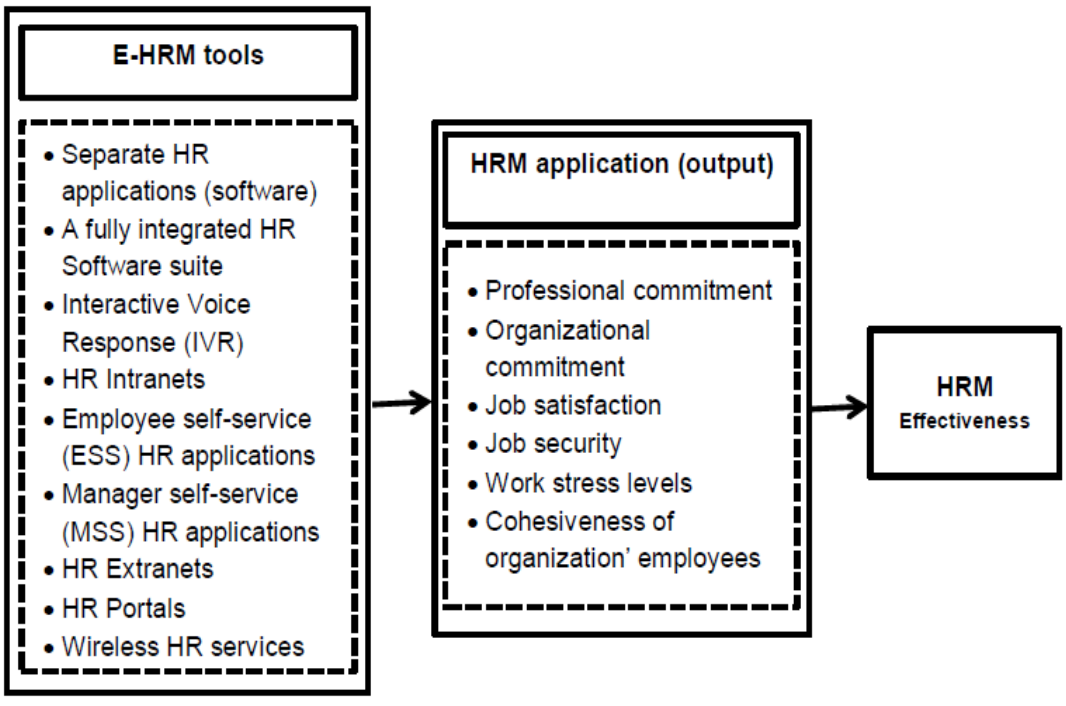


Figure 3: The link between e-HRM tools – HRM application (output) and HRM effectiveness

Source: Sanayei and Mirzaei (2008; p. 93)

Indeed, e-HRM applications have simplified HRM processes, which has enabled both employees and LMs to access accurate databases (Bondarouk & Ruël, 2012; Bondarouk et al., 2015). For that, HRM practices indicate how employees' behavior will be influenced toward taking part positively in organizational performance. The emphasis is on the intents of the HRM system and goals to be achieved with the active involvement of the employees. That could be achieved through the dynamic roles of leadership, managers, and employees with clear communications regarding the main goals of the HRM system that ought to be achieved (Schuler, 1992).

The efficiency of HRM activities and functions enhances the effectiveness of the HRM system and the speed of HR staff responsiveness. Service quality, performance speed, and helpfulness of the HRM system for employees and managers are the main constructs for the measurement of HRM practices' effectiveness (Guest & Peccei, 1994). Moreover, the increase in HRM system efficiency and better service quality is in synchronization with e-HRM goals, which impact the HRM clients' perceptions of the HRM practices' effectiveness (Maatman, 2006). Consequently, key HRM users (employees, LMs, and HR professionals) will impact the adoption and use of newly implemented technology during their active usage of e-HRM (Bondarouk et al., 2015).

Additionally, Obeidat's (2016) findings showed a strong relationship between the e-HRM system's actual usage and the effectiveness of the HRM system's policy and practices. For that, the effectiveness of the HRM system can be measured by evaluating the HR department's quick response to employees' needs and demands. The actual usage of the e-HRM system is predicted to be able to improve the managerial processes of HRM functions and activities, such as payroll, rewards, and personal information management, consequently developing HRM services (Lengnick-Hall & Moritz, 2003). Finally, It's proposed that the contribution of HRM practices to the organization's competitive advantage could be reached through improving employees' capability, and the contribution to their opportunities and motivation (Delery & Roumpi, 2017).

A multiple constituency approach indicates that an HRM system should be operative; it has to meet the end-users' requirements as a sign of its effectiveness (Guest & Peccei, 1994). It is also essential to consider the importance of analyzing HRM systems at philosophy, policy, and practice levels following Lepak et al.'s, (2004) categorization.

The levels of HRM effectiveness is interconnected to the whole effectiveness of the HRM system (Guest & Peccei, 1994). Thus, an explanation is set on the approach for the evaluation of HRM effectiveness at philosophy, policy, and practice levels. An additional concern is the different perspectives from different end-users perceptions (i.e. HR staff, the LMs, and the employees). Where each type has a different position within the HRM system and as a result will perceive the effectiveness of the HRM system differently.

To sum up, the study is founded on a conceptual framework that argues that HRM practices are not as many scholars assumed it as simple switches that empower organizations to have a possible competitive advantage. In contrast, HRM practices have the potential to enhance the presence of organizational sustainable competitive advantage through improving employees' capability, enthusiasm, and offering opportunities.

2.6. Perceived Organizational Support (POS)

This section builds upon the previously presented literature to focus on the role of POS in organizational outcomes. POS is demarcated as an employees' perception regarding the degree to which the organization appreciates their efforts and concerns about their well-being based on the Organizational support theory (OST: Eisenberger, Huntington, Hutchison, & Sowa, 1986) perspectives (Rhoades & Eisenberger, 2002). These beliefs work as a reference within which individuals adjust their behavior according to their organizational activities. The reciprocity norm proposes in which the employees who perceive organization support will feel obliged to contribute to the organization's well-being and pay back the support based on LMX and POS concepts (Dulac, Coyle-shapiro, Henderson, & Wayne, 2008; Marler, Fisher, & Ke, 2009).

Marler et al., (2009) found that the association between POS and attitude to use is significant, with a well understanding of attitudes and comportment throughout the implementation of ESS applications. A model based on SET linked the perception of HRM practices to organizational citizenship behavior (OCB) and employees' intention to turnover was developed and tested by Alfes, Shantz, Truss, and Soane (2013); the model hypothesizes the relationship between employees' engagement and leader-member exchange (LMX) in addition to POS. Proposing that the performing of constructive behavioral outcomes depends on the organizational environment and relationship between employees and LMs. Accordingly, POS might be better regarded as a moderator or a predictor in the link between HRM practices and micro-level outcomes. In this context, POS is used as a predictor for organizational outcomes (ES and OC) that affect the firm's performance.

Mayes, Finney, Johnson, Shen, and Yi, (2016) in their study investigated the effect of HRM practices on POS in China from the employees' and managers' perceptions. The relationship between HRM practices and POS can impact organizational outcomes as ES. The findings proposed that POS is predicted by several HRM practices like recruitment, training, and reward. That is consistent with the findings of previous research where POS impacts ES in addition to the POS role as a mediator of the relationship between different HRM practices and ES.

Finally, POS is considered the essential mechanism through which managers support increases the employees' involvement, engagement, and active commitment in the organization.

2.7. Firm's performance and behavioral outcomes

This section discusses the organizational outcomes related to the employees' behavioral outcomes. The role and scope of e-HRM in affecting the firm's performance and leading to sustainable development are condensed in e-HRM support for the HR department in building an advanced internal profile. That is leading to an improved work culture since e-HRM is expected to offer the main potential in improving the services of the HR

department for employees and LMs. Additionally, e-HRM offers more transparency in the HRM system as well it increases effectiveness, decreases the cost-expense, and permits HR professionals to have more strategic role or as a partner in achieving strategical goals. It offers the platform of flexibility to all users and smooths the administrative processes. For that, the e-HRM system is seen as a primary support system for the administration of HRM functions and the entire related practices within the organization. Meanwhile, it supports the creation of a more dynamic workflow in the business procedure, efficiency, and ES (Deshwal, 2015).

Organizational performance is becoming very important, particularly in high competition and dynamic environment. For that, organizational performance could be evaluated through different indicators and outcomes (Cania, 2014). The organizational outcomes such as ES and OC are the main concern for strategic HRM. The HR studies regarding HRM performance have not determined an exact and particular meaning for the firm's performance constructs. Some studies focused on ES, absenteeism, and employees' commitment, in addition to financial and definite market indicators. Consequently, there is no agreement on the universal theory regarding the firm's performances, which lead to using different constructs and scales to measure these variables (Guest, 2011).

Organizations are continuously trying to achieve different goals through the proper implementation and usage of e-HRM systems. For example, organizations are using their web-pages for recruitment and attracting qualified applicants, in order to avoid the fees of web advertising and at the same time facilitating the application procedures. Most of the organizations have the intent to free up their HR staff form daily routine to offer time for more strategic tasks (Khashman & Al-Ryalat, 2015). HR staff, in turn, will be able to have more time for strategic HRM instead of administrative. Meanwhile, other organizations attempt to achieve better financial performance.

It's argued that the implementation of e-HRM will influence the performance and the effectiveness of the HRM system. That in turn, will enhance the

overall firm's performance besides organizational outcomes. For that, there is a need to explore by what means the firm's performance and the effectiveness of the HRM system can be evaluated. Even though the evaluation and the assessment of the HRM system effectiveness were extensively debated, but it is still unclear if HRM effectiveness will contribute to the firm's performance (Bondarouk, 2014). Meanwhile, the present literature proposes the presence of a positive relationship between the effectiveness of HRM practices and the firm's performance. The findings of eight longitudinal HRM-performance studies revealed a group of well-integrated, reciprocally supporting high-performance work practices (HPWPs) have a more influential influence on the firm's performance than do HRM practices exclusively (Saridakis, Lai, & Cooper, 2017).

The relational impacts of e-HRM for business appears in enabling the end-users to have access to required HRM data mart as well as provide the internal and external interactions between all end-users. This form of enabled- connectivity provides active means of communication and information sharing in addition to the creating of virtual teams regardless of the geographical location. Finally, e-HRM produces standardization of HRM processes that can guarantee compliance with HRM necessities and guaranteeing more accurate decision-making processes (Deshwal, 2015).

Furthermore, the surveys regarding ES can be applied and analyzed to generate a real indicator for the performance evaluation. Accordingly, it is expected that the e-HRM SU will influence the HRM effectiveness and firm's performance through the acceleration of HRM processing, decreases errors, and advances the resulting of HRM activities. As well as e-HRM innovation will enhance the effectiveness of HRM functions (Omran & Anan, 2018). Accordingly, in this research, the main emphasis will be on the evaluation of HRM effectiveness at different levels. As mentioned in the previous section, many specialists argued that the e-HRM system can promote the effectiveness of the HRM system and organizational outcomes. Thus, it's essential to explore organizational outcomes (Heikkilä et al., 2017).

Different researches assessed productivity from different points of view. The efficiency and the role of HR professionals are influenced by the implementation of the e-HRM system as per it impacts their major duties and responsibilities. For example, HR professionals are expected to not have many administrative tasks as usual due to the partly automation of most duties and the instant processing of the regular HRM activities. As a result, the cycle time of processing HRM activities will be improved and shortened also*;* HRM functions and processes will take less time for completion when they are executed through digitization of several HRM activities (Lengnick-Hall & Moritz, 2003). That is in line with the key objectives of e-HRM implementation that aimed to improve the HRM system's effectiveness and responsiveness, in turn, that affects the ES and OC.

2.7.1. Employees' satisfaction (ES)

Several studies provide shreds of evidence that the organization's investment in the employment relationship has a significant impact on employee's work attitudes and behavior, for instance, OC, job, and ES in addition to trust (Nikandrou & Papalexandris, 2007; Sanayei & Mirzaei, 2008). Furthermore, employees will be more satisfied during the implementation of HRM practices as it fulfills their desires and needs. The suitable type of training and proficiency enhancement will benefit the employees by providing them with the required knowledge and skills to be able to practice the functions with an autonomous attitude and assuming the full responsibility (Eisenberger et al., 2014; Deshwal, 2015).

Consequently, the firm's competitive advantage stems from the firm's assets, like human capital and unique organizational capabilities (Colbert, 2004). Additionally, the relations between employees and organization are grounded on the exchange acts, as the employees perceive favorable treatment from their organization and managers, they respond with high positive attitude and effort. As a result, the reciprocal type of relation will motivate employees and enhance organization commitment, and lessen the desire to turnover (Gould-Williams & Davies, 2005). From the lens of POS and LMX, employees' willingness to appreciate the perceived support by showing reasonable

relationships with managers and top managers (Rhoades & Eisenberger, 2002), fostering their willingness of commitment and enhance ES (Eisenberger et al., 2014).

2.7.2. Organizational Commitment (OC)

OC is affected by issues that are directly linked to the organization itself, in addition to some factors linked to the work environment, as well as the aspects related to the work features. The organization's strengths rely on its motivating field of business and available opportunities for employees' job enlargement. OC will be enhanced through the perceived better HRM practices (Cohen, 2007).

Cañibano's (2013) in-depth case study explored the exchange effects on the employee's physical, emotional and social well-being due to the management decision of adopting innovative HRM practices (i.e. high commitment, involvement, or HPWPs) in the Spanish division of main international consultancy organizations. The qualitative data based on document-analysis and interviews with HR specialists and employees. The outcomes indicate that the implementation of innovative HRM practices can cause negative and positive well-being consequences at the same time. For instance, there could be an improvement in a firm's performance and psychological well-being as satisfaction and enthusiasm but that may lead to some decrease in social and physical well-being in the complex trade-off.

In the same context, Meyer and Smith (2000) studied the mechanisms involved in viewed relationships between HRM practices and employees' OC. A sample consisted of (281) employees from several organizations that included the measurements of the quality of HRM practices (i.e. performance evaluation, welfares, learning, and development) in addition to OC, fair procedures, and POS. The findings showed that relationships between employees' perception of HRM practices and their affective and normative commitment were largely mediated by POS and procedural justice. These findings are in line with previous arguments that HRM practices are valuable means in the creation and preservation of employees' commitment.

2.8. Demographic Factors

This section highlights the relationship between demographic factors (age, gender, educational level, experience, Computer and Internet skills), and factors that predict e-HRM usage and HRM outcomes. The literature revealed that there is a significant positive impact of demographic factors as educational level and work experience of the employees on HRM related factors (Obeidat, 2016). Demographic factors have a significant influence on the firm's performance. The work experiences, education level, age, and the duration of business function have a significant effect on the business's profitability (Chiliya & Roberts-Lombard, 2012).

Demographic factors are used as control variables that play an important role in HRM research. Their impact could have a joint influence on the relationship between factors predicting e-HRM usage and actual e-HRM usage. Gender differences in job orientation and importance on instrumentality will become more obvious with increasing age. Sareen (2015) studied end-users' satisfaction with the e-HRM system. The findings showed that age, work experience, and tenure had a significant relationship with the ES with the e-HRM system. Conversely, there is no significant relationship between ES and their gender.

Recently, Op de Beeck, Wynen, and Hondeghem (2018) in their study explored the most influential factor that is mediating the link between the HRM and performance, principally, the mechanism explaining the effective implementation of HRM practices by LMs at the different managerial level according to experiences of their HR role. They examined the influence of several interpersonal and organizational factors on the efficiency of LMs in the implementation of HRM practices and activities. Findings revealed that both first LMs and middle managers effectiveness regarding HRM implementation is interrelated to the organizational support and motivation. For first LMs, precisely, the age and position of their office is the main factor impacting the accomplishment of their HR responsibilities. While, for the middle LMs, the bureaucracy and official rules, duration of service, and managerial experience influence their effectiveness of HRM implementation.

That is actually in line with most of the previous studies (Venkatesh, Thong, & Xu, 2012). Even though, many studies did not pay much attention to the demographic factors due to the fact of minor differences and effects on personal performance. Thus, that issue will not be considered in this study.

Table 2: Number of employees and type of qualifications

Source: Jordan telecommunications company, 2018

Qualification	Jordan Telecom (Orange Fixed)	Orange Mobile	Orange Internet
PhD	3	0	0
Master	65	19	3
High Diploma	4	1	0
BA	858	226	16
Diploma	287	14	0
High School	78	6	3
Below High School	144	2	3
Total	1439	268	23

2.9. Conclusions and Issues to be addressed

Overall, the matter of HRM implementation has fascinated aggregate attention in the last years; it remains a flourishing exploration field that grasps considerable potential for future research (Bondarouk et al., 2016). The adoption of the e-HRM system will be successful and its frequent usage is generally realized through the effectiveness of its implementation processes, nevertheless, this differs from study to another and being contingent on definite organizational factors, for instance, TMS and the role of HR professionals in OCM process.

Effective HRM implementation and e-HRM success are considered when the perception of implemented HRM practices are the same as the anticipated HRM policy and practice; or the effective implementation of HRM functions is the achievement of anticipated employees' effects, for example, the employees' OC and employees' level of satisfaction with HRM activities in addition to e-HRM system actual usage.

2.10. Underpinning Theories (Theories of the study)

This section presents the underpinning theories which are the base for this study. Scholars argue that existing e-HRM research stems from multi-discipline theoretical approaches (Bondarouk & Looise, 2009; Bondarouk & Ruël, 2012; Marler & Fisher, 2013). In the relevant literature, many theories have been used in the e-HRM adoption and implementation research, including the Theory of Planned Behavior (TPB), Unified Theory of Acceptance and Use of Technology (UTAUT), the RBV, SET, CM Theory, and Contingency Theory. Meanwhile, literature has employed several research frameworks, models, and related theories to explore users' responses and perceptions of the e-HRM actual usage, specifically concerning the estimation of the outcomes of newly implemented IT system acceptance and actual usage (Stone & Dulebohn, 2013; Strohmeier, 2007).

Technology innovations and diffusion have inspired several researchers to build several theoretical models to explore the consequences of the adoption and implementation of new IT systems on firm's performance (Davis et al., 1989), along with the influence of web-based HR technology on HRM system effectiveness (Obeidat, 2016). In this context, UTAUT is one of the robust models used to predict users' intentions to implement new technology (Venkatesh, Morris, Davis, & Davis, 2003). Therefore, this study is motivated by the UTAUT model in conjunction with SET, LMX, OST, and the RBV to explore the nature of relationships between the newly introduced e-HRM system's main actors (TMS, OCM, and role of HR professionals) and the e-HRM SU. Furthermore, the research explores the relationship between e-HRM SU and the effectiveness of HRM's philosophy, policy, and practice levels in the Jordanian Telecommunications sector.

The UTAUT has been expanded by Venkatesh et al., (2003); based on the Technology Acceptance Model (TAM) initiated by Davis (1989). TAM and UTAUT have been used as frameworks in various studies and different research fields. They focus on the system end-users and considers their reactions, mainly within the context of accepting the system and practice (Dwivedi, Rana, Jeyaraj, Clement, & Williams, 2017; Taiwo & Downe, 2013;

Venkatesh, Thong, & Xu, 2016; Voermans & Van Veldhoven, 2007; Williams, Rana, & Dwivedi, 2015).

Venkatesh et al., (2003) used four central constructs which can be adopted for the antecedents of e-HRM: Performance Expectancy (PE), which is the perception of the usefulness of the new system; Effort Expectancy (EE), which refers to simplicity; Social Influence (SI), which consists of subjective norms, Facilitating Conditions (FC), which implies compatibility.

These constructs impact the users' behavioral intention (BI) towards using a new system and the actual system usage (SU). Conceptually, the users will be motivated to use and benefit from the new system if they are satisfied with the system features and quality. The individuals' behavioral intentions (BI) depend on the perceptions of the system's usefulness (Fisher & Howell, 2004) and will determine the usage of the new system.

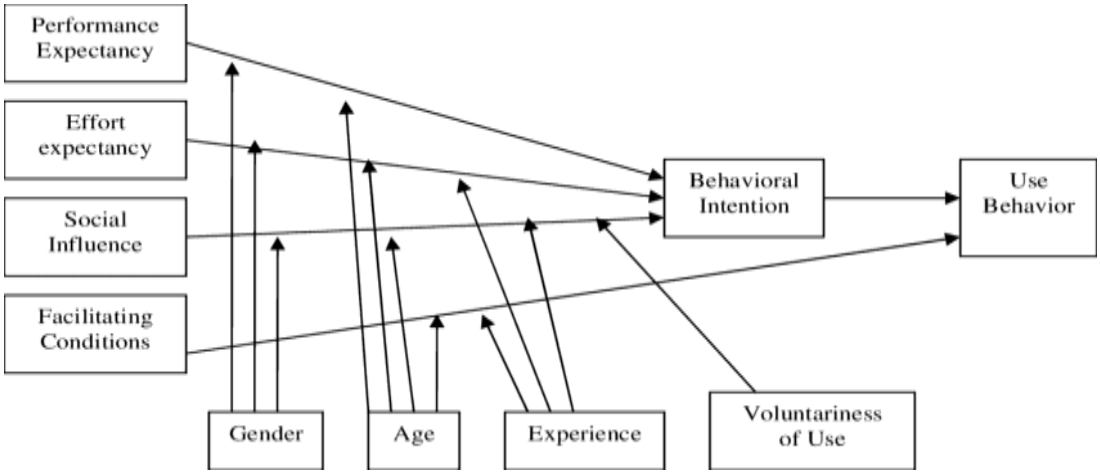


Figure 4: Unified Theory of Acceptance and Use of Technology (UTAUT)
Source: Venkatesh et al., (2003)

UTAUT serves as the theoretical framework for technology implementation research (Venkatesh et al., 2003, 2102). Based on the UTAUT model, the relationships between HRM determinants and HRM effectiveness is mediated by BI and actual e-HRM SU (Maatman, 2006; Bondarouk & Ruël, 2013; Obeidat, 2016).

UTAUT suggests that several determinants such as PE, EE, and SI predict the users' BI to accept the use of IT (Venkatesh et al., 2003, 2102). The first determinant, PE, is the extent to which an employee perceives that the e-HRM system's actual usage will be helpful to acquire benefits in job performance (Maatman, 2006). PE is the most dominant predictor for BI of system usage (Heikkilä & Smale, 2011). Moreover, the findings of Taiwo and Downe (2013) confirmed the expectation of Venkatesh et al., (2003) that the correlation between PE and BI is significant, whereas other links are somewhat weak but still significant.

EE is based on perceived ease of use (Davis, 1989). It is the extent to which users believe that dealing with the newly offered system will not require significant efforts (Venkatesh et al., 2003). Thus, EE refers to the perceived level of ease related to e-HRM SU and will impact user BI towards the implemented e-HRM system (Maatman, 2006; Obeidat, 2016; Voermans & Van Veldhoven, 2007).

At the same context, the e-HRM territory of enquiry which was introduced by (Bondarouk, 2014) in "*Orchestrating the e-HRM symphony*" highlighted all interwoven mechanisms and HRM components integrated through IT, that aims to craft distinctive HRM procedures, which leads to generating long-term opportunities in the organizations for targeted stakeholders. Figure 3 below shows the e-HRM territory of enquiry.

Understanding of e-HRM as a "phenomenon" will advance e-HRM research in terms of its implementation process that focuses on e-HRM system adoption and users' satisfaction. While the content and design of the new system should meet the organization's needs and users' requirements based on interaction with the organizational context. Finally, the most important issue is e-HRM consequences which include value creation, value capture, and the system effectiveness as the main outcomes that will benefit the macro and micro level in the organization (Bondarouk, 2014).

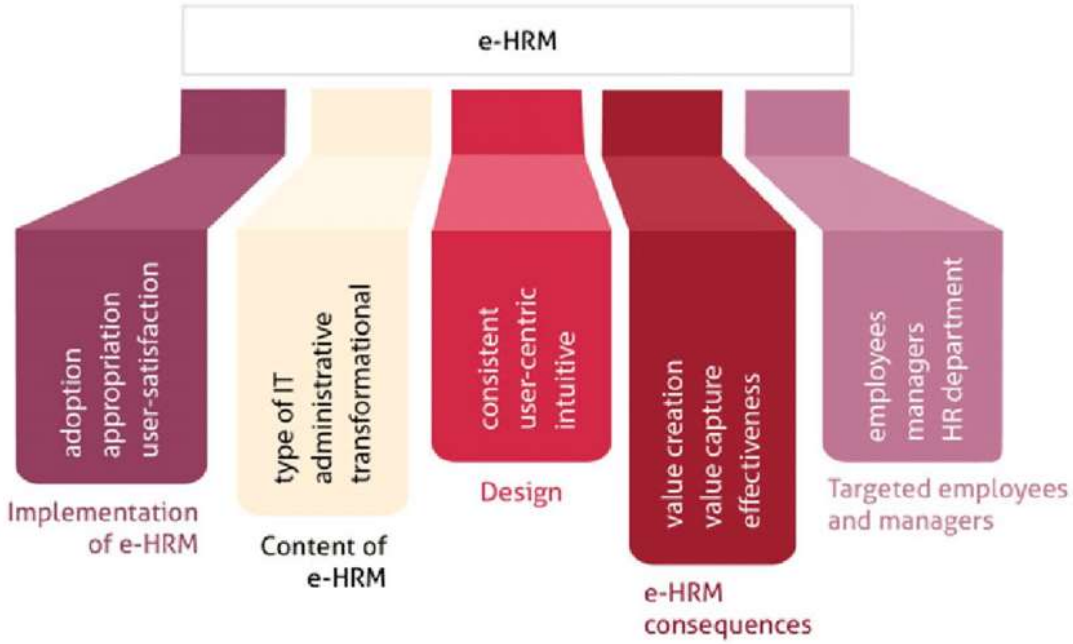


Figure 5: e-HRM territory of enquiry

Source: Bondarouk (2014)

Furthermore, similar to Bondarouk's (2014) “e-HRM territory of enquiry”, the HRM model of Beer, Spector, Lawrence, Mills, and Walton (1984) which is known as “*Harvard model*” of HRM (Beer et al., 1984) has offered a comprehensive contextualized view of HRM and an extensive approach to expected organizational outcomes. It remains a precious model able to guide future research. Where, the appearance of SHRM concepts developed into empirically testing the link between HRM and firm performance (Beer, Boselie, & Brewster, 2015).

It’s argued that Harvard model of HRM emphasized that organizations obtain their rights to survive and derive sustaining resources from society, including a multi perspectives performance construct, incorporates firm’s effectiveness as sustainable organizational and financial outcomes, and employees’ welfare in forms of job satisfaction, commitment to the organization, motivation, fairness, trust, and the societal reciprocal impact (Beer et al., 2015). For that, Bondarouk & Brewster (2016) applied the Harvard model of HRM in their research, as it is offering a further contextualized vision of HRM, with a wide sight of stakeholders, and an extensive and more long-standing

approach to outcomes. Adapting those concepts to the intersection between IT and HRM enables the clarification of the advantages and disadvantages of e-HRM for end-users. Their finding revealed that IT development offers a novel digital perspective for HRM functions with better HRM quality that will lead to enabling a strong HRM proprietorship.

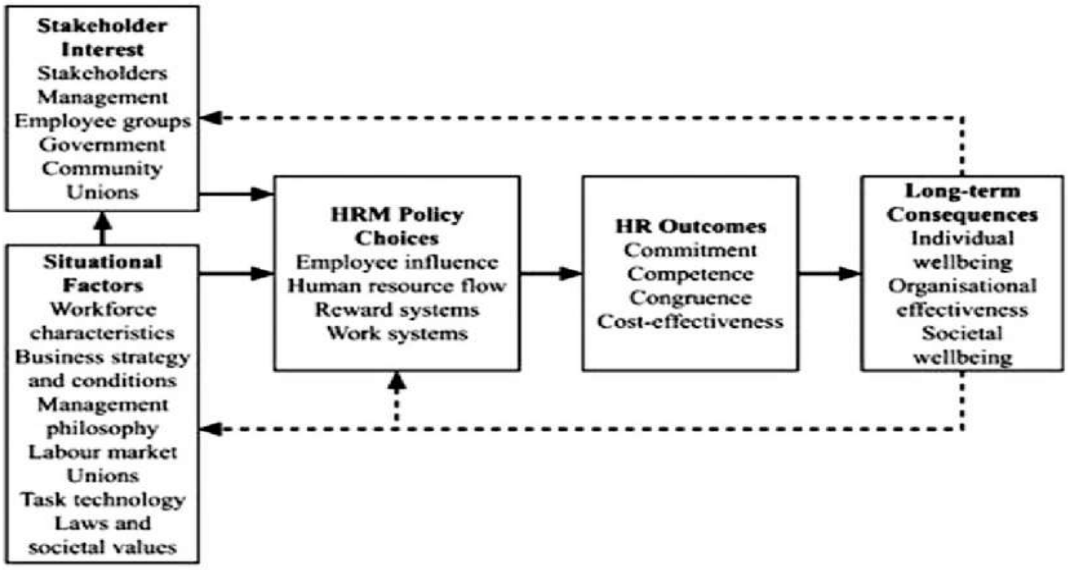


Figure 6: Harvard' Model of HRM, a Map of the HRM Territory
Source: Beer et al. (1984, p.16)

As a result, e-HRM is an inevitability in many firms as its function expected to produce several important outcomes including better HRM service, minimized administrative burden, in addition to the orientation of HRM with business strategy (Bondarouk & Ruël, 2013; Marler & Fisher, 2013), and HRM tangible value creation (Ruël & Kaap, 2012). Consequently, the main advantages of e-HRM functions are usefulness and convenience in addition to offering accurate high-quality HRM systems. Furthermore, e-HRM applications will enable HR staff to support and screen supervisor's functions, as well as enhance credible appraisal and fair performance assessment (Kavanagh, Thite, & Johnson, 2012).

The RBV and SET are the two underpinning theories that have most clearly explained the connection between diverse organizational constructs and firm performance (Ahmed, Khuwaja, Brohi, & Othman, 2018). The theories of the

study will be conceptualized and operationalized during hypotheses development in the next chapter.

2.10.1. Resource-Based View (RBV)

The RBV of the firm (Barney, 1991) is commonly applied as a framework in SHRM related research. It's argued that RBV can bond the macro-micro boundaries in organizations. Figure 7 explains the link between firm resource and competitive advantage.

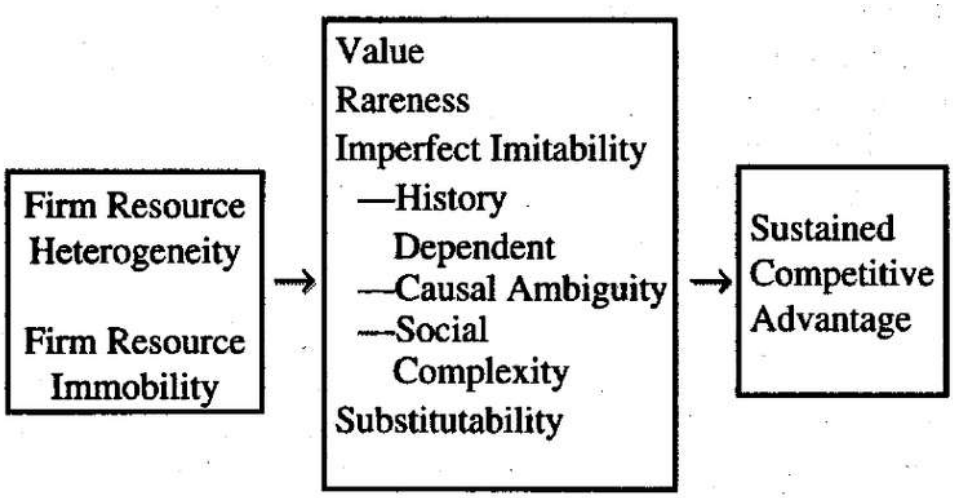


Figure 7: Resource-Based View (RBV)

Source: (Barney, 1991, p.112)

The RBV proposes that sustainable competitive advantage originates from an organization's physical and human assets (Colbert, 2004). Human resources (i.e. talents, proficiency, training and developments, intelligence, and the vision) of managers and employees are considered essential factors for an organization to gain a type of desired competitive advantage and/ or such value creation (Braney, 1991; Barney, 2001; Strohmeier, 2013). Thus, SHRM is indeed associated with the RBV and terms of the competitive advantage (Wright et al., 2001). The RBV was applied from the strategy literature to the HRM function and grow into a leading paradigm in SHRM research via translating the notion of competitive advantage into the HRM domain (Lengnick-Hall et al., 2009).

HRM researches demonstrated two strategic perspectives, as the first relies on an organizational economic perspective, in which a strategic standpoint is related to the achievement of competitive advantage (Marler, 2009). While the second approach is adopting RBV, where the main focus is on strategic resources assets available in the firm and capabilities derived from these resources as sources of competitive advantage (Barney, Kitchen, & Wright, 2011; Marler, 2009; Wright et al., 2001).

Human capital assets are assumed as the essential aspects for the achievement of competitive advantage and strategies of value-creation in the organizations (Barney, 1991; Strohmeier, 2012). The strategic perspective emphasizes the effects of the external environment on business strategy, while RBV focuses on exploiting resources and capabilities inside the organization. Both of these theoretical views offer valuable approaches for connecting HRM at policy and practice levels to whole business strategy and competitive advantage, as the HRM functions fit and alignment with organization strategy will contribute to competitive advantage (Marler, 2009).

The RBV asserts the need for resources is the primary determinant of management policies and procedures, the organization's business strategy can be considered an HRM strategy through which the organizational capabilities may lead to achieving a competitive advantage by emergent HRM (Wright et al., 2001). Ostroff and Bowen (2000) adopted the perspective that HRM functions and practices outline the skills, attitudes, behaviors, and perceptions of the employees and, in turn, HRM practices sequentially influence organizational behavior. Accordingly, HRM practices impact organizational performance through achieved efficiencies (Wright et al., 2005).

Later, Bowen and Ostroff (2004) stated that the RBV has driven the work in the HRM practices-firm performance area, where improvements in human capital and the attainment of intended attitudes and behaviors were posited to enhance performance. These systems comprise several intelligible and strengthening HRM practices, which are supporting each other in constructing further committed and skilled employees, and ensure a positive

influence on the overall firm's performance. This supposed relationship between the firm's performance and HRM has received ample support from different empirical research (Bowen & Ostroff, 2004; Marler & Parry, 2015). The above-mentioned scholars have already explored HRM practices as a system and as a single practice in terms of their impacts on organizational performance. The employees' experience and their active OC through HRM practices and policies are able to set a good work situation that could decrease the absenteeism rate and encourage the employees to remain within the organization instead of turnover.

In nutshell, the RBV indicates that performance could be determined by the firm's resource and the firm's effectiveness in terms of transforming these resources into real capabilities, as an organization can gain a competitive advantage through well exploiting of its internal resources, where resources represent the real active assets, knowledge and the way of performing different operations. Moreover, the capabilities are viewed as the main ability to integrate and intersect different resources to achieve strategic goals and competitive advantage. Accordingly, the main estimation is that firm's resources and capabilities might be distributed through competing firms. In turn, the differences between firms can be long-lasting, which explains why some firms consistently outperform other rivals (Barney, 2001).

2.10.2. Social Exchange Theory (SET)

SET (Blau, 1964) suggests that the relationship between employees, managers, and the organization is based on the reciprocity norm, where SET extension includes both (OST; POS) and LMX theories.

SET assertions that relationships between employees and organization based on the exchange acts as the employees perceive satisfactory treatment from their organization and managers, they respond to that favorable action with a positive attitude and high effort. Consequently, reciprocally type of relation will motivate the employee, enhance the OC, and lessen the desire to turnover (Gould-Williams & Davies, 2005).

The literature differentiates between two forms of the social exchange relationships in the context of organizational behavior and HRM: first is the exchange relationship between employees and their organization, where the second is with their direct supervisor or manager (Settoon et al., 1996; Wayne, Shore, & Liden, 1997). The first type of relationship is wide and is conceptualized as POS, on the other hand, the second type is more limited, bilateral relations between employees and their managers and it is generally hypothesized as LMX (Settoon et al., 1996).

In brief, the two types of social exchange are distinct in the context of organizational levels and HRM practices: POS is the exchange relationship between employee and their organization while LMX is the mutual relationship between both managers and their employees (Dulebohn, Bommer, Liden, Brouer, & Ferris, 2012; Settoon, Bennett, & Liden, 1996). In the same context, TMS and LMs have the opportunity to motivate and enhance employees' perceptions and behaviors to accept changes and take part in innovation (Eisenberger et al., 2014).

2.10.2.1. Organizational Support Theory (OST)

OST (Eisenberger et al., 1986) proposes that "employees form a generalized perception concerning the extent to which the organization values their contributions and cares about their well-being" (p.500).

POS is the OST's central construct. POS forms the employees' (subordinates') and managers' (supervisors') perception towards their organization (Eisenberger & Stinglhamber, 2011) at the organizational level. POS is the Employees' perception that their efforts are valued by the organization that truly cares about their well-being in a reciprocal relationship.

Meta-Analysis research showed that the employees' perceptions of the beneficial treatments (i.e. fairness, managers' support, appraisal, rewards, and advantageous work conditions) are usually linked with POS (Eisenberger et al., 2014). For that, POS is interrelated to specific results that are favorable to both employees as (employee's satisfaction and constructive attitude) as well as to the organization as (OC, effective performance, and decreased

turnover behavior). These types of relationships depend on procedures supposed by OST where employees' belief that the organization's activities were flexible, feeling of commitment to support the organization, fulfillment of socio-emotional necessities, and performance to reward expectations (Rhoades & Eisenberger, 2002).

Recently, Eisenberger, Rhoades, Linda, and Wen's (2020) study explains OST in addition to an empirical review of POS. Their findings are related to OST's main suggestions, comprising novel findings that propose changes to OST. "Major antecedents of POS include fairness, support from leaders, and human resource practices and work conditions, especially to the extent that employees perceive these as the discretionary choices of organizations". Figure 8 explains the main antecedents of POS. Additionally, amongst the new findings that the typical level of POS has diffidently improved in the United States over the period of the last three decades. Moreover, POS in Eastern cultures seems to have stronger positive outcomes than Western cultures. Some further encouraging recent areas of research related to POS include " trickle-down effects, POS of groups, and POS as relevant to creativity and innovation, positive emotional outcomes, and well-being" (p. 101-102). Figure 9 shows the trickle-down effects.

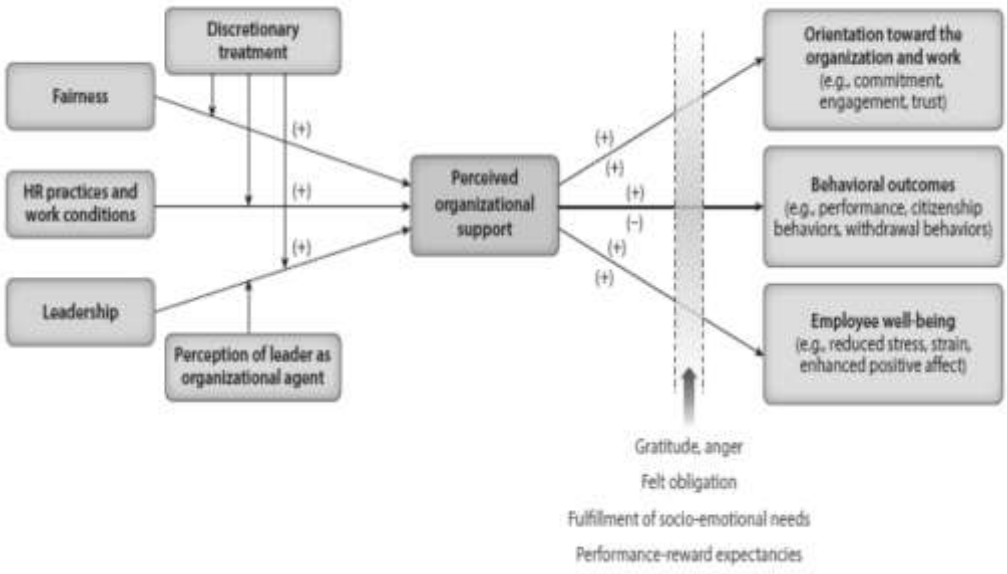


Figure 8: OST adapted from Baran et al. (2012)

Source: Eisenberger et al., (2020,p. 102)

Figure 9: trickle-down effects

Source: Eisenberger et al., (2020,p. 106) adapted from Eisenberger & Stinglhamber (2011).

2.10.2.2. Leader-Member Exchange Theory (LMX)

LMX theory (Dansereau, Graen, & Haga, 1975) emphasizes the reciprocal relationship between the supervisor and subordinate. Both managers and supervisors recognize employees who are considered promising and accordingly favorably treat them.

LMX theory of leadership has been developed in the organizational disciplines into a substantial zone of scientific investigation and has received significant attention in empirical research (Dulebohn et al., 2012). Subordinates or the employees who received favorable treatment by their LMs or supervisors are expected to reciprocate as a result of that by working harder and giving more help to their direct supervisors, which in turn may lead to high-quality of LMX relations in the organization. On the other hand, OST considers the favorable relationships of both supervisors and subordinates with their organization (Eisenberger & Stinglhamber, 2011).

LMX has evolved to depend on SET perspectives, meanwhile, LMX theory is highlighting the mutual relationship between both supervisors or managers and subordinates (Bos-Nehles & Meijerink, 2018).

POS and LMX are distinctive and critical constructs in clarifying the association between HRM practices and anticipated employees' outcomes.

As leaders are the main representatives of the organization, LMX ought to be positively related to POS, where LMX and the type of the relationship that leaders established with their groups is a reflection of the quality of the employee-LMs relationship perspectives (Kuvaa & Dysvik, 2010).

Dulebohn et al., (2012, p. 1717) developed a framework as shown in Figure 10 that explains the antecedents and consequences as well as proposing that LMX mediates the link between LMX antecedents and outcomes from employees' perceptions.

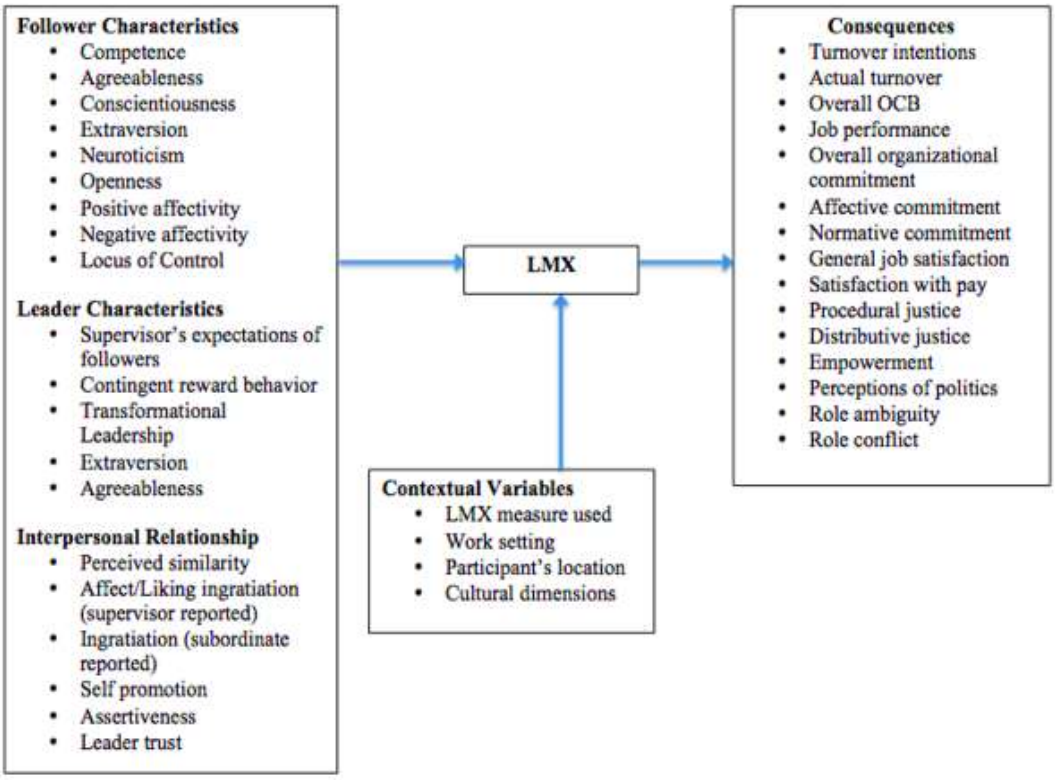


Figure 10: Leader-Member Exchange Antecedents and Consequences Theoretical Framework

Source: Dulebohn et al., (2012, p. 1717)

Martinson and DeLeon (2016) test a model for predicting the strength of the HRM system and LMX constructs from employees' perceptions in terms of ES and performance of their work unit. The findings propose that the strength of HRM practices and LMX have a positive relationship with ES and the performance of supervisors who are responsible for the implementation of HRM practices.

In a nutshell, LMX relationships with supervisors or LMs, and top managers may rely on the assessment that employees also will repay the favorable treatment. Where employees perceived that the organization values their efforts, in turn, they are expected to practice more positive behavior.

2.10.3. Change Management (CM)

CM is “a structured approach to transitioning individuals, teams, and organizations from the current state to the desired future state” (Sacheva, 2009, p.109). OCM has been generally recognized as a critical success factor in IT systems (Apostolou et al., 2011).

Ruta (2005) studied the implementation of the HRM portal in the Italian subsidiaries of Hewlett-Packard, framed a model that integrates CM theories and IT user acceptance models, and explains how CM plans ought to be adapted to be effective in different firms. The technology end-users' acceptance model emphasizes “what” predicts behavioral intentions to the actual usage of the implemented HR portal, while CM theory focuses on “how intentions to the HR portal usage can be influenced and how cognitive phenomena are formed” (p.37). Where the communication of strategy and CM contributions to the HRM function can be used as an instrument of OCM during the implementation process of the e-HRM system (Voermans & Van Veldhoven, 2007).

CM in the theoretical framework for HR portal implementation (Ruta, 2005) includes context and process, where the context composed of the general contextual factors and local contextual factors, on the other hand, the process includes general and local implementation plans. General contextual factors comprise of external variables, such as the firm’s industry or service, in addition to the industry’s or service’s main features (competition, customers, knowledge needed, and level of technology). The internal factors may include the key users' attitudes towards CM, managerial level, and available technical resources. Figure 11 explains the mechanisms of the theoretical model for the implementation of HRM employee portal in a global firm.

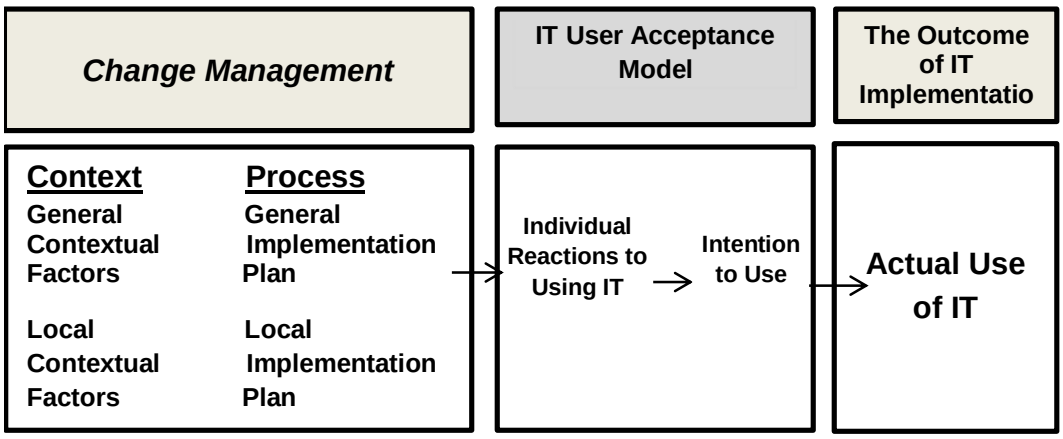


Figure 11:Theoretical Framework for HR Portal Implementation

Source: (Ruta, 2005, p. 37)

The CM theoretical framework related to HRM portal applications shared common perspectives focused on the user's reactions towards using IT systems that affect employee reactions and intention to newly implemented HRM system, which in turn, impacts the system actual usage (Ruta, 2005). Where, the behavior of TMS is particularly important to communicate the necessity for change (Kotter, 2008).

The analysis of the context related to CM reveals that change agents can adopt the proper actions to support the implementation process. The introduction of the IT system entails the modification of the relationship between the employees and the organization due to the presence of a new application for end-users. The process will start as the context is defined, the implementation phased includes: unfreezing to let the employees aware of the new changes and the actions that are based upon organizational values, moving to the new mental and behavioral framework and refreezing in terms of the internalization of the new behaviors and change (Ruta, 2005).

The practical implications in terms of CM, as training related to a new system ought to be transparent and active communication ought to go up-down. Meanwhile, strategic benefits can be realized for the LMs and HR professionals by deliberating exactly how e-HRM will influence their duties and roles, in addition to how they can contribute to achieving the business goals (Heikkilä, Rentto, & Feng, 2017).

The CM strategy is translated to the implementation plan will positively impact the acceptance of new web-based HRM systems and maximize the actual usage which are the outcomes of IT system implementation (Ruta, 2005). Research related to the acceptance and adoption of the e-HRM system has revealed that increased practice of technology rest on the OCM approach or the structures of the implemented technology (Bondarouk et al., 2009).

To sum up, OCM is concerned about managing employees' attitudes and reactions to decrease resistance to change. CM is an organizational procedure intended to authorizing employees to accept and hold changes in their organization. TMS and communication are the cornerstones for the success of HRM IT-based system.

2.11. Summary

This chapter highlights the literature review related to e-HRM implantation and HRM effectiveness alongside with organizational outcomes. TMS has also been acknowledged as a critical issue in the process of forming a supportive environment and providing sufficient resources that are required for the successful adoption and accurate implementation of innovations.

The underpinning theories relate to the OCM, TMS and the role of HR professionals are presented to support the implementation of e-HRM and its actual usage based on the SET and CM approach. Furthermore, the consequences of e-HRM usage are discussed and conceptualized from the lens of POS and RBV theories.

CHAPTER THREE

THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

3.1. Introduction

This chapter tackles theories and hypotheses related to the proposed theoretical model. It covers the Hypotheses development of the conceptual framework in detail.

3.2. Theoretical Background

This section discusses the theoretical perspectives that are related to the research model. One of the strategic perspectives that are related to the achievement of competitive advantage is adopting RBV approach, where the strategic resources in the firm can be converted into capabilities to from source of competitive advantage (Barney et al., 2011; Marler, 2009; Wright et al., 2001). Several theories have debated the connection between diverse organizational constructs and the firm's performance from different stakeholder perspectives. The two underpinning theories that support the proposed relationships are RBV and SET (Ahmed et al., 2018).

The theoretical view offers valuable approaches for connecting HRM at the levels of philosophy, policies, and practices to competitive advantage. HRM practices alignments with business strategy, on the other hand, contribute to achieving a competitive advantage by emergent HRM (Wright et al., 2001), and considering human capital as precious resources that affect performance variation (Crook et al., 2011).

Gong, Law, Chang, and Xin (2009) established a model of HRM subsystems consists of performance-oriented and maintenance-oriented systems that focused on HRM practices. The study is based on RBV and SET and

responses of 2,148 managers in 463 firms in China. The findings revealed that the HRM subsystems which are interrelated to the performance-oriented have a positive link with the firm's performance that is mediated by affective OC. In contrast, HRM subsystems that are connected to the maintenance-oriented concerns have a significant relationship with managers' continuance commitment only and do not have a significant relationship with affective OC and firm's performance.

According to RBV, HRM is one of the main sources of added value. The HRM functions play a critical role in shaping firm performance and employees' commitment (Gong et al., 2009), and for achieving a competitive advantage based on RBV (Acedo, Barroso, & Galan, 2006). Thus, HRM capabilities are essential for achieving a sustainable competitive advantage, and HRM effectiveness is highly related to organizational performance (Lengnick-Hall et al., 2009). The research regards the relation between e-HRM and strategic HRM proposed that strategic HRM outcomes predict e-HRM (Marler& Fisher, 2013), in addition to some organizational factors that affect the HRM functions.

In the relevant HR literature, RBV and SET are the main theories that support the relationships between different organizational constructs and a firm's performance (Ahmed et al., 2018). The RBV has been used as a framework in strategic HRM studies and has the prospective to link the micro-macro organization boundary. The competitive advantage can be achieved by exploiting human capital and physical organizational resources (Colbert, 2004). RBV has advanced the researches regarding the contribution of HRM practices to organizational performance via enhancing human capital, attitudes, and behaviors (Bowen & Ostroff, 2004). Additionally, Byremo (2015) debated that HR practices, from the lens of RBV and SET, contribute to OC, motivation, ES, and skills, which altogether have a significant impact on the whole firm's performance.

Departing from the same perspective, the SET perspective is used to predict most of the HRM practice outcomes as commitment, motivation, and well-

being of employees, to continue working for the organization (Gould-Williams & Davies, 2005).

The positive reciprocity norm affects employees' attitude and performance; therefore, employees who received satisfactory treatment respond with high commitment and make a suitable effort to their work. At the same SET related concept, LMX theory stressed the mutual relationship between managers and coworkers (Dulebohn et al., 2012). Consistent with LMX theory, managers identify the capable employees and favorably manage them. For that, employees, who receive satisfactory treatment by their senior and LMs, cooperate with their managers as well as establish positive LMX relationships. Furthermore, OST in terms of POS; considers favorable relationships between subordinates and supervisors within the organization, to meet socio-emotional necessities and firm's readiness to reward, appraisal, and to improve employees' efforts and welfare (Eisenberger & Stinglhamber, 2011). Consequently, POS will enhance employees' behavioral intention (BI) to accept changes and participate effectively in innovation (Eisenberger et al., 2014). Moreover, regarding the e-HRM system's actual usage, the most significant and influential determinants impact the e-HRM components and content are the employees' perceptions of the support from coworkers, LMs, the availability of required information, and the accessibility (Ruël et al., 2007).

Marler and Fisher (2013) underlined the main contextual factors related to the e-HRM acceptance and actual usage, which relies on the level of involvement in e-HRM implementation, the supposed usefulness of the e-HRM system, the managerial obligation to using e-HRM applications, and the awareness of data security. In the analysis, some factors considered employees' profiles, firm size, and available infrastructure. Moreover, the national-culture perspectives that might influence the implementation of the e-HRM strategy and practices should be considered in addition to major organizational factors (Ramirez & Zapata-Cantú, 2008).

LMs and senior employees play a crucial role in HRM implementation as LMs are considered the main actor in HRM functions and practices at different

organization levels (Bos-Nehles & Meijerink, 2018). Meanwhile, the HR role of LMs is vital in linking HRM effectiveness and e-HRM applications in terms of actual organizational performance (Purcell & Hutchinson, 2007). The usage of the e-HRM system transfers most of the traditional HRM responsibilities that are used to be executed by HR professionals to LMs and employees themselves (Ruël et al., 2004), in the form of ESS and MSS applications (Lengnick-Hall & Moritz, 2003). Consequently, the adaptation of the e-HRM system enables LMs to handle the devolution of HR responsibilities (Zhang & Wang, 2006). Therefore, HR professionals should support LMs' skills and capabilities, letting LMs participate in the HR developing process (Trullen et al., 2016). In a nutshell, e-HRM had led to the centralization of HRM information, and, at the same time, the decentralization of HRM responsibilities. More details and discussion of the conceptual factors that are related to e-HRM implementation and consequences will be presented in the proposed framework and the hypotheses development.

3.3. Research Framework

The implementation of the e-HRM system has led to a fundamental restructuring of HR manager responsibilities. Most of the activities, that are used to be accomplished by HR professionals, can be executed on-line by end-users (Ruël et al., 2004). LMs nowadays can use their desktops to accomplish most of HRM functions and MSS activities. Employees also have the ESS to manage their HRM needs and access their files, plan for their career development, and handle some financial issues and applications for training or new positions (Roehling et al., 2005).

Accordingly, the relationship between HRM and strategic management constructs the general direction for the organization in order to be able to address the involvement of the HRM system and departments in achieving the organizational objectives (Armstrong, 2011). The intelligent and human capital is considered the main source for gaining the kind of desired competitive advantages through the involvement of the main HRM actors, who will be the implementers of the organization's strategic plan. It's argued that HRM has a significant impact on a firm's performance, which will be

through the strategic HRM aspects (Cristiani & Peiro, 2015) where, the main dimensions of strategic HRM include HR planning, acquisition, development, performance management, and reward management. Consequently, the HRM strategy intentions to leverage the firm performance are based on the actual employees' performance (Armstrong, 2011).

The expected value of HRM systems yields a diversity of outcomes related to internal stakeholders including employees, LMs (supervisors), HR professionals, and top managers. The impact of external factors, such as rival organizations and the business environment should be considered in this advancement (Jackson et al., 2014). Academic research that concerns e-HRM tries to framework theoretical and practical concepts (Ruël et al., 2007). Furthermore, the success of e-HRM implementation within an organization will positively affect HRM effectiveness (Bissola & Imperatori, 2014). Stanton and Coovert (2004) point out that the implementation of HRM practices through ICT becomes an essential strategy to achieve a competitive advantage. Moreover, ICT has reformed our communication methods, the routine of the daily work, thinking approaches, and have presented innovative business improvements (Suramardhini, 2012).

Following the technology revolution, automation has led to a big transition in the HRM function and a dramatic increase in actual usage of the e-HRM system. The application of Management Information Systems (MIS) in HRM functions has been used for a long time. However, it is the progress and advancement of HRM functions through the adoption of IT that has recently drawn the attention to business and executive managers (Gürol et al., 2010).

Bondarouk et al., (2017) mentioned that Technology, Organization, and People (TOP) are the main factors that impact the implementation and acceptance of e-HRM system in the organization:

1. **Technology factors**. Numerous main technology factors have influenced the adoption of different HRM based-technology as HRIS. These factors are related to the data reliability, perceived usefulness,

integration of the system contents, and internal development in competition without sourcing or relying on external software.

2. Organizational factor. This factor influences the adoption of the e-HRM system which covers a wide field as organizational features, planning, traditions of project management, data availability, privacy, information security, capabilities, and assets.

3. People factors. The most important issues that are related to people factors include TMS, end-users acceptance of newly implemented technology, communication, and cooperation within units, HRM skills, proficiency, management as well as culture. In addition to the essential training that usually plays a critical role in facilitating the use of HRM systems.

Marler and Fisher (2013) in their evidence-based on reviewing of 40 articles published from 1999 to 2011 regarding the association between strategic HRM and e-HRM adoption reached a shred of evidence proposing that strategic HRM outcomes predict e-HRM. The type of the relationship between these constructs seems to be a perspective dependent, in contrast to the general belief that e-HRM is an independent variable. Moreover, the findings disclosed that both empirical and theoretical types of research in this field are still growing. Yet, the available frameworks are not satisfactory to set up a causal direction. Consequently, there is a need for more empirical researches to explore the causality and the nature of the association between strategic HRM and e-HRM outcomes at different organizational levels (Marler& Fisher, 2013).

More recently, Al-Harazneh and Sila, (2021, forthcoming) investigate the impact of e-HRM implementation on the effectiveness of the HRM philosophy, policy, and practice. Their framework was guided by UTAUT, SET, and LMX theories. The sample consisted of 282 responses from the employees of two telecommunication companies in Jordan. The main findings revealed that PE had a significant positive effect on BI to use an e-HRM system, whereas EE did not. FC had a positive significant impact on e-

HRM system usage. Additionally, TMS and the HR role of LMs positively affected BI to use e-HRM and actual usage of e-HRM, whereas the effect of HR professionals on e-HRM usage was negative. Finally, the actual usage of e-HRM had a significant impact on HRM system effectiveness.

Based on the previous research and the extensive literature review that is related to HRM and the factors that predict the actual usage of e-HRM, it is proposed that TMS, the role of HR staff, and the OCM influence the actual usage of e-HRM; meanwhile, OCM will be moderated by TMS. In turn, the success of e-HRM implementation and usage will affect the HRM effectiveness at the levels of philosophy, policy, and practice as well as the POS. Furthermore, the relationship between e-HRM SU and the organizational outcomes (ES and OC) is mediated by POS even though e-HRM SU could directly influence organizational outcomes without the presence of POS. Accordingly, the research model is presented in Figure 12, showing the proposed links between the different constructs.

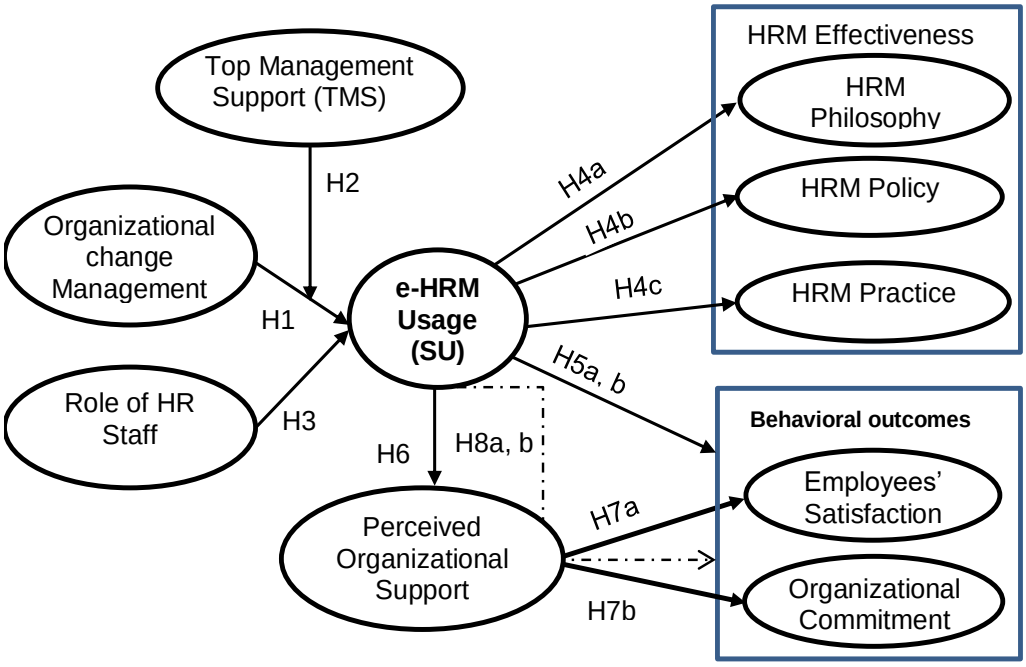


Figure 12: Research framework and hypotheses

3.4. Developments of Hypotheses

In the e-HRM context, internet and web-based technology support the realization of predicted outcomes in the HRM perspectives. The main goals for e-HRM implementation include time-saving and expenditure reduction through the reformation of HRM functions. It will permit the HR staff to have more time available to support strategic decisions and participate in problem-solving (Marler, 2009). Additionally, the HRM literature yields five potential goals regarding the e-HRM system: efficiency, better service delivery, strategic alignment, LMs empowerment, and functions standardization. It is agreed that e-HRM leads to significant changes in different organizational perspectives (Gueutal & Stone, 2005; Parry & Tyson, 2011; Strohmeier & Kabst, 2009). The developments of the proposed hypotheses are discussed below:

3.4.1. Relationship between OCM and e- HRM SU

CM is a planned and controlled method to shift organizations and individuals from the present state to the preferred future situation (Sacheva, 2009). It aims to influence employees to accept changes in business processing and organizational environment (Hiatt & Creasey, 2012). CM is a critical factor for the success of new software system implementation procedures (Apostolou et al., 2011).

As mentioned earlier, CM includes two sides that are hard and soft. CM's hard side comprises processes, policies, strategies, procedures, and technologies that support the anticipated changes to take place. In contrast, the soft side focuses on the behavioral changes, the process of communicating that purposes to form the emotional reactions for changes to be effective (Dias de Lima, 2009). Changes in technology such as the way of business accomplishment lead the changes in organizational policy, values, attitude, structure, and practices (Kifle & Low Kim Cheng, 2009). OCM is needed for maintaining a competitive advantage and the retention of skilled employees.

The more frequency of communication occurs between top managers and subordinates that will lead to more improvement in the employees' insights of the real situation and steadiness that it occurs in unstable circumstances. Communication, hence, is an essential method for decreasing stress, facilitating the change process, and producing a shared vision providing a common sense in organizations. Employees anticipate managers to use active communication channels and put emphasis on the necessity for consistent and personalized contact (Bastien, 1987). For that, TMS ought to stay involved in the procedure of sustaining decent relationships, delegating duties, and communicating the related reached decisions regarding the OCM and e-HRM implementation progression. Guest (2002) confirmed that effective communication has positive effects on the enhancement of self-esteem, OC, and supportive behavior that leads to the good orientation of the common goal, awareness of the shared vision, facilitating CM, and minimizing resistance through encouraging positive individuals' behaviors.

Additionally, at the core of the organization's capabilities, there will be the leadership style with an innovative vision, integrating the restructuring of work practices, and organizational cultures in addition to the new technology and ICT. Thus, e-HRM implementation and usage ought to be included in the CM strategy (Grant & Newell, 2013).

OCM is a predictor of the newly implemented ICT system such as e-HRM, where HR professionals enhance LMs effective implementation of e-HRM practices, which in turn supports HRM effectiveness (Oswal & Narayanappa, 2015; Trullen et al., 2016). In the OCM context, HR professional role will act as a change agent by encouraging and improving LMs' abilities (Marler & Fisher, 2010), including the procedure of developing HR functions they will take part in HRM system development and operationalization (Bondarouk et al., 2009; Trullen et al., 2016).

CM and OCM can be used interchangeably in the e-HRM adoption context that includes the characteristics of the e-HRM system in addition to its advantages, essential training programs pre and post-implementation, and

the communication to facilitate the vision of top management and system's objectives. Thus:

Hypothesis 1 (H1): OCM has a positive effect on employee usage of e- HRM systems.

3.4.2. Relationship between TMS, OCM, and e- HRM SU

Based on Organization Behavior concepts, it's essential to understand, predict, and influence employees' behaviors. Leaders and HR professionals can assess the desired changes in their organizations and the acceptance of newly implemented HRM systems based on their company organizational culture and business environment (Bae & Lawler, 2000; Dobre, 2013). Successful top managers and supervisors can influence the behavior of employees and encourage them to accept and use these technologies (De Jong & Den Hartog, 2007; Liu & Batt, 2010). From the lens of SET and OST, the relationships between employees and their organization based on reciprocity norm according to POS perspectives, as the employees perceived favorable treatment from their organization they will pay back in form of supporting organization goals (Eisenberger & Stinglhamber, 2011; Eisenberger et al., 2014). Additionally, the LMX theory stresses the relationship between managers and subordinates where LMs and managers are able to influence the employees' attitudes and behaviors to accept changes (Dulebohn et al., 2012).

Top management and senior managers play a fundamental role in organizational climate and culture changes. Meanwhile, change innovation is highly related to the introduction of the new way of conducting business, changes of the process, operation, or system in an organization (Ostroff et al., 2013), CM is needed to be part of the strategic plan with an adequate allocated resource for e-HRM implementation and institutionalization. As a result, the role of managers needs to be based on a clear vision and strategy to achieve long-term goals and uses the available assessed resources. Consequently, the top management sets up strategies that fit the innovation and adaptation of new system and passes the message to influence

employee attitudes and behaviors. Leadership style and procedures affect the strategic options and the process of decisions making in the organization. Consequentially, these actions influence subordinate attitudes and behaviors (Schein, 1992).

Managers at different organizational levels motivate employees to contribute efficiently in innovations and influence their attitude towards newly implemented technology (De Jong & Den Hartog, 2007). TMS plays a key role in HRM performance and influences employees' attitudes (Purcell & Hutchinson, 2007). TMS influences employees' perceptions of changes in HRM functions that impact subordinate behaviors (Bos-Nehles & Meijerink, 2018). The employees need to undoubtedly comprehend the strategic vision and organizational objectives of the proposed changes, which is achieved through suitable means of communication regarding the e-HRM advantages. This could be achieved through the formulation of the desired organizational culture (Schein, 1992), including common organizational beliefs and attitudes.

Accordingly, the top management decisions and behaviors will have an impact on followers' attitudes towards using e-HRM. For that, senior managers ought to win the employees' hearts and minds towards success at innovation management and diminish their resistance to the acceptance and usage of newly implemented technologies (Avolio et al., 2004), encouraging them to use e-HRM system effectively. That will lead to effective HRM procedures and policies at different organizational levels. Consequently, HRM's effectiveness will enhance the situation of the organization to gain the desired competitive advantage. The end state will be enhancing the performance of the firm.

Based on SET; HRM implementation is a social practice that influences social exchange relationships between HRM managers and employees (Bos-Nehles & Meijerink, 2018). Using newly introduced innovation is estimated to precede a personal position in a social structure (Millar et al., 2017). Managers' behavior has a significant influence on employees' perceptions (Purcell & Hutchinson, 2007). Social influence has also a positive effect on

individuals to use technology (Venkatesh et al., 2003). The perceived support predicts positive behavior and attitude towards using the e-HRM system (Voermans & Van Veldhoven, 2007). Thus, the following hypothesis is proposed.

Hypothesis 2 (H2): TMS moderates the link between OCM and employee's usage of the e-HRM system (SU).

3.4.3. Relationship between HR professionals and e-HRM SU

The adoption of the e-HRM system motivates HR professionals to look for innovation and change the way of HR's daily routine, and the effective devolution of HR responsibilities to LMs (Zhang & Wang, 2006). HR department supports LMs' effective implementation of e-HRM practices and HRM effectiveness as per HR staff through exploiting the e-HRM tools, HR staff can have an effective advisory role towards LMs. Building on the OCM context, an HR professional will be perceived as a change agent through encouraging and improving LMs' abilities, including the process of evolving HRM functions (Trullen et al., 2016), HR professionals will take part in HRM system development and operationalization. The execution of HRM practices through the e-HRM system has led to a major restructuring of HR duties. Several HRM responsibilities are accomplished online due to the empowerment of authority to LMs (Ruël et al., 2004). LMs perform HR-related issues with direct and indirect support from the HR department (Roehling et al., 2005).

Most of HRM activities can be implemented through the e-HRM system by employees and managers themselves (Ruël et al., 2004). The nature of employees – LMs' relationship and the HR role of LMs in the context of SET will affect the whole organizational performance. Meanwhile, the managers' attitudes and behaviors influenced the employees' perceptions of HRM practices (Purcell & Hutchinson, 2007).

HR professionals support the desired changes through the way of performing HRM practices that are related to the employees' acceptance of the HRM system (Bae & Lawler, 2000; Dobre, 2013). Therefore e-HRM influences

HRM users' attitudes and behavior to be in parallel with the strategic orientation. Meanwhile, e-HRM system implementation allows HR professionals to have more time to support strategic orientation (Marler, 2009). Even though Bondarouk and Brewster (2016) argue that there is a tension between HR staff and employees who are the subject of HRM functions. Consequently, HRM functions that are accomplished via e-HRM ought to be perceived by both employees and LMs as useful and effective (Vanhala & Ahteela, 2011), with continuous encouragement from HR staff for employees to use the e-HRM system.

In summary, The HR department has a vital and dynamic role in HRM performance, and the development of HRM procedures (Purcell & Hutchinson, 2007). Meanwhile, the decentralization of e-HRM functions enables HRM responsibilities to be accomplished with continuous encouragement from HR staff (Vanhala & Ahteela, 2011). For that, HR professionals encourage ESS and MSS applications through frequent use of the e-HRM system to support business goals. Thus we have the following hypothesis.

Hypothesis 3 (H3): The role of HR professionals has a positive effect on e-HRM SU.

3.4.4. The link between e-HRM and effectiveness of HRM system

Ostroff and Bowen (2000) presented a theoretical multi-level framework assuming that HRM performance could be considered at both micro and macro organizational levels and through the direct linkages between these levels. Later on, Bowen and Ostroff (2004) contributed to theory building regarding the strength of the HRM system, which explains in what manner HRM practices might lead to achieving the desired consequences. Bowen and Ostroff (2004) recommended that to understand the HRM– performance linkages, more focus is required to be set on HRM processes and functions. They also stressed on the point of view concerning the necessity of good practices along with proper implementation. Moreover, previous research studies showed that HRM strategy has the opportunity to

advance further towards business strategic orientation via the adoption of ICT application to accomplish different administrative tasks (Ruël et al., 2007). For that, researchers have conceptually explained and developed “why” HRM practices lead to desired organizational outcomes and gaining a kind of competitive advantage, but they also need to explain “how” HRM effectiveness could be achieved (Ulrich, 1997; Bowen & Ostroff, 2004).

In this context, RBV asserts that the various allocations of precious resources within the organization, such as human capital, and clarify performance variation (Crook et al., 2011). RBV is highly considered strategic management research and its related application. Drawing upon RBV, the human capital in terms of organization outcomes, is considered the main source of added value, at the managerial and individual level (Barney et al., 2011; Gong et al., 2009), and as a vital root for achieving a sustainable competitive advantage over other business competitors (Acedo et al., 2006).

Therefore, HRM has the potential to distinguish human capital and organizational capabilities that are necessary for achieving competitive advantage, and to contribute to a firm’s effectiveness and performance (Wright et al., 2001; Lengnick-Hall et al., 2009). Meanwhile, leaders may recognize the employees whom they consider promising and treat them satisfactorily. For that, employees will reciprocate by making more efforts and providing more cooperation and positive interaction with top management, leading to high-quality LMX relationships (Eisenberger et al., 2014). Consequently, this will encourage the employees to accept the changes and take part in innovation.

Because of that, e-HRM system has become a necessity in the organizations. Its practices are estimated to produce distinctive outcomes, better HR functions, and alignment of HRM strategy with organization policy (Bondarouk & Ruël, 2013; Marler & Fisher, 2013). Ruël et al.'s, (2007) quantitative study of the e-HRM contribution to HRM effectiveness, which was conducted in the Netherlands, found that the usage of e-HRM components through ESS had a significant influence on HRM strategic and technical effectiveness. Similarly, the usage of the e-HRM system is a

significant predictor of perceived HRM practices value (Ruël & Kaap, 2012). Furthermore, the implementation of the e-HRM system is estimated to improve the effectiveness of HRM processes, provide better service delivery, and enhance the strategic orientation for the HRM system (Parry & Tyson, 2011).

In a nutshell, It is essential to explore a causal relationship between the e-HRM system and HRM effectiveness by highlighting the role of TMS and LMs in e-HRM application (Ruël et al., 2007). Regarding HRM effectiveness at the practice level, it is essential to determine in what way that HRM functions are executed. Different studies pointed out that the usefulness of HRM performance, implementation, quick response to employees' needs, and the high quality of services have the main role in the perception of HRM effectiveness (Guest & Peccei, 1994; Ruël et al., 2007). Furthermore, the adoption of the e-HRM system speeds-up business processing as well as decreases the ratio in information errors and increases the control of HRM procedures (Lengnick-Hall & Moritz, 2003, Lengnick-Hall et al., 2009). The novel, smart, digital perspective for HRM practices empower a strong HRM possession by all end-users (Bondarouk & Brewster, 2016). Thus, the following hypothesis can be formulated:

Hypothesis 4 (H4): The e-HRM SU has a positive effect on the effectiveness of the HRM system at the levels of philosophy, policy, and practice.

3.4.4.1. Association between e-HRM SU and the effectiveness of HRM's philosophy

The HRM's philosophy is generally related to strategic organizational outcomes such as organizational efficiency and effectiveness (Becker & Gerhart, 1996), as well as the alignment of strategic HRM with business strategy and the integration between those strategies towards the achievement of sustainable competitive advantage (Wright et al., 2001). HRM's strategy is the central part of business strategy success. The main goal of HRM strategy is to achieve the organizational objectives. Therefore, the organization's strategy appears in structural functions and practices through e-HRM implementation (Boxall & Purcell, 2000). In the same context,

Cristiani and Peiro (2015) mentioned that the HRM strategy focused on the alignment with organization policy and strategy by considering the anticipated impact which could lead to the achievement of better organizational performance.

Finally, HRM with its remarkable interwoven with e-HRM can influence the outcomes of the firm at different levels, and enhance HRM effectiveness, which will offer several benefits and added value to the organization (Stone & Dulebohn, 2013). Thus we propose the following hypothesis.

Hypothesis 4a (H4a): The usage of e-HRM SU has a positive effect on the effectiveness of HRM philosophy.

3.4.4.2. Relationship between e-HRM SU and HRM effectiveness at policy and program level

Previous studies propose the main intentions for e-HRM implementations including cost-saving, expansion in the HRM function effectiveness, and the achievement of strategic orientation for HRM system (Snell et al., 2001; Stanton & Coovert, 2004). HRM system strength could be considered as a set of procedure meta-features to send a message to employees regarding preferred and proper work behaviors (Bowen & Ostroff, 2004).

Thus, it is assessed that firm's performance is affected by individual performance through the procedures that are applied by the HR department and LMs (Armstrong, 2011). This recommends that LMs in the LMX context may act as a moderating mechanism, which influences the degree to which perceptions of employees of their supervisor role is transformed into constructive behaviors concerning their organization. Where HRM system at the policy and program level is considered effective, once there is reliability and consistency of HRM policy (Guest & Peccei, 1994; Lepak et al., (2004). Though, the e-HRM SU itself has no impact on the adoption of definite HRM policy. However, the e-HRM SU enables employees and managers themselves to realize the HRM policy by using the system and practicing its functions.

According to Bowen and Ostroff (2004), the HRM system sends messages and signals to end-users, which lets them comprehend the preferred behavior, and in turn, frames a collective sense of what is anticipated from their side. Once the sent HRM system's signals are perceived as strong and firm, at that moment, the HRM system could be deliberated strong too. That depends on the perception of HRM system signals in terms of its consistency, distinctiveness, and consensus. For that, HRM system messages could be perceived as highly distinctiveness in a situation where system' structures are permitted to be understandable for attracting attention and arousing interest, while consistency is related to the forming of a reliable effect over time and constant modalities, and consensus of the HRM system functions focuses on the situation where there are agreement and harmony among employees' judgment regarding the event-effect relationship.

Accordingly, HRM effectiveness will be mainly concerned with the efficiency of HRM policies and practices levels (Demo et al., 2012). The factors that impact the effectiveness of HRM policy will include the uniqueness, reliability, and consensus of HRM. Furthermore, the effectiveness of the HRM system at the practical level will focus on three factors: response to employees' needs, perceived service quality, and user-friendliness of the system (Bowen & Ostroff, 2004). Therefore, from these pieces of evidence, the following Hypothesis can be developed:

Hypothesis 4b (H4b): The e-HRM SU has a positive effect on the effectiveness of HRM policy and program level.

3.4.4.3. The link between e-HRM SU and the effectiveness of the HRM practice

The e-HRM functions and components are considered the major part in HRM system due to the expectation of several significant outcomes that can be generated from e-HRM implementation at the practice level, for example (i) better HR service, (ii) reduced managerial burden, (iii) alignment of HRM with organizational strategy as a strategic partner (Bondarouk & Ruël, 2013; Marler & Fisher, 2013), and HRM actual value creation (Ruël & Kaap, 2012). The main advantage of e-HRM system applications is related to

the simplicity and speed of accessibility regardless of the place and time, and the ability to have accurate HR systems and information. Moreover, e-HRM applications will offer the opportunity to the HR department to monitor the supervisor's functions and to assure the tendency for fair performance evaluations (Kavanagh et al., 2012).

MSS applications will offer access to several HRM practices and information required for the decision making in HRM-related tasks (Gueutal, 2003). Additionally, ESS is another important goal that enables the organizations to meet the HRM necessities in synchronization with organizational strategy. Both of LMs and employees will be able to accomplish part of the HRM functions through e-HRM self-service without HR professional direct involvement through ESS and MSS applications (Lengnick-Hall & Moritz, 2003). The e-HRM system would enhance the employee's performance through an effective rewards system, which is the central part of the motivation. Additionally, incentives will encourage employees to integrate their own goals and behavior with the organizational goals and business strategy (Dobre, 2013). HRM practices as appraisal, rewards, and incentives system will reveal the values and part of the organization culture which are correlated with employees' attitudes and behaviors.

Guest (2002) found that employees' positive behaviors and well-being were correlated significantly with employees' involvement, training and development, teamwork, and communication that HRM practices emphasized. In the same context, Bowen and Ostroff (2004) indicated that RBV had driven the work on how several HRM practices could contribute to organizational performance by raising the human capital, preferred behaviors, and attitudes (Becker & Gerhart, 1996). Moreover, Byremo (2015) discussed RBV, and other theories, such as SET, within the context of HRM-related systems.

The level of HRM practice is believed to entail numerously coherent and supports HRM practices. This assumed association between HRM and the firm's performance has received great attention from empirical research. Likewise, organizations necessitate maintaining sustainability via stressing

financial policy, business innovation involvement, e-HRM users' satisfaction, and HR staff support to enhance HRM effectiveness at the practice level. Thus the following hypothesis can be developed:

Hypothesis 4c (H4c): The e-HRM SU has a significant effect on HRM effectiveness at the practice level.

3.4.5. Relationship between e-HRM SU and organizational outcomes

Drawing upon OST and specifically POS; employees are enthusiastic to consider the support they perceived by presenting realistic relations with their organization and managers (Rhoades & Eisenberger, 2002), promotion of employees' desire for active commitment, and augment their satisfaction (Eisenberger et al., 2014). This entails concentrating on the organizational atmospheres and technology changes that took place in the organizations (Bondarouk, 2014), emphasizing and realizing the effect of e-HRM system construction based on digital and web-page HRM (Strohmeier & Kabst, 2009).

(Ruël et al., 2007) argued that there are four types of possibilities that enable HRM and e-HRM functions and activities to achieve their overall objectives. Firstly, the high commitment which entails that the employees have the required motivation to interact with the manager regarding the changes that take place in the organizational environment. Secondly, high competence is related to the state of the trustful relationship between employees and administration. Thirdly, the rate of employees' turnover and the level of effectiveness are both referred to as the matter of cost-effectiveness. Fourthly, the higher congruence that is interrelated to the internal organization, as the compensation system and reward of staff. These mentioned issues ought to be controlled according to the interests of stakeholders. Based on that, the results will appear if both employees and other parties have the intent to be influenced by e-HRM in line with the well-defined objectives.

The organizational consequences, for instance, ES and OC are estimated to be the main concern for strategic HRM. Employees and job satisfaction, rate

of absenteeism, and employees' active commitment, as well as the financial and visible market indicators, are the base for organizational outcomes evaluation (Guest, 2011). Organizational performance is considered an essential issue to be assessed through different factors related to the sequences of the HRM system (Cania, 2014). For that, it is essential to investigate the type and nature of the process that is linking e-HRM SU and the outcomes of the firm. Consistently, organizational outcomes will lead to a better highlight on the employees' perception of HRM functions and practices (Guest, 2011). Thus we can propose the following hypotheses:

Hypothesis 5 (H5): e-HRM SU has a positive influence on the organizational outcomes (ES and OC).

Hypothesis 5a (H5a): e-HRM SU has a significant influence on the ES.

Hypothesis 5b (H5b): e-HRM SU has a significant influence on the OC.

3.4.6. Relationship between e-HRM SU and POS

Employees will repay POS by demonstrating satisfactory LMX relationships with managers as a result of positive treatment. Employees' perception of the organization's appreciation of their efforts and well-being will encourage them to reciprocate positively (Rhoades & Eisenberger, 2002). Meanwhile, in extraordinary LMX relationships, employees trust their managers, and as a result, they construe the meaning and intent of organization initiatives in a positive way. Consequently, individuals might direct most of their efforts and capabilities into presenting positive organizational behavior.

The consistent role of LMs can lead to a better HRM system effectiveness and a firm performance where the changes in an HRM procedure are estimated to progress successfully (Bondarouk et al., 2009). It is assumed that employees will perceive and appreciate a greater deal of HRM practices once they have a distinguished relationship with their LMs where LMs are stimulated to implement HRM practices. Consecutively, LMs will intent to reciprocate the support perceived by HR professionals with more enthusiasm

to use HRM practices (Bos-Nehles & Meijerink, 2018). That process of reciprocal support is accomplished through e-HRM interactions as a modem for the realization of HRM practices and activities at a different organizational level. Drawing on SET, POS, and LMX notions, the following Hypothesis can be developed:

Hypothesis 6 (H6): e-HRM system (SU) has a positive impact on POS.

3.4.7. Relationship between POS and organizational outcomes

As discussed earlier, POS concerns about employees' beliefs regarding the scope to which their organization appreciates and values their efforts and considers their well-being (Rhoades & Eisenberger, 2002) in the context of OST and SET. The perceptions evolving from POS subsequently arouse the positive attitudes, most notably affective OC (Eisenberger & Stinglhamber, 2011). Undoubtedly, employees who perceived a high level of POS are expected to show better effort on behalf of their organization (Kurtessis et al., 2017). At the same perspective, OST and POS entail the necessity for meeting the socio-emotional prerequisites and assure the organization's readiness to incentive augmented efforts. Accordingly, employees will develop a common belief relating to the range to which their extended contributions and efforts are appreciated by their organization (Eisenberger et al., 2014).

POS can lead to improve employees' well-being and enhance organizational outcomes. For that, the main focus is on the possible positive exchange relationships within the organization. The general outcomes of e-HRM functions which are mainly cost-effective, commitment to the organization, job satisfaction, and POS. Accordingly, e-HRM outcomes will support achieving a kind of desired competitive advantage (Mathur, 2015).

It is estimated that e-HRM enables staff and employees to practice several HRM system functions and is related activities through the frequent and actual usage of e-HRM technology. It also communicates constant messages regarding the preferred behaviors that are related to employees' benefits (Bissola & Imperatori, 2014). Moreover, it will provide knowledge regarding

the internal reliability of HRM practices that are perceived through the HR role of LMs. For instance, the e-HRM system enables employees to reach the required information concerning rewards and performance appraisal (Lengnick-Hall et al., 2009). HRM implementation in the perspective of SET is considered a social exchange process that rests on the manner of social exchange relationships among both of LMs, HR staff, and employees (Bos-Nehles & Meijerink, 2018). Additionally, organization commitment and job satisfaction are part of POS consequences (Eisenberger et al., 2014), as employees won't look for another firm to work for or change their occupations. Based on the previous debate, the following hypotheses can be formulated:

Hypothesis H7 (H7): POS will have a positive influence on employees' ES and OC.

Hypothesis H7a (H7a): POS will have a positive influence on ES.

Hypothesis H7b (H7b): POS will have a positive influence on OC.

3.4.8. Relationship between e-HRM SU, POS and employees' outcomes

Drawing upon the previous debate, Marler (2009) found significant associations between the organizational support and employee's attitude to using newly implemented applications with an improved understanding of attitude and behavior through the ESS tools. However, Alfes et al., (2013) argue that organizational support could be better regarded as a moderator or a predictor in the assessment of the link between employees'- outcomes and HRM, instead of being regarded as a mediator. Even though, POS could be assessed if it will have a mediating role in the link between e-HRM SU and OC.

At that same debated relationship, LMs also play a vital role in e-HRM activities as an integral element of the HRM-performance "causal chain or so-called HRM black box" that linked the inputs of HRM policy to firm's performance and organizational outcomes. This causal chain starts from the intended practices to actual practices that formulate the employees'

perceptions of HRM practices. Consequently, HRM practices could impact employees' attitudes and improve their performance in ways that are advantageous to the organization (Purcell & Hutchinson, 2007, p. 3).

In the same context, POS of employees and managers concerning their organization served as similar reciprocal actions (Eisenberger & Stinglhamber, 2011). In addition to their perception of LMX in the context of organizational behavior (Dulebohn et al., 2012). Employees' willingness to appreciate the perceived support by showing reasonable relationships with managers and top managers (Rhoades & Eisenberger, 2002), promoting their commitment and enhance satisfaction (Eisenberger et al., 2014). This requires focusing on the organizational environments and technology changes (Bondarouk, 2014), and exploring e-HRM configuration (Strohmeier & Kabst, 2009). Meanwhile, the main HRM implication leads to improve employees' satisfaction, as well as LMs, where e-HRM is associated with better productivity and retention (Marler & Fisher, 2013). Consequently, that will encourage employees to accept the changes and take part in innovation (Eisenberger et al., 2014).

Employees' readiness to pay back the support that they received from their organization and mangers by developing satisfactory relationships with supervisors and top managers may rely on the prospect that employees will repay this favorable treatment. Where employees sense that the organization values their contribution and prioritizes employees' well-being, they, in turn, will demonstrate positive behavioral attitudes and actions (Rhoades & Eisenberger, 2002), reducing the withdrawal and enhance ES. Additionally, lessening withdrawal behavior in terms of OC may be realized as a constructive way to pay back for the POS. POS is interrelated to the reduction of withdrawal behavior in addition to an increase in firm performance (Eisenberger et al., 2014). Accordingly, the following hypothesis can be proposed:

Hypothesis 8 (H8): The link between e-HRM SU and organizational outcomes (ES and OC) is mediated by POS.

Hypothesis 8a (H8a): The link between e-HRM SU and ES is mediated by POS.

The link between employees' perceptions of POS and HRM bundles within e-HRM usage can be explained through SET perspectives. Meanwhile, SET relies on the norms of reciprocity relationships that regulate the span of control in the organization. It is claimed that employees who perceived the presence of distinguished support and got welfares from their organization will be grateful to respond in positive behavior and action (Rhoades & Eisenberger, 2002). For that, HRM practices may be in terms of the e-HRM system regarded as signaling intent for sustainable investment in human capital. SET could be operationalized for predicting three consequences of HRM practices including OC, motivation, and willingness to remain within the organization (Gould-Williams & Davies, 2005). Thus, consistent with SET perspectives and POS concepts, the positive social exchange relationships will lead to enhance positive attitude and behavior, in contrast, negative social exchange relationships will lead to increased work stress, low-level motivation, and a greater tendency to job-turnover (Gould-williams, 2007).

In a nutshell, the general outcomes of those functions are mainly the cost-effective, commitment to the organization, job satisfaction, and POS that will lead to achieving a sustainable competitive advantage (Mathur, 2015). Employees will repay POS by demonstrating satisfactory LMX relationships with managers, as a result of positive treatment. Employees' perception of the organization's appreciation of their efforts and well-being will encourage them to reciprocate positively (Rhoades & Eisenberger, 2002). Additionally, organization commitment and job satisfaction are part of POS consequences (Eisenberger et al., 2014), as employees won't look for another firm to work for or change their occupations. The hypothesis developed from this point is:

Hypothesis 8b (H8b): The link between e-HRM SU and OC is mediated POS.

3.5. Summary

This chapter emphasized the conceptualization of the relationships between the factors that were predicting the e-HRM system implementation and the actual usage of the system. In addition to the proposed impact and estimated contribution in HRM effectiveness at different levels, the role of POS as a mediator that was linking the e-HRM system with organizational outcomes in terms of the firm's performance was also discussed.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.1. Introduction

This chapter introduces the research methodology and philosophy, the research design, data collection, population, and sampling. It explains the questionnaire administration and the sources of the scales to meet the objectives of this thesis. It is worth to mention, the difference between the research methodology and research methods. The research methodology is the systematic scientific approach that explains how the research will be conducted whereas research methods are related to the data collection, analysis.

This research follows a systematic approach for data collection and analysis in addition to the interpretation of the findings to produce new knowledge and answer the research questions (Saunders et al., 2016). The research onion Figure 13 explains the research approaches.

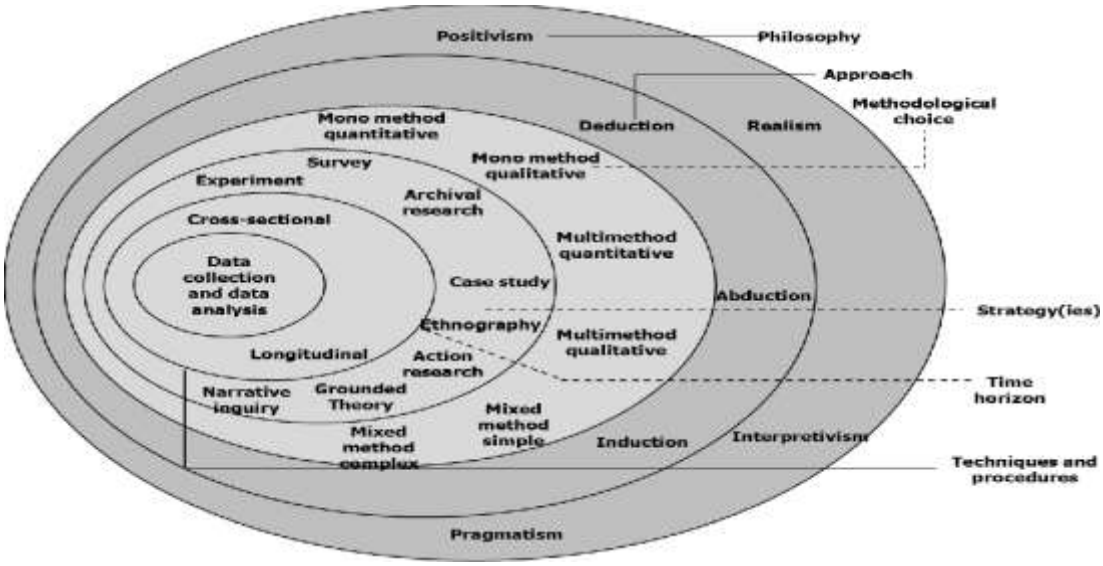


Figure 13: The research Onion

Source: (Saunders et al., 2016, p. 124)

4.2. Research Philosophies

It is essential to understand the research philosophies and approaches prior to formulating the research design. There is an agreement about the research philosophies that are considered as the enablers that direct and guide the researcher to conduct the study. The research philosophy “refers to a system of beliefs and assumptions about the development of knowledge” (Saunders, Thornhill, & Lewis, 2016, p.124).

The research philosophy helps the researcher to conduct his research, to determine the type of required data, and how to be collected and interpreted to answer the research questions and reach the research objectives. Researchers have to understand philosophical assumptions before starting the research project. Researchers must be aware of research philosophies to be able to adopt the proper research design and focus on the required evidence that can answer the primary research questions (Easterby-Smith, Thorpe, & Jackson, 2012; Saunders et al., 2016).

Research is usually a multi-purpose and the research’s philosophical background is merged by a mixture of diverse paradigms (Saunders et al., 2016). Research philosophy may appear in the literature and textbooks under different expressions, for instance, research paradigm, epistemology and ontology, and worldviews (Creswell, 2009). Accordingly, the research philosophies are related to different philosophical assumptions which are epistemological assumptions, ontological assumptions, and ontological assumptions. Where the epistemological assumptions are related to human knowledge, the ontological assumptions are about the realities in the research environment and the axiological assumptions that are related to the extent to which the researcher’s values impact the research producers. These philosophical assumptions certainly form how we understand our research questions, and how the findings are interpreted (Saunders et al., 2016).

According to Saunders et al., (2016) each type of philosophical assumption has a particular set of questions in addition to the objectivism and

subjectivism aspects. Table 3 shows the types of philosophical assumptions in detail.

Table 3: Philosophical assumptions

Source: Adopted from Saunders et al., (2016, p.129)

Assumption type	Questions	Continua with two sets of extremes		
		Objectivism	⇔	Subjectivism
Ontology	• What is the nature of reality? • What is the world like? • For example: – What are organisations like? – What is it like being in organisations? – What is it like being a manager or being managed?	Real External One true reality (universalism) Granular (things) Order	⇔ ⇔ ⇔ ⇔ ⇔	Nominal/decided by convention Socially constructed Multiple realities (relativism) Flowing (processes) Chaos
Epistemology	• How can we know what we know? • What is considered acceptable knowledge? • What constitutes good-quality data? • What kinds of contribution to knowledge can be made?	Adopt assumptions of the natural scientist Facts Numbers Observable phenomena Law-like generalisations	⇔ ⇔ ⇔ ⇔ ⇔	Adopt the assumptions of the arts and humanities Opinions Narratives Attributed meanings Individuals and contexts, specifics
Axiology	• What is the role of values in research? How should we treat our own values when we do research? • How should we deal with the values of research participants?	Value-free Detachment	⇔ ⇔	Value-bound Integral and reflexive

Ontology and epistemology are two key ways of thinking about research philosophy. According to (Saunders et al., 2016), each one of these ways of thinking about research philosophies causes important differences, influencing the way of thinking according to the research process. Epistemology is the “theory about the nature of knowledge or how we come to know”, questions such as “What exists?”, “What is knowledge?”, and “How do we acquire knowledge?”, on the other hand, ontology is “the philosophical study of what can be said to exist” what we can discover by research (Sekaran & Bougie, 2016, p.28).

Epistemology focuses on: “How can we know what we know? What is considered acceptable knowledge? What constitutes good-quality data? And,

what kinds of contribution to knowledge can be made?", whereas, ontology main concerns are: "what is the nature of reality? What is the world like? For example: What are organizations like? What is it like being in organizations? What is it like being a manager or being managed?" (Saunders et al., 2016, p. 129).

The major philosophies that are applied in business and management research include: "positivism, critical realism, interpretivism, postmodernism, and pragmatism". The main focus is on positivism which is considered "the philosophical stance of the natural scientist and entails working with an observable social reality to produce law-like generalizations" (Saunders et al., 2016, p.135). Table 4 shows the positivism in philosophical assumptions, where this focuses on epistemology in terms of measurable facts, causal explanation, and acceptable knowledge as the main contribution.

Table 4: The research philosophy of positivism

Source: Adopted from Saunders et al., (2016, p.136)

Ontology (nature of reality or being)	**Epistemology** (what constitutes acceptable knowledge)	**Axiology** (role of values)	**Typical methods**
	Positivism		
Real, external, independent One true reality (universalism) Granular (things) Ordered	Scientific method Observable and measurable facts Law-like generalisations Numbers Causal explanation and prediction as contribution	Value-free research Researcher is detached, neutral and independent of what is researched Researcher maintains objective stance	Typically deductive, highly structured, large samples, measurement, typically quantitative methods of analysis, but a range of data can be analysed

The quantitative research is usually linked with positivism, particularly with prearranged structured data collection procedures. The mono quantitative research may rely on a single source for data collection such as a questionnaire, and consistent quantitative analytical technique (Saunders et al., 2016).

In conclusion, epistemology relies on the relationship between the researcher and the reality. Meanwhile, ontology is deliberated as the reality to be explored. Reality is considered as objective and absolute but the social

constructs reliant on subjective interests. Additionally, axiology's main concern is the role of the values. These assumptions are related to the research philosophies.

4.3. Research Design

This study is based on a quantitative approach. This type of quantitative research supports the proposed hypotheses related to the basic source of knowledge, which is, epistemology. In the context of the research objectives, this study is viewed as an exploratory investigation that aims to generate new information and testing the available data (Saunders et al., 2016). The main assumption overdue the positivist approach is determined by objectives that are exterior to the social variables that can be shown through the scientific method where the concentration is on measuring the links and the proposed relationships between the set of variables in a systematic way (Sekaran & Bougie, 2016).

This study aims to explore the relationship between e-HRM SU and the effectiveness of HRM system at the philosophical, political, and practical levels in addition to POS and the organizational outcomes. There is a shred of limited empirical evidence regarding the e-HRM performance from the developing country context (Bondarouk et al., 2016).

The main philosophical support for e-HRM is the positivism and deduction approach. The reasoning for selecting mainly a positivist methodology is related to the main objectives of the study, the nature of the research problem, and questions. Furthermore, most of the e-HRM studies required obtaining numerical data, thus, positivism is suitable for the nature and aims of e-HRM researches.

Positivism includes using hypotheses, surveys, and quantitative data for theories verification. Correspondingly, in terms of the e-HRM research field, positivism can be considered beneficial, for instance, it has a large sample size and better validity with more representative of the study’s population.

To sum up, the positivism pattern is a quantitative, scientific, objectivist, and experimental approach. The generated knowledge will be beneficial for academics and professionals. Briefly, the goal of conducting research is the creation of new knowledge and the advancement of science by applying systematic approaches and scientific procedures of investigation towards reaching logical conclusions.

4.4. Research Population

The targeted population of this study consists of LMs who are using the e-HRM system in the telecommunication sector in Jordan. Based on annual reports of the three companies (2018) the total number of employees in the Telecommunication sector using the e-HRM system is about 2500 users (Zain Jordan, 2020; Orange Jordan, 2018; Umniah, 2020). Accordingly, 460 LMs were considered a convenience sample size for this research at a 95% confidence level, where 357 sample size is the minimum size required from the targeted population less than 5 thousand (Saunders et al., 2016, p.281; Sekaran & Bougie, 2016). 306 (66.5%) answered the surveys. The 138 of 200 surveys were received from Umniah Company while 168 of 260 surveys were received from Orange Company.

Stratified random sampling was used to obtain an appropriate number of users and the sample size met the conditions required for the proposed framework and the partial least squared – structural equation modeling (PLS-SEM) analysis.

4.5. Data Collection

Self-Administrated surveys in the form of the questionnaires were distributed and collected from the LMs in two telecommunication companies (Orange and Umniah).

The companies were communicated for the arrangement of data collection. The survey presents the aims of the study and encouraged the participants to complete the survey; assuring that participation in the study is voluntary the identity and personal information will not be revealed in any way to third

parties. The information provided by you will be used only for research purposes (Near East University in North Cyprus) and not for any commercial activity. It may be presented at national/international academic meetings and/or publications. Stressing that confidentiality of the information provided will be ensured also.

4.6. Measurement Instruments

The e-HRM implementation and employees' perception of HRM effectiveness literature were the major sources for the conceptualization and operationalization of the study's scales. The initial instruments went through several stages of testing and were refined according to the feedback from several specialists. Appendix A displays the survey instruments, that is consisting of 55 items that evaluate the constructs that are predicting e-HRM usage (TMS, OCM, and the role of HR staff) as well as the effectiveness of HRM's philosophy, policy, and practices. Additionally, the organizational outcomes include OC and ES variables in link with POS were also operationalized.

Using A 7-point Likert-type scale offers greater accuracy, starting from 1= low completely disagree, till 7= completely agree. It was adopted to fit the research as the base meets the features and framework of the e-HRM system and related outcomes. Moreover, all factors in the survey that are needed to measure variables in this study were adopted from relevant published scales. The appropriate procedures were applied to avoid possible bias in the gathered information. The questionnaire was prepared to cover the variables in the theoretical framework; the source of constructs' factors as follows:

i. The factors related to the e-HRM usage were adapted from the UTAUT questionnaire, which has been developed and validated by Venkatesh et al., (2003) and adopted by Maatman (2006) It was implemented to fit the research with permissions from both of the authors and the publisher.

ii. The role of the HR professionals was measured using scale items that Maatman (2006) adopted from Sander and Van der Ven (2004), and Ulrich (1997).

iii. The factors related to the measurement of the (TMS) were developed according to the Theory of transformational – transactional leadership proposed by Burns, (1978) and further were adopted and developed from Avolio and Bass, (2004). Part of the Multifactor leadership Questionnaire (MLQ) that has been developed by Avolio and Bass (2004) was adopted in order to fit the research questions. Moreover, part of TMS items was adapted from the questionnaire developed by Sila (2010).

iv. The factors related to the measurement of the OCM were adopted from Bouckenooghe, Devos, & Van Den Broeck, (2009) and the instruments developed by Boikhutso (2013) that related to the implementation of IS in organizations.

v. The factors related to the measurement of the Perceived effectiveness of HRM functions were adopted from Maatman (2006) who relied on the literature that was developed by Guest and Peccei (1994) and from Bowen and Ostroff (2004). The scales capture the HRM effectiveness at the philosophy, policy, and practice levels from end-users' perceptions and levels of satisfaction. They rely on the following levels:

a. "Perceived HRM effectiveness at the philosophy level", the alignment of HRM and business strategy, that was adapted from Guest and Peccei (1994) and Bowen and Ostroff (2004).

b. "Perceived HRM effectiveness at the policy level" was adapted also from Guest and Peccei (1994) and Bowen and Ostroff, (2004).

c. "Perceived HRM effectiveness at the practice level" was adapted from Bowen and Ostroff (2004).

vi. The factors related to the measurement of the POS were adapted from the scale developed by (Eisenberger et al., 1986) and (Eisenberger, Armeli, Rexwinkel, Lynch, & Rhoades, 2001).

vii. The factors related to the measurement of the OC were partly adapted from OC Questionnaire (OCQ) which is developed by Mowday, Steers, and Porter, (1979), with 3 main factors measured this commitment: the willingness to pay more efforts, the desire to remain in the organization, and finally the employees' acceptance of organizational values. Moreover, two extra factors are adapted from (Purcell & Hutchinson, 2007).

viii. The factors related to the measurement of the ES are part of the Minnesota Satisfaction Questionnaire (MSQ). In addition to extra items that are adapted from Purcell and Hutchinson (2007).

Table 5: Variables and sources

Variable	Sources
Top Management support (TMS)	Multifactor leadership questionnaire (MLQ) was developed by Avolio and Bass, (2004) and part from Sila (2010)
Organizational Change Management (OCM)	Boikhutso (2013; P 53-55) & (Bouckenooghe et al., 2009)
Role of the HR staff	Sander and Van der Ven (2004); Ulrich (1997); Maatman (2006)
e-HRM Usage	(Venkatesh et al., 2003) and Maatman (2006)
Effectiveness of HRM functions	Maatman (2006)
Perceived Organizational Support (POS)	(Eisenberger et al., 1986) & (Eisenberger et al., 2001)
Organizational commitment (OC)	(Mowday et al., 1979) and (Purcell & Hutchinson, 2007).
Employees' satisfaction (ES)	Minnesota Satisfaction Questionnaire (MSQ) and (Purcell & Hutchinson, 2007)

4.7. Pretesting of the Instruments

Before implementing the actual survey, an initial draft of the questionnaire was pre-tested by experts to find out if any ambiguities and

difficulties had not been noticed by the researcher. The questionnaire was examined for face and content validity.

4.8. Pilot Test

The instruments' content validity was confirmed through different stages of the research. Meanwhile, content validity was applied also to assess the ability of the scale to adequately measure the conceptualized constructs which are normally confirmed through the feedback and recommendation from specialists in business management. The questionnaire and the theoretical definitions were verified to be free from any problems. The survey was pre-tested carefully preceding the stage of data collection where 50 online questionnaires were completed for that purpose.

4.9. The technique of Data Analysis

The SmartPLS 3.2.8 software (Ringle, Wende, & Becker, 2015) has been used for PLS-SEM analysis. It's more proper for a complex model and exploratory research.

This research employed PLS-SEM analysis to examine the study's framework and the proposed hypotheses (Sarstedt, Ringle, Smith, Reams, & Hair, 2014). PLS-SEM became one of the main multivariate analysis approaches that are frequently used by several HRM researchers (Ringle, Sarstedt, Mitchell, & Gudergan, 2018). PLS-SEM approach is presently extensively used in varieties of social science-related disciplines, for instance; organizational behavior, HRM, MIS, strategic management, and varieties of research domains in scholarly journals (Hair, Risher, Sarstedt, & Ringle, 2019; Al-emran, Mezhuyev, & Kamaludin, 2019).

Smart PLS 3.2.8 software (Ringle, Wende, & Becker, 2015) bases on PLS-SEM is applied for the evaluation of both measurement (outer) model and structural (inner) model in business research and has become a key approach for validating the conceptual models in IS researches (Al-emran, Mezhuyev, & Kamaludin, 2018). Smart PLS is considered one of the best

tools for PLS-SEM that has been used in more than 1000 published papers (Ringle, et al., 2015).
Furthermore, Ringle, Sarstedt, and Straub, (2012) examined the usage of PLS-SEM in the MIS Quarterly (MISQ) and the “Industrial Management and Data Systems” (IMDS) journals. IMDS published 58 studies using the PLS-SEM method versus 34 studies by MISQ.

In the SEM approach, there are two major methods: the first is the covariance-based (CB-SEM) (Jöreskog, 1971; Jöreskog & Wold, 1982) and the second is the variance-based (VB) partial least squares (PLS-SEM); through which latent variables joint several dependent constructs (Hair, Sarstedt, Ringle, & Mena, 2012).

The CB-SEM is usually executed by using LISREL or AMOS software, that runs the data covariance matrix and parameters of the model, is estimated by considering the common variance, whereas, PLS-SEM considered the variance-based, measures the entire variance, and uses it in parameters estimation (Rigdon, Sarstedt, & Ringle, 2017; Hair et al., 2019).

The second is the variance-based VB, where the primary application of the PLS-SEM method empowers researchers to evaluate complex models that include several constructs and structural paths. More prominently, the PLS-SEM predicts the causality which emphasizes prediction in estimating statistical models (Hair, Sarstedt, & Ringle, 2019; Ringle, et al., 2015). While CB-SEM is also advantageous for studies that are grounded on well-established theory, PLS-SEM is useful when the research objective is exploratory or prediction based on the result of the total variance (Hair, Hollingsworth, Randolph, & Chong, 2017).

The new development to PLS-SEM is the consistent PLS (PLSc) technique where the obtained results are the same as in CB-SEM. The thesis proposed model is exploratory and complex with many indicators. Thus, PLS-SEM is very appropriate for this study (Gefen et al., 2011; Hair et al., 2017) as shown below in Table 5 that compares PLS-SEM to CB-SEM; which are considered as “rules of thumb for choosing SEM method”. The upgrades and developments of PLS-SEM methods “including continuous moderators

extended its analysis capabilities beyond CB-SEM" (Hair et al., 2017, p.443-444).

Table 6: Comparison PLS-SEM to CB-SEM

Source: (Hair et al., 2017, p.444)

PLS-SEM	CB-SEM
1. The research objective is exploratory or confirmation of theory based on total variance.	**1. The research objective is confirmation of well-developed structural and measurement theory based on common variance.**
2. The objective of the analysis is prediction.	**2. The measurement philosophy is estimation with the common factor model using only the common variance (covariances).**
3. The measurement philosophy is estimation with the composite factor model using total variance	**3. The research requires a global Goodness-of-fit criterion.**
4. The research objective is to explain the relationships between exogenous and endogenous constructs.	**4. The error terms require an additional specification, such as covariation.**
5. The structural and/or measurement models are complex (many constructs that are 6+ and many Indicators 50+).	**5. The structural model specifies non-recursive relationships.**
6. Formatively measured constructs are specified in the research	**6. The structural and/or measurement models are simple (5 or fewer constructs and 50 or fewer indicators).**
7. The preferred method when the sample size is small (no.100). But PLS is also an excellent method for larger samples. 8. The data are not normally distributed 9. The scaling of responses is ordinal or nominal.	

Hair, Ringle, and Sarstedt (2011) in their work "PLS-SEM: Indeed a Silver Bullet" state that SEM has turned into a "quasi-standard" for analyzing the relationships between latent constructs in terms of cause-effect in the marketing and management. Additionally, for many academics, SEM is, to a wide extent, equivalent to functioning CB-SEM. If PLS-SEM is properly applied, it will certainly be a "silver bullet" for assessing the causality in various theoretical frameworks and empirical research (p. 139).

Using PLS-SEM is highly accepted as an alternative to the CB-SEM approach (Jorg Henseler, Ringle, & Sinkovics, 2009). Moreover, PLS-SEM

has extensive improvements including confirmatory analysis, impact-performance matrix analysis, moderating, and mediating effects (Hair et al., 2012; Ringle et al., 2018).

SmartPLS software has a new development which is known as a consistent PLS (PLSc) method (Dijkstra & Henseler, 2015). The PLSc approach adjusts PLS-SEM results to match the common factor model of CB-SEM. Even though PLS-SEM is based on the total variance, and CB-SEM is based only on common variance with different algorithms (Hair, Ringle, & Sarstedt, 2016). For that, PLS-SEM research has moved the debate beyond the issue of the CB-SEM vs. PLS-SEM, thereby forming PLS-SEM as a distinctive method for composite-based path models' analysis (Hair et al., 2019). PLS-SEM is a causal modeling method intended to maximize the explained variance (R square) of the latent variables. This is different from the CB-SEM's aim that reproduces a covariance matrix, without concentrating on the issue of explained variance (Hair et al., 2011).

In this research, SmartPLS 3.2.8 software is applied for analyzing all measures. It is worth mentioning that PLS-SEM didn't have global goodness of fit criterion as AMOS SPSS (Chi-square, df, p-value, RMSEA, SRMR, and comparative fit index "CFI") according to Hair et al., (2019). PLS-SEM fit indices suggested that Standardized Root Mean square Residual (SRMR) < 0.08 and Normed Fit Index (NFI) above 0.8. These indices offer rigorous signs of model fitness. Consequently, factor analysis for the measurement model including all variables was conducted. The results provide evidence of a good model fit (SRMR= 0.052, NFI=.905). Next, the reliability, convergent, and discriminant validity of each scale in the model were tested.

4.10. Summary

This chapter explains the methodology employed in this thesis. Principally, it justifies the chosen of a specific method, the adopted procedure for data collection, and data analysis. It correspondingly presents the sources of the survey instruments that fit the proposed model and hypotheses.

CHAPTER FIVE

DATA ANALYSIS

5.1. Introduction

This chapter analyzes the data of this study and presents the results related to the importance of the e-HRM implementation in the Jordanian Telecommunication sector in line with research objectives and the aim of this research. It will cover an overview of PLS-SEM, present, and interpret the results for the evaluation of measurement and structural modes, the moderation, and mediation relationships to assess the study's framework and the proposed hypotheses.

A two-stage analytical procedure was adopted for PLS-SEM in order to assess the psychometric properties of the scales used in this study as shown in figure 14 Models' assessment below.

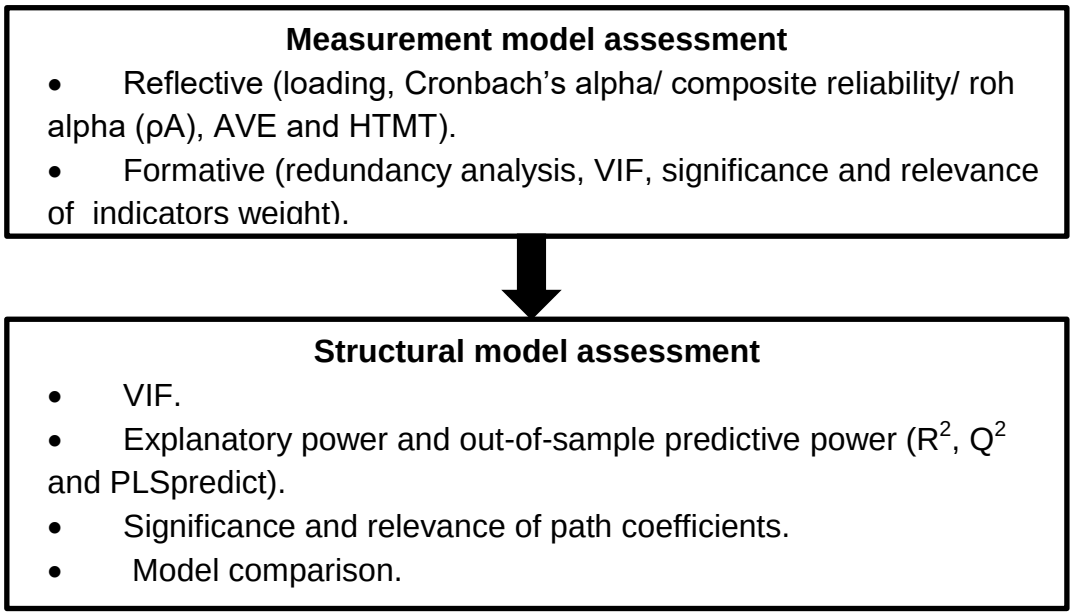


Figure 14: Models assessment.

Source: (Hair et al., 2019, p.4)

The first stage included testing the outer model (measurement model) particularly loading, the internal reliability, convergent, and discriminant validity (DV). Meanwhile, the inner model (structural model) and hypotheses were examined in the second stage. Thus, assessing the validity and reliability of the constructs is the critical process that precedes the evaluation of the proposed hypotheses (Hair et al., 2017). For that, the structural relationships and the suggested hypotheses are assessed in the second stage. The below sections describe each stage in detail.

5.2. Measurement Model

The assessment of the measurement models is the first step in evaluating the results of PLS-SEM analysis, which is composed of reflective constructs. To find out if the result of the measurement models will meet the cut-off criteria to move forward for the structural model assessment at the next stage.

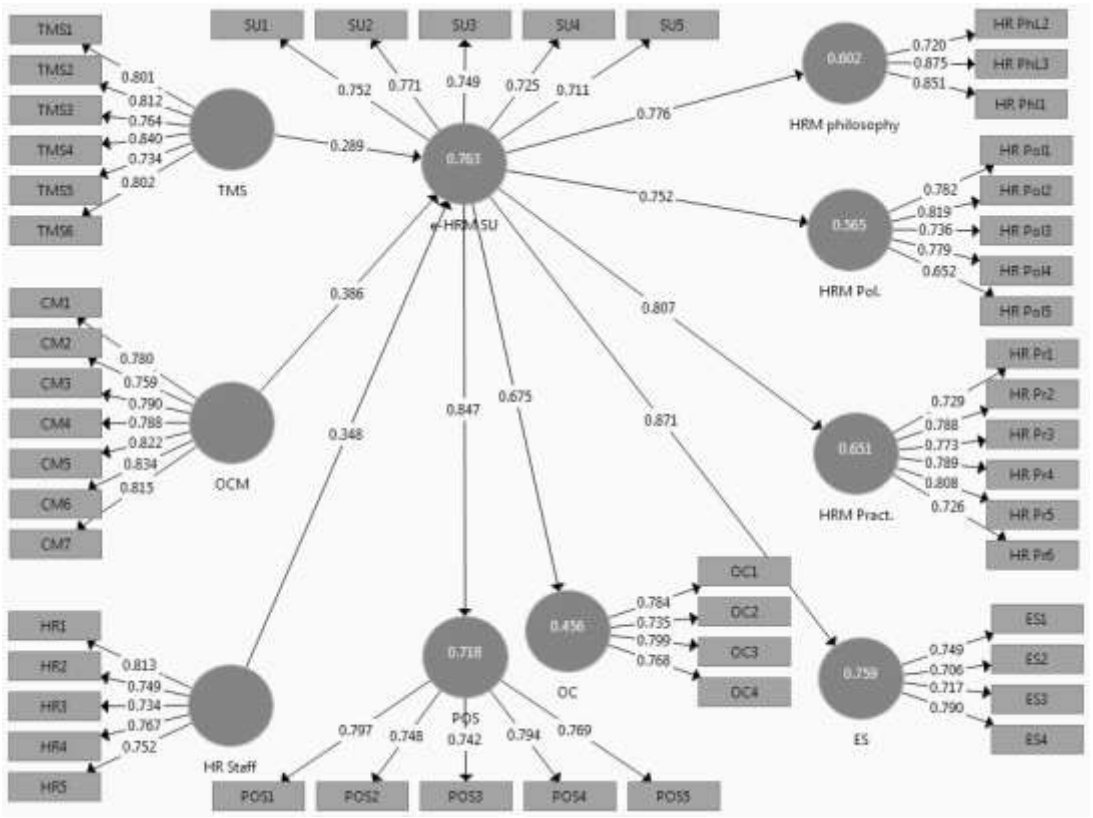
PLS-SEM follows comprehensive rules that recommend how the researcher can evaluate models and interpret the calculations, the same as most of the common statistical methods that typically vary according to the research context and types, for instance, the aim of the analysis as well data availability (Hair et al., 2017; Hair et al., 2019). The criteria for evaluation of the outer model are shown below in Table 5.

Table 7: The assessment of the measurement model (Outer model)
Source: (Hair et al., 2017, p.455; Hair et al., 2019, p.15)

Criterion	Criterion Rules of thumb
Significance of weights	Report t-values and p-values
Indicator loadings size	Standardized indicator loadings ⩾ 0.70
Construct reliability	Composite reliability ⩾ 0.70 (in exploratory research 0.60 to 0.70 is considered acceptable)
Convergent validity	AVE⩾ 0.5 and less than 0.7
Discriminant validity – HTMT	Values lower than 0.85 for conceptually distinct constructs and below 0.90 for conceptually similar constructs; confidence intervals should not include a value of 1

5.2.1. Indicators Loading

The first step for the assessment of the reflective measurement model requires evaluating the values of indicator loadings. It is recommended that factors loadings values to be above 0.708, since it indicates that these constructs can explain more than 50% of the indicator's variance, consequently, they are providing acceptable constructs (items) reliability (Hair et al., 2019). Figure 15 shows that all of the standardized indicator loadings are above or equal 0.70 except HR Pol5 (0.652) which could be accepted for the new model (Hair et al., 2019), even though HR Pol5 was dropped and CM7 was merged with another indicator.



TMS: top management support; **OCM:** Organizational change management; **HR Staff:** the role of HR professionals; **SU:** system usage; **POS**: Perceived organizational support; **HRM Phil.:** Effectiveness of HRM's philosophy; **HRM Pol.:** Effectiveness of HRM's policy; **HRM Pract.:** Effectiveness of HRM's practices; **OC**: Organizational commitment; **ES**: Employees' satisfaction.

Figure 15: Measurement (outer) model

5.2.2. Construct Reliability and Convergent validity

The second step in the assessment of the measurement model is assessing its internal reliability, typically using Jöreskog's (1971) composite reliability (CR), where the higher values of construct reliability are in general indicate the higher levels of composite reliability. For instance, the reliability values in exploratory research lay between the range of 0.60 and 0.70 will be considered as acceptable, where the values ranged from 0.70 to 0.90 are assessed to be satisfactory to good respectively (Hair, Risher, Sarstedt, & Ringle, 2018; Hair et al., 2019). Whereas, the reliability values exceeding 0.95 indicate the possibility of disagreeable response patterns. Another measure used for assessment of the internal consistency reliability is the Cronbach's alpha which assumes similar cut-off criteria (above 0.70) even it produces values lower than CR. Cronbach's alpha is considered a less accurate measure of reliability as the items are unweighted. Meanwhile, in CR, the items are weighted according to the loadings of construct indicators' individual, and accordingly, the reliability is higher than Cronbach's alpha. Though Cronbach's alpha might be seen as conservative, while CR may be assessed as liberal, and the construct's actual reliability is normally within these two values. Instead, Dijkstra and Henseler (2015) recommended roh alpha (ρA) as an alternative for the measurement of construct reliability, which usually lays between CR and the Cronbach's alpha. Henceforth, ρA can be assumed as a good compromise in case of considering that the model is correctly fit (Hair et al., 2019).

Reliability or internal consistency inspects the constancy of respondents' answers to a scale. Reliability was assessed through Cronbach's alpha and (CR) which are well-known criteria for this purpose. A block of items is considered homogenous if Cronbach's alpha is larger than 0.7 (Nunnally, 1978). A similar conclusion of internal consistency can be reached if (CR) value is also larger than 0.7 (Jöreskog, 1971). Thus, the measurement was examined through construct validity and reliability, using convergent and discriminant validities based on the results of (CR) and average variance extracted (AVE) values (Hair et al., 2017; Henseler et al., 2009).

After that, the internal consistency reliability was investigated via assuring that all values of Cronbach's α, ρA, and the CR are above 0.70 and less than 0.95 (Hair, Hult, Ringle, Sarstedt, & Thiele, 2017). Accordingly, all values of CR, AVE, and factor loadings have been used to evaluate the internal consistency and convergent validity (CV) according to (Hair et al., 2017; Hair, Black, Babin, & Anderson, 2010) criteria. The CV is the level of agreement between the set of items that converges together to measure a particular construct; that is evaluated according to AVE values. CV examines the extent to which individual items reflecting the same theoretical concept are interrelated in reality.

The values for AVE ought to be above 0.5 (Hair et al., 2010). Table 6 shows that the values of AVE ranged from 0.552 to 0.686 values suggesting a reasonable level of convergent validity of our scales and have exceeded the benchmark. Moreover, the obtained alpha values ranged from 0.832 to 0.915, the ρA values ranged from 0.832 to 0.915 which met the threshold value of 0.7 (Hair et al., 2018), we additionally used CR which assesses scales reliability based on unstandardized items estimates. The obtained CR ranged from 0.831 to 0.915 which is above the edge value of 0.70. This suggests a reasonable level of internal consistency of our scales.

Table 8: Reliability and convergent validity

	Cronbach's Alpha	rho_A	Composite Reliability	AVE
TMS	0.871	0.872	0.870	0.574
OCM	0.915	0.915	0.915	0.643
HR Staff	0.874	0.875	0.874	0.582
e-HRM SU	0.870	0.871	0.870	0.572
HRM philosophy	0.867	0.875	0.867	0.686
HRM Pol.	0.834	0.836	0.834	0.558
HRM Pract.	0.887	0.889	0.887	0.568
POS	0.870	0.871	0.869	0.571
ES	0.832	0.832	0.831	0.552
OC	0.843	0.844	0.843	0.573

5.2.3. Discriminant validity

Discriminant validity examines the extent to which a set of related items uniquely measures a particular construct and does not measure any other constructs in the model (Hair et al., 2014). Explicitly, the indicators

ought to have variances between each other larger than the variance with other variables. Accordingly, we concluded that the discriminant validity is satisfactory in our measurement model. Moreover, the assessment of the measurement model in Table 7 shows satisfactory internal consistency reliability as well as the CV in addition to DV (Ringle et al., 2015).

Table 9: Discriminant validity: Fornell-Larcker Criterion

	ES	**HRM Ph.**	**HRM Po.**	**HRM Pr.**	**HR Staff**	**Mod. Effect**	**OC**	**OCM**	**POS**	**TMS**	**SU**
ES	**0.804**										
HRM Ph.	0.744	**0.882**									
HRM Po.	0.560	0.487	**0.801**								
HRM Pr.	0.693	0.591	0.671	**0.800**							
HR Staff	0.790	0.684	0.475	0.700	**0.816**						
Mod. Effect	0.135	0.159	0.078	0.063	0.110						
OC	0.555	0.486	0.594	0.654	0.590	0.072	**0.825**				
OCM	0.718	0.483	0.482	0.676	0.598	0.085	0.494	**0.825**			
POS	0.743	0.609	0.702	0.752	0.612	0.108	0.635	0.672	**0.810**		
TMS	0.519	0.415	0.852	0.579	0.439	0.074	0.494	0.442	0.666	**0.813**	
e-HRM SU	0.765	0.669	0.621	0.695	0.666	0.140	0.566	0.697	0.739	0.568	**0.812**

5.3. Structural Model

After the measurement model assessment was found to be adequate and acceptable. The second stage in PLS-SEM is evaluating the structural models. As recommended by (Hair et al., 2019, p.11) the standard assessment criteria, which ought to be taken in account, includes "the coefficient of determination (R**-squared (**R^2**)**), the blindfolding-based cross-validated redundancy measure (Q^2), as well as the statistical significance and relevance of the path coefficients", R^2 values assessment are assessed according to the criteria in Table 8 (Hair et al., 2017, p.455).

The structural model composed of endogenous (inside) and exogenous (outside) constructs that are respectively equivalent to independent and dependent variables. The value and significance of path coefficients are normally the main issues in empirical research (Jörg Henseler, 2017).

Table 10: Structural model assessment

Source: (Hair et al., 2017, p.455; Hair et al., 2019, p.15)

Criterion	Criterion Rules of thumb
Significance of weights	Report t-values and p-values
Multicollinearity	Examine for VIF less than 5, ideally less than 3
Absolute vs relative indicator	Report indicator weights and loadings; assess significance contributions
R^2 value	Research context determines the acceptable level R^2 values of 0.75, 0.50, and 0.25 are considered substantial, moderate, and weak. R^2 values of 0.90 and higher are typically indicative of overfitting (Hair et al., 2017, p.455)
Effect size: f Square (f^2)	0.02, 0.15, 0.35 for weak, moderate, strong effects
Path coefficient estimates	Assess significance and confidence intervals
Predictive relevance Q^2 value and q2	Values larger than zero are meaningful Values higher than 0, 0.25 and 0.50 depict small, medium and large predictive accuracy of the PLS path model (Hair et al., 2019, p.15)

The causal relationships between variables will be tested in the structural model. Where the bootstrapping method with resampling (5,000 resamples) employed for the estimation of the statistical significance of the hypothesized framework (Hair et al., 2017).

Bootstrapping is considered as a nonparametric process that assesses the significance of outer weights, outer loadings, and path coefficients through estimating the standard errors. Consistent PLS (PLSc) bootstrapping performs the bootstrapping routine on the PLSc algorithm (Ringle, et al., 2015); Fig. 16 shows PLSc bootstrapping and T-statistic's results which are used in a T-test to determine if you should support or reject the hypothesis results.

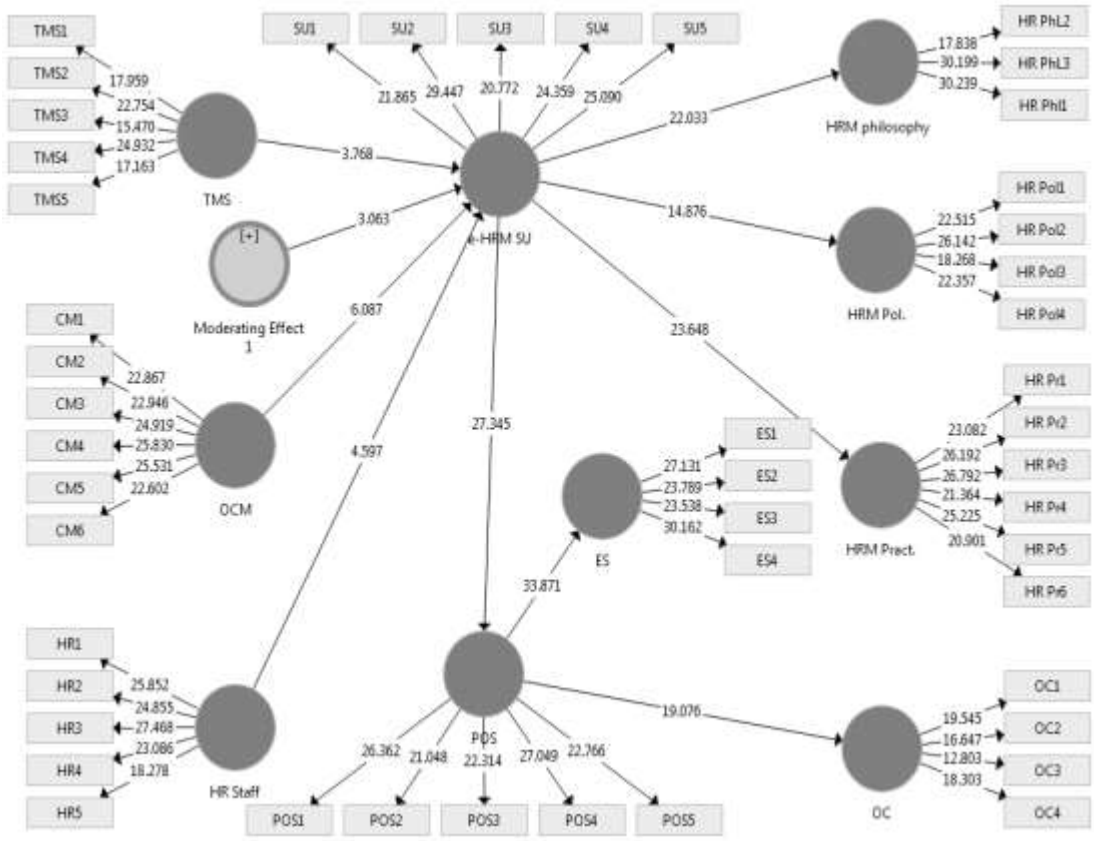


Figure 16: PLSc bootstrapping; T Statistics (|O/STDEV|)

5.3.1. Collinearity

The coefficients relationships between the constructs in the structural model are derived from a series of regression equations estimation. Accordingly, before evaluating the coefficients relationships, the collinearity ought to be tested to confirm that there is no bias at the regression results. In this procedure, the variance inflation factor (VIF) values are calculated by using the latent variable scores of the exogenous constructs. Thus, VIF values exceeding 5.0 are revealing the probability of collinearity issues amongst the predictor constructs, nevertheless, the collinearity problems may appear at VIF values ranged from 3.0 to 5.0. Idyllically, the VIF values close to 3 and lower are recommended (Hair et al., 2017).

In structural path analysis, the presence of multicollinearity would distort the empirical results. So, we assessed this issue before data analysis by estimating the VIF. All estimated VIFs were below the threshold value 3.0 except TMS6 which is 3.461 as shown in Table 9. Methodologists recommended removing one of the extremely correlated variables or merging

them into one variable (Kline, 2011). For that, we decided to remove it from the model instead of merging it with the highly correlated variables because we have sufficient numbers of factors to measure each variable. Accordingly, collinearity is not an issue in this analysis; proceeding to the next step for examining the R^2 value of the endogenous constructs.

Table 11: variance inflation factor (VIF)

Factor	VIF	Factor	VIF	Factor	VIF	Factor	VIF
CM1	2.554	HR1	1.944	HR Pol1	1.833	POS1	1.978
CM2	2.702	HR2	2.152	HR Pol2	1.949	POS2	1.818
CM3	2.052	HR3	2.021	HR Pol3	1.956	POS3	2.111
CM4	2.995	HR4	1.777	HR Pol4	2.064	POS4	2.104
CM5	2.944	HR5	2.136	HR Pol5	1.950	POS5	2.130
CM6	2.175	SU1	1.621	HR Pr1	2.131	ES1	1.630
CM7	2.012	SU2	2.684	HR Pr2	2.409	ES2	1.738
TMS1	1.679	SU3	2.487	HR Pr3	2.112	ES3	1.661
TMS2	2.678	SU4	1.946	HR Pr4	2.173	ES4	1.768
TMS3	2.116	SU5	1.913	HR Pr5	1.930	OC1	2.419
TMS4	1.954	HR Phl1	2.033	HR Pr6	1.808	OC2	2.251
TMS5	2.484	HR PhL2	2.182			OC3	1.874
TMS6	3.461	HR PhL3	2.280			OC4	1.558

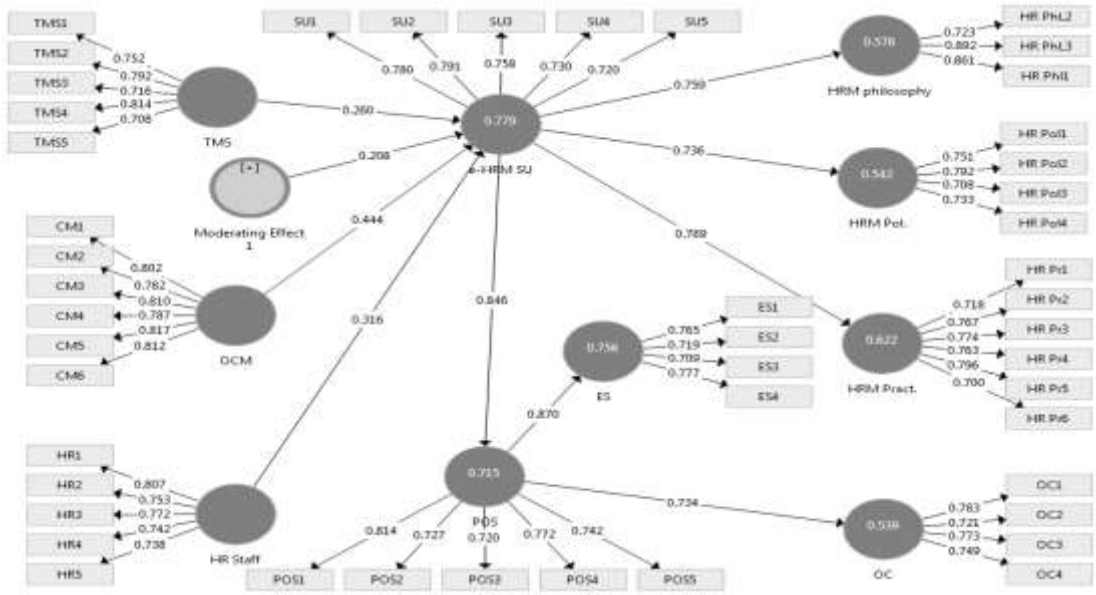
5.3.2. Coefficient of determination (R^2)

The R^2 is the measurements of the variance that is explained in each of the (endogenous) dependent variables, and it evaluates the explanatory power of the model (Shmueli & Koppius, 2011), it is used to assess the predictive validity of the model or as in-sample predictive power (Rigdon et al., 2017).

The R^2 with higher values ranges from 0.0 to 1.0 is indicating a higher explanatory power. Where the R^2 value of 0.75 is considered substantial, 0.50 is moderate, and 0.25 is weak (Hair, Sarstedt, Pieper, & Ringle, 2012; Hair et al., 2010; Henseler et al., 2009). Furthermore, after refining the measurements model (Figure 15) by removing both TMS6 and HR Pol5 from the theoretical framework; we can get different results of R^2 for e-HRM SU, HRM effectiveness, POS, ES, and OC in addition to different path coefficients for endogenous constructs (Hair et al., 2019).

As shown in Table 10 and Figure 17 the R^2 of e-HRM usage indicated that 77.9% of the variance in e-HRM SU was explained by TMS, OCM, and the role of HR professionals**.** Thus**,** e-HRM SU explains also 57.6%, 54.2%, and 66.2% of the variance in the effectiveness of HRM's philosophy (HRM Phl.), HRM policy (HRM Pol.), HRM's Practices (HRM Pr.) respectively.

Moreover, e-HRM SU explained 71.5% of the variance in POS, while POS explained 75.6% in ES and 53.9% in OC direct effects. All results are above 50 % which ranged from 53.9% to 77.9% which are moderate to substantial significance, showing that the overall model demonstrated good model fit, suggesting that the data fit our structural model (Ringle et al., 2015).



Significant at P< 0.001 (Two-tailed test)

Figure 17: Structural model (PLSc)

Table 12: Coefficient of determination (R^2)

	R Square	R Square Adjusted
HRM Phil.	0.576	0.575
HRM Pol.	0.542	0.540
HRM Pr.	0.622	0.621
e-HRM SU	0.779	0.776
POS	0.715	0.714
ES	0.756	0.755
OC	0.539	0.538

5.3.3. Effect size f Square (f^2)

In the previous section, we assessed that the value of R^2 is affected by the removal of a certain predictor construct and in turn giving some different results. The effect size which is known as f^2 is slightly redundant to the size of the path coefficients (Cohen, 1992). Specifically, in the process of explaining a dependent construct, the rank order of the predictor constructs' relevance is habitually the same when comparing the sizes of f^2 and the path coefficients (Hair et al., 2019). Otherwise (i.e., if the rank order of the constructs' relevance differs when comparing the sizes of f^2 and the path coefficients, then the f^2 is reported in order to explain, for instance, the presence of mediation relationships (Nitzl, Roldan, & Cepeda, 2016). As a guideline, f^2 values higher than 0.02 is depict small or weak, 0.15 is considered medium or moderate, while value 0.35 has a large or strong effect sizes (Cohen, 1988; Hair et al., 2019). Table 11 below showed the results are ranged from 0.132 to 0.495, where the f^2 of moderating effect and OC are only below 0.15 which are considered weak while the other variables had moderate to strong effect sizes.

Table 13: Effect size f Square ($f2$)

	e-HRM SU	HR Phil.	HR Pol.	HR Pra.	POS	ES	OC
TMS	**0.181**						
OCM	**0.495**						
Moderating Effect	**0.132**						
HR Staff	**0.201**						
e-HRM SU		**0.284**	**0.396**	**0.409**			
POS	**0.542**					**0.175**	**0.050**

5.3.4. Cross-validated redundancy measure (Q^2)

The blindfolding-based Q^2 values indicate the predictive accuracy of the PLS path model (Hair et al., 2019). This metric based on the blindfolding process that eliminates single points in the data matrix attributes the removed points with the mean and estimates the model parameters (Rigdon, 2014; (Sarstedt, Ringle, & Ting, 2019; Sarstedt et al., 2014). However, the Q^2 is not measuring the out-of-sample prediction, but relatively combines aspects of in-sample explanatory power and out-of-sample prediction (Sarstedt, Ringle,

& Hair, 2017). It is recommended that Q^2 values ought to be larger than zero for a specific independent variable to give an indicator of predictive accuracy for that construct in the structural model assessment.

As a guideline, the values of Q^2 higher than 0.0 are depicted small, while 0.25 is medium, and 0.5 or above is the large predictive weight of the PLS model (Hair et al., 2019). For that, all values showed in Table 12 indicate that we have medium predictive relevance of the PLS model for Q^2 ranged from 0.234- 0.391 which is assessed approximately medium (less than 0.5) and strong (more than 0.5) as shown in Table 13.

Table 14: Construct Cross-validated Redundancy

	SSO	SSE	Q² (=1-SSE/SSO)
E Satisfaction	1,224.000	749.020	0.388
HR Philosophy	918.000	619.221	0.325
HR Policy	1,530.000	1,171.573	0.234
HR Practices	1,836.000	1,207.976	0.342
HR Staff	1,530.000	1,530.000	
Moderating Effect 1	306.000	306.000	
OC	1,224.000	856.530	0.300
OCM	2,142.000	2,142.000	
POS	1,530.000	1,019.865	0.333
TMS	1,836.000	1,836.000	
e-HRM SU	1,530.000	931.734	0.391

Table 15: Construct Cross-validated Communality

	SSO	SSE	Q² (=1-SSE/SSO)
E Satisfaction	1,224.000	730.803	0.403
HR Philosophy	918.000	458.971	0.500
HR Policy	1,530.000	842.048	0.450
HR Practices	1,836.000	952.833	0.481
HR Staff	1,530.000	795.460	0.480
Moderating Effect 1	306.000		1.000
OC	1,224.000	676.022	0.448
OCM	2,142.000	961.403	0.551
POS	1,530.000	815.689	0.467
TMS	1,836.000	874.522	0.524
e-HRM SU	1,530.000	810.688	0.470

5.3.5. Path Coefficients

The final step in structural model assessment procedures is to evaluate the significance of the path coefficients. Where the path coefficients or the indicator weights are the main concern in this part which are obtained through running the bootstrapping to assess the significance of the path coefficients as well as evaluating their values, which usually fall between values of -1 and +1 (Hair et al., 2019). The value is considered more significant as it is closer to 1 regardless of its sign. Figure 17 shows the path coefficients values ranged from 0.208 to 0.870.

5.3.6. The Direct Effect Hypotheses

Once the psychometric properties of the measurement model were found to be satisfactory, we inspected the structural model to evaluate the suggested hypotheses. The findings of the direct effects in the structural model are shown in Figure 17 and Table 14. The direct effect hypotheses (H1 to H7) were evaluated by assessing the significance of the relationships in the structural path model.

We estimated the path coefficient and its significance level for each path in the model to test our hypotheses. The results indicated that TMS (path coefficient = 0.260), OCM (path coefficient = 0.444), TMS moderating effects on OCM (path coefficient = 0.208), and the role of HR staff (path coefficient = 0.316), each had significantly positive effects on e-HRM system usage SU, providing support for hypotheses H1 to H3. Moreover, the effects of e-HRM system usage SU on the effectiveness of HRM's philosophy (path coefficient = 0.759), HRM's policy (path coefficient = 0.736), HRM's practices (path coefficient = 0.789) providing empirical support to H4 (H4a, H4b, and H4c) respectively.

The e-HRM SU direct link with organizational outcomes (ES and OC) were estimated at the early stage of analysis as the results in Figure 15 (measurement model) show that ES (path coefficient = 0.871), OC (path coefficient = 0.675) were significantly positive, signifying empirical support for hypotheses H5.

Additionally, POS has a significant (path coefficient = 0.846) providing support for H6. POS to ES (path coefficient = 0.870), POS to OC (path coefficient = 0.734) are also significantly positive, signifying empirical support for hypotheses H7 (H7a and H7b).

Table 16: Path coefficients; the estimation of direct effects

H no.	Relationships	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
--	*TMS -> e-HRM SU*	**0.260**	0.256	0.069	**3.768**	**0.000**
H1	**OCM -> e-HRM SU**	**0.444**	0.452	0.073	**6.087**	**0.000**
H2	**Moderating Effect -> e-HRM SU**	**0.208**	0.211	0.068	**3.063**	**0.002**
H3	**HR Staff -> e-HRM SU**	**0.316**	0.311	0.069	**4.597**	**0.000**
H4a	**e-HRM SU -> HRM phil.**	**0.759**	0.759	0.034	**22.033**	**0.000**
H4b	**e-HRM SU -> HRM Pol.**	**0.736**	0.732	0.049	**14.876**	**0.000**
H4c	**e-HRM SU -> HRM Pr.**	**0.789**	0.789	0.033	**23.648**	**0.000**
H5a	*e-HRM SU -> ES*	**0.871**	0.870	0.025	**33.870**	**0.000**
H5b	*e-HRM SU -> OC*	**0.675**	0.675	0.042	**16.576**	**0.000**
H6	**e-HRM SU -> POS**	**0.846**	0.846	0.031	**27.345**	**0.000**
H7a	**POS -> ES**	**0.870**	0.869	0.026	**33.871**	**0.000**
H7b	**POS -> OC**	**0.734**	0.733	0.038	**19.076**	**0.000**

Applying the two-stage approach to moderator analysis (Hair et al., 2019), using PLS-SEM to evaluate moderation effect where the relationship between two variables usually is not constant but its reliance on the values of the moderating variable (Hair et al., 2017; Memon et al., 2019).

For the estimation of the moderating effects by PLS-SEM method, the chosen of the two-stage approach based on the calculation of the indicator variables' product terms according to the unstandardized, mean-centered or the standardized indicator data (Fassott, Henseler, & Coelho, 2016; Becker, Ringle, and Sarstedt, 2018). Meanwhile, the two-stage approach outperforms all other approaches regarding parameter recovery, and it suggests that it excels concerning the statistical power.

In conclusion, Table 15 shows that all the results have a T-value above 1.96 and a p-value of less than 0.01. Moreover, all direct paths had a 99.5% confidence interval that does not include zero and T Statistics values above 1.96. Therefore, all hypotheses were accepted.

Table 17: Confidence Intervals Bias Corrected

	Original Sample (O)	Sample Mean (M)	Bias	0.5%	99.5%
TMS -> e-HRM SU	**0.260**	0.256	-0.004	0.075	0.409
Moderating Effect -> e-HRM SU	**0.208**	0.211	0.003	0.033	0.363
OCM -> e-HRM SU	**0.444**	0.452	0.007	0.256	0.609
HR Staff -> e-HRM SU	**0.316**	0.311	-0.005	0.139	0.487
e -HRM SU -> HRM phil.	**0.759**	0.759	0.000	0.667	0.840
e-HRM SU -> HRM Pol.	**0.736**	0.732	-0.004	0.588	0.845
e-HRM SU -> HRM Pr.	**0.789**	0.789	0.000	0.708	0.870
e-HRM SU -> POS	**0.846**	0.846	0.000	0.762	0.912
POS -> ES	**0.870**	0.869	-0.001	0.807	0.929
POS -> OC	**0.734**	0.733	-0.001	0.631	0.831

5.4. Mediating hypotheses

The entire theoretical structural model is considered through the PLS-SEM estimation process, where the measurement error will be removed and the bias will be reduced also (Henseler et al., 2014). Meanwhile, substantially reducing the effects of measurement error will lead to an increase in the construct scores reliability. Accordingly, it's recommended to use PLS-SEM methods for the estimation of the mediating effects between the latent variables instead of applying the regression analysis (Hair et al., 2019). Moreover, the interpretation of the indirect effect through one or more intervening variables is mostly associated with the evaluation of mediating effects in the structural model (Nitzl, 2016; Nitzl & Chin, 2017).

The hypotheses assuming the mediating effect (H8a and H8b) were examined by estimating the significance of the corresponding specific indirect effect using a bootstrapping strategy as recommended by (Preacher & Hayes, 2008). Furthermore, Hair et al. (2019) argue that PLS-SEM is may be considered the best for assessing the mediation effect and that became increasingly more obvious in research that applying PLS-SEM. In sum, the mediation effects evaluate and test the structural model where the mediator variable intervenes between two other variables (Baron & Kenny, 1986).

Analyzing the mediator model implicates exploratory whether a change in the independent variable produces a change in the mediator variable, which as a

result, the mediator produces a change in the independent variable. Thus, the mediator variable is expected to facilitate the link between the independent and dependent variables (Matthuws, Hair, & Matthews, 2018; Nitzl et al., 2016). Accordingly, we performed a simple mediation analysis following Preacher and Hayes (2008) to estimate the indirect effects of e-HRM SU through POS on both ES and OC; using the bootstrap strategy.

The results in Figure 17 indicate that the direct effects of POS on ES (path coefficient = 0.87), and OC (path coefficient = 0.734) are significantly positive. Meanwhile, the e-HRM SU direct effects on ES (path coefficient = 0.871) and on OC (path coefficient = 0.675) are significant also. Table 16 shows that the relationship of e-HRM through POS to ES (0.735) and with OC (0.621). Moreover, all indirect paths had a 99.5% confidence interval that does not include zero and T Statistics values above 1.96.

Table 18: The estimation of specific indirect effects

H no.	Relationships	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
H8a	e-HRM SU -> POS -> ES	0.735	0.735	0.040	18.371	0.000
H8b	e-HRM SU -> POS -> OC	0.621	0.620	0.044	14.254	0.000

Thus, hypotheses H8a and H8b were accepted because the indirect effect of e-HRM SU was significant with the presence of POS and produced changes in OC and ES. We conclude that POS partially mediates the effect of e-HRM SU on OC and ES. Hence, before looking for possible mediating effects there should be theoretical support for the mediating relationships (Preacher & Hayes, 2008). A structural model might include some mediators, where the single or several effects could be performed through multiple mediation analyses (Nitzl, 2016).

In a nutshell, the estimation of the total indirect effects of the structural model indicates that e-HRM SU is partially mediating the relationship between the constructs that are predicting the system usage and the outcomes as shown in Table 17.

Table 19: The estimation of total indirect effects

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
HR Staff -> ES	0.232	0.229	0.053	4.387	**0.000**
HR Staff -> HRM Pol.	0.232	0.227	0.051	4.560	**0.000**
HR Staff -> HRM Pract.	0.249	0.245	0.056	4.485	**0.000**
HR Staff -> HRM philosophy	0.240	0.237	0.056	4.316	**0.000**
HR Staff -> OC	0.196	0.193	0.046	4.231	**0.000**
HR Staff -> POS	0.267	0.263	0.060	4.464	**0.000**
Moderating Effect 1 -> ES	*0.153*	*0.155*	*0.051*	*3.014*	***0.003***
Moderating Effect 1 -> HRM Pol.	*0.153*	*0.154*	*0.048*	*3.214*	***0.001***
Moderating Effect 1 -> HRM Pract.	*0.164*	*0.166*	*0.053*	*3.074*	***0.002***
Moderating Effect 1 -> HRM philosophy	*0.158*	*0.160*	*0.052*	*3.015*	***0.003***
Moderating Effect 1 -> OC	*0.129*	*0.130*	*0.041*	*3.146*	***0.002***
Moderating Effect 1 -> POS	*0.176*	*0.178*	*0.057*	*3.079*	***0.002***
OCM -> ES	0.327	0.332	0.059	5.572	**0.000**
OCM -> HRM Pol.	0.327	0.330	0.054	6.092	**0.000**
OCM -> HRM Pract.	0.350	0.357	0.060	5.839	**0.000**
OCM -> HRM philosophy	0.337	0.343	0.057	5.958	**0.000**
OCM -> OC	0.276	0.280	0.050	5.512	**0.000**
OCM -> POS	0.376	0.382	0.064	5.837	**0.000**
TMS -> ES	0.191	0.188	0.051	3.735	**0.000**
TMS -> HRM Pol.	0.191	0.190	0.059	3.242	**0.001**
TMS -> HRM Pract.	0.205	0.202	0.056	3.641	**0.000**
TMS -> HRM philosophy	0.197	0.194	0.053	3.752	**0.000**
TMS -> OC	0.161	0.159	0.044	3.692	**0.000**
TMS -> POS	0.220	0.217	0.059	3.719	**0.000**
e-HRM SU -> ES	0.735	0.735	0.040	18.371	**0.000**
e-HRM SU -> OC	0.621	0.620	0.044	14.254	**0.000**

5.5. Summary

PLS-SEM was employed to analyze the study's framework and the proposed hypotheses. PLS-SEM is a multivariate analysis approach that is widely used in social science-related disciplines. The two-stage analytical procedures were applied in order to assess the psychometric properties of the scales used in this study. Firstly, the measurement model was assessed including loading, internal reliability, convergent, and discriminant validity. Then, the structural model and hypotheses were examined. Thus, the

structural relationships and the suggested hypotheses were assessed in the second stage including the direct and mediating effect. Moreover, a more comprehensive analysis could be performed to explore extra statistical relationships which require conceptual support to be considered and evaluated as shown in Tables 18- 21 in Appendix B. The full complex model; including all relationships between variables, revealed the possibility of more significant direct and indirect relationships that could be explored in the future research.

CHAPTER SIX

DISCUSSION and CONCLUSION

6.1. Introduction

This discussion and conclusion chapter covers discussion, managerial implication, theoretical implication, research limitations, and conclusion.

6.2. Discussion

There is an increased number of different studies that focused on HRM effectiveness, whereas HRM systems are measured against various consequences of e-HRM implementation (Bissola & Imperatori, 2013). The HRM related research had identified three aspects in terms of performance; these are the financial performance, the operational performance, in addition to employees' attitudes and behaviors. The last type which is related to the perception of HRM effectiveness has guided our main concerns.

This research extends the debate on the main contribution of the e-HRM SU to the HRM effectiveness, POS, and the organizational outcomes from the perspective of LMs. Thus, the empirical test of our theoretical model based on the RBV, SET, OST (POS) and LMX provides new insights into the field of this research throughout the integration of different interrelated concepts from different disciplines of business administration and social science. The findings of the study recommend that drawing upon different user's acceptance and HRM implementation models can enrich our understanding of e-HRM system usage and their effects on e-HRM outcomes. The anticipated consequences of e-HRM implementation could be achieved in terms of the integration between different associated concepts and other e-

HRM implementation-related constructs such as TMS, OCM, and the role of HR professionals.

The results of the structural model analysis with moderating and mediating effects according to PLSc findings confirm that these constructs (TMS, OCM, and the roles of HR professionals) have a significant impact on e-HRM actual usage. Furthermore, TMS moderates the relationship between OCM and e-HRM SU. The TMS, OCM, and the role of HR professionals explain 77.9% of the variance (R^2) in e-HRM SU, where the coefficient of determination (R^2) of value 77.9% is considered significant**.**

The analysis results pointed out the path coefficient of TMS (0.260), OCM (0.444) and the role of HR staff (0.316) had a positive significant impact on e-HRM SU, in addition to TMS moderating effects on the link between OCM and e-HRM SU with path coefficient (0.208). These results provide support for the proposed hypotheses H1 to H3 and show that OCM is the most influential factor.

In addition to the significant direct influence of e-HRM SU on the effectiveness of the HRM system and POS, the effects of e-HRM SU on the effectiveness of HRM's philosophy (path coefficient = 0.759), HRM's policy (path coefficient = 0.736), HRM's practices (path coefficient = 0.789) and POS (path coefficient = 0.846) with moderate values of R^2 (0.576, 0.542, 0.622) respectively and (f^2) also. That provides support for the proposed hypotheses H4 (H4a, H4b, and H4c) where e-HRM SU has a positive significant impact on the HRM effectiveness at different levels.

Furthermore, e-HRM SU has a significant direct impact on organizational outcomes where ES (path coefficient = 0.871) with R^2 (0.759) while OC (path coefficient = 0.675) with R^2 (0.456) for that H5 (H5a and H5b) is accepted. Additionally, e-HRM SU has a significant impact on POS (path coefficient = 0.846) with R^2 (0.715) as well as strong f^2 equal (0.542). Thus, H6 is accepted also.

The effects of POS on ES (path coefficient = 0.870) and POS on OC (path coefficient = 0.734) are significantly positive, signifying empirical support for

hypotheses H7a and H7b regarding the link between POS and organizational outcomes (ES and OC), where POS explains (75.6% and 53.9%) of variance in ES and OC correspondingly.

New findings reveal that the links between the actual usage of the e-HRM system and the organizational outcomes (ES and OC) are partially mediated through POS; these findings support hypotheses H8a and H8b. Furthermore, the e-HRM SU has direct relationships with organizational outcomes, it has positive path coefficients (0.871) with ES and (0.675) with OC. Consequently, the outcomes of e-HRM system implementation, such as better service quality, and standardization, should facilitate improvements in HRM practices that are implemented by LMs, and carried out by employees themselves in the form of MSS, and ESS, respectively.

In conclusion, future research should also investigate these relationships from the perspectives of different HRM's stakeholders and end-users such as employees and HR staff or top managers (Lengnick-Hall et al., 2009). Moreover, longitudinal research is highly recommended with emphasis on financial and operational performance constructs.

6.2.1. OCM and e-HRM actual usage

Employees' active involvement in OCM will occur when there is a real realization of top management strategy regarding the adopted approach to influence employees and LMs' perception. That is, in turn, will contribute to the success of the continuous and improvement of organizational goals. The findings confirmed the positive significant impact of OCM on the e-HRM SU and the implementation success as proposed in H1. OCM is found to be the most influential construct that impacts e-HRM SU. The role and the strategic vision of top managers in OCM facilitate the acceptance and the realization of anticipated benefits of the system's applications.

The OCM focuses on the characteristics and features of the e-HRM system which are expected to lead to better adherence to policies and procedures. The introduction of effective e-HRM technology is perceived as more efficient than the traditional way of doing HRM functions. Thus, the e-HRM system

supports the standardization of employees' performance management. Moreover, OCM highly relies on the continuous adequate training offer before and throughout the implementation process. OCM requires the availability of sufficient resources and support from management to support end-users; specifically the LMs during CM progression. The active communication regarding the new e-HRM system implementation will support the success of the OCM process to assure that a common vision of the new HRM system is established and communicated.

6.2.2. TMS moderating effect

TMS has a significant impact on e-HRM system usage and the success of the implementation process. Successful management relies on the ability of managers to influence employees' behavior towards innovations and the organization's goals. Managers motivate employees to contribute efficiently to innovations and influence their attitude towards newly implemented technology (De Jong & Den Hartog, 2007). TMS plays a key role in HRM performance and shapes employees' attitudes and perceptions of e-HRM usefulness.

The findings of this study are in line with SET and LMX perspectives that HRM implementation is influenced by the social exchange interactions and relationships between employees and LMs according to Bos-Nehles and Meijerink (2018). Moreover, the role of TMS in e-HRM implementation agrees with Venkatesh et al.'s (2003) debate regarding the social influence, where the focus is on the degree to which employees perceive that important people (as top management and LMs) think that they should use the new system. Therefore, managers' behavior is expected to positively influence employee perceptions of e-HRM effectiveness and actual usage. TMS has a positive impact on LMs attitude to use technology. Thus, perceived support predicts a positive behavior towards e-HRM usage.

TMS is the vital factor that impacts the e-HRM implementation success through their clear vision and provides the essential tools and resources to assure the proper implementation procedures and suitable usage of e-HRM components. The results of the analysis revealed that TMS has a positive

significant impact on the actual usage of the e-HRM system as proposed in H1 based on POS and LMX standpoints from the perception of LMs.

Furthermore, all previous aspects related to OCM will not be broadly effective without TMS which confirms the top management positive role in OCM as a moderator (path coefficient = 0.208) in line with our hypothesis H2 which proposes that TMS moderates the relationship between OCM and e-HRM system usage.

The findings reveal that OCM has a direct link with e-HRM SU (path coefficient = 0.386) while with TMS moderating effect (path coefficient = 0.444) in addition to the strong (f^2) value (0.495).

6.2.3. Role of HR professionals and e-HRM actual usage

LMs perform the devolved HRM practices and activities with direct and indirect support from the HR department. Correspondingly, utilizing e-HRM applications, the HR staff can offer the required advice and consultation for both LMs and employees.

The findings of this study support the proposed hypothesis (H3) where the role of HR professionals has a significant positive influence on the e-HRM SU and the consequences of HRM system implementation. Meanwhile, the HR staff encourages the use of e-HRM system services and actively participates in the development of HRM procedures and the implementation of the e-HRM processes in terms of OCM. Moreover, the required and planned changes have allowed the HR staff to spend their time in operational HRM activities instead of routine activities and freeing up them from time-consuming administration activities. Additionally, e-HRM tools are considered essential for HR practitioners in order to have a more strategic role and being able to play an advisory role to LMs.

In summary, the role of HR professionals supports the main goals of e-HRM implementation and the strategic orientation of HRM functions. As a result, e-HRM in turn aimed to enable HR staff to have more time on strategic and important activities instead of direct routine duties. For that, e-HRM SU is

expected to lead a critical change in the main duties and tasks of the HR staff to be real advisors and strategic partners.

6.2.4. e-HRM SU and the effectiveness of the HRM system

The finding expands the knowledge of how the actual usage of the e-HRM system has a positive significant effect on HRM effectiveness. This estimated impact is analyzed from two different perspectives, firstly, e-HRM SU impacts on the effectiveness of HRM system at philosophical, political and practical levels in the organization, secondly, the HR role of LMs in the implementation of e-HRM system and actual usage with support from top management and HR professionals.

The actual usage and adoption of the e-HRM system is an innovative approach to implement the HRM system's strategies, policies, and practices. The new technology-based system impacts on the way in which the HRM function operates and improves the HRM system applications at different levels.

HRM system is affected by e-HRM technology that depends on how the e-HRM system is implemented and used. That does not rely only on how the technology could support the HRM function but also on the technology construction regarding the end-users' needs. Consecutively, this affected the organizational objectives for getting better advantages of technology adoption, or more explicitly. Thus, as expected, the goals and e-HRM system actual use have a significant impact on the effectiveness of the HRM system. This is in line with the findings of previous studies (i.e. Maatman, 2006; Obeidat, 2016).

Finally, the e-HRM system should meet the HRM requirements of end-users and their interests as well as enable LMs to assume their responsibility effectively. As the e-HRM system has a high quality of the interface; it will meet all stakeholders' expectations and satisfaction. LMs are the main implementer of e-HRM practices. With suitable TMS and assistance from HR staff, LMs can accomplish HRM tasks effectively. Yet, the devolution of HR responsibilities to LMs conducted through e-HRM will be effective for

implementing various e-HRM practices to train, develop, appraise, reward, and manage their subordinates.

6.2.4.1. HRM effectiveness at philosophy level

The effectiveness of HRM philosophy or strategy is the cornerstone at the top level of the HRM system, where the main aim is to achieve a better fit and integration of the HRM strategy with the organizations' strategy. For that, the HRM philosophy is perceived as effective if there is a right alignment with the overall organization's strategy.

In this context, the study's findings indicate that e-HRM SU has a positive significant relationship with HRM philosophy, where path coefficient is (0.759) and high variance (57.6%), which empirically supports H4a. As a result of e-HRM SU depends on the organizational strategy and the added-value of HRM activities that are identified as the main determinants of HRM functions.

Mapping HRM activities in terms of its architecture and responsibilities through the delivery and providing of an HRM practice via web-based-channels is a practical choice. The added value and uniqueness of this process influence HRM activities that are offered through e-HRM. Moreover, the alignment of the e-HRM components with the organization's strategy is also realized. Consequently, the e-HRM SU can support the alignment of HRM philosophy with the organization's strategy and contributes to HRM system effectiveness at the philosophy level.

Moreover, HRM system at this level is perceived effective in the presence of the integration of HRM philosophy with business strategy, which is in line with the argument of different researchers (Guest & Peccei, 1994; Bowen & Ostroff, 2004). The fit between HRM and business strategies are framed at the top management level and activated by all end-users. Furthermore, e-HRM standardization is encouraging organizational integration and the identification of HRM principles among LMs and end-users. Meanwhile, the signal of TMS in OCM will impact the role of LMs and HR professionals in the implementation of HRM philosophy or strategy through their actual participation in HRM executive aspects. The philosophy level dimension is considered the general guidelines that direct the HRM policy and practices.

6.2.4.2. HRM effectiveness at the policy level

The HRM effectiveness at the policy level can be assumed as the consequence of HRM strategy, where the e-HRM system enhances the consistency of HRM policy. The e-HRM system is highly estimated to produce HRM signals which are reliable, consistent, distinctive, and consensus among all end-users.

The findings indicate a positive significant relationship between e-HRM SU and HRM policy as the path coefficient is (0.736) and variance of (54.2%), which empirically supports H4b. Accordingly, the policies and programs of the HRM system are perceived as effective by LMs in terms of its consistency and standardization. Though, as discussed earlier, e-HRM SU has no direct influence on the policy choice but it documents and unifies the producers. Thus, technology is however expected to shape strong HRM situations through conveying the required types of information that create a clear and strong situation. That is, in turn, e-HRM functions can enhance the effectiveness of the HRM system and foster its strength in terms of distinctiveness, consistency, and consensus of HRM policy level. Through recognizing these main factors, the assessment of the perceived HRM policy's effectiveness from the LMs perspective is measured and evaluated.

In summary, HRM policy must be transparent and reliable through the e-HRM system's actual usage; the policy has to be realized and communicated in order to formulate the desired behavior of end-users. The e-HRM system supports the establishment of distinct and steady signals that are anticipated to raise the level of consensus and agreement between employees and LMs.

6.2.4.3. HRM effectiveness at the practice level

HRM’s practice level entails how different activities are processed and performed. The findings indicate that e-HRM SU has a significant positive effect on the effectiveness of the HRM system at the practice level with path coefficient (0.789) and high variance (62.2%), which empirically supports H4c.

The focus at HRM practice level is on how the HRM activities are performed not by whom it will be conducted. Even though, LM still is the main implementer of HRM functions. To a wide extent, the HRM practices are the reflection of HRM policy and programs as more extensive analysis can indicate a significant relationship between HRM policy and HRM practices with a theoretical indication in addition to statistical support. The effectiveness of HRM practice supports the HRM casual chain and sequences according to Purcell and Hutchinson's (2007) arguments, where the causal chain connects the intended practices to actual practices that frame the users' perceptions of HRM practices. Consequently, HRM practices can impact end-user' attitudes and improve their performance resulting in a contribution to the firm's performance.

The perception of the effectiveness of HRM activities is anticipated to enhance the efficiency of the HRM system. Employees and LMs, however, are the main clients of the HRM system. Consequently, their perception of HRM service's quality is important besides the degree of helpfulness in terms of effectiveness. Accordingly, e-HRM is expected to successfully increase the efficiency of the whole HRM system and improve the required service's responsiveness where the improvement of the service quality is evaluated based on the quality, active response, and approachability of HRM practices.

6.2.5. e-HRM SU and Behavioral Outcomes

The findings indicate that e-HRM SU has a significant direct relationship with organizational outcomes (OC and ES) where the path coefficient between e-HRM SU and ES is (0.871) while with OC is (0.675) in addition to high coefficient of determination (R^2) in which e-HRM SU explains (75.9 %) of variance in ES and (45.6 %) in OC. That indicates a positive significant impact of e-HRM SU on ES and OC which supports the first stage in the assessment of the mediation relationship according to Preacher and Hayes (2008). The findings empirically support H5 that e-HRM has a direct significant impact on organizational outcomes at the micro-level. The e-HRM functions impact the behavioral outcomes as ES and OC.

6.2.6. e-HRM SU and POS

Employees exchange the support and appreciation that they perceived by the commitment and less likely to turnover where their actual involvement has a significant positive impact on the whole organizational performance, job satisfaction, enthusiasm and acceptance of changes. Meanwhile, the study's findings indicate that e-HRM SU has a positive significant impact on POS with path coefficient (0.846) and high variance (71.5%) in POS, which empirically supports H6 based on SET and OST (POS) perspectives.

In view of that, the e-HRM system contributes to HRM system effectiveness and enhances the LMs satisfaction of the e-HRM system. It supports users' capabilities and facilitates performing their responsibilities. The LMs receive the proper support from HR professionals and top management directly or through the accessibility of e-HRM system functions. That is in line with the argument of Rhoades and Eisenberger (2002) regarding employees' willingness to appreciate the perceived support by showing reasonable relationships with managers and top managers. Additionally, it supports Eisenberger et al.'s (2014) debate that perception fosters employees' willingness to the commitment and enhances ES. That is in line with Bondarouk's (2014) debate which requires focusing on the organizational environments and technology changes. For that, POS focused on the relationship between employees and LMs with their organization, while LMX is related to the relationship between managers and employees.

6.2.7. POS and Organizational Outcomes

Employees appreciate the perceived support by demonstrating a high level of OC and satisfaction. The direct effect of POS on ES (path coefficient = 0.870) and OC (path coefficient = 0.734) are significantly positive relationships. POS explains 75.6% of the variance in ES and 53.9% of the variance in OC. That is providing significant empirical support for hypotheses H7a and H7b.

The findings are in line with previous studies such as (Bos-Nehles & Meijerink, 2018; Purcell & Hutchinson, 2007; Ruël et al., 2004; Trullen et al.,

2016) that LMs are the main actors in HRM implementation. They influence employees' perceptions and satisfaction with HRM services. LMs effectively implement e-HRM practices and use these practices to select, appraise, and reward their subordinates where LMs are responsible for HRM duties that are used to be those of the HR professionals.

As part of their important role in implementing HRM practices, LMs influence employees' perceptions of HRM and employees' attitudes and behaviors that enhance the ES and OC.

6.2.8. POS Mediating Effect

According to Nitzl et al., (2016), the fundamental of mediation analysis considers the sequence of relationships between constructs in which an antecedent variable (e-HRM SU) affects the mediating variable (POS), which then affects the dependent variables (ES and OC). Accordingly, in the HRM chain process, the HRM policies and practices that are deliberated as organizational competencies play a vital role in building knowledge, a skill base, and producing relevant responses and behaviors to support the firm's goals. Consequently, findings confirm that the source of the competitive advantage is embedded in the human resources themselves, and not only in the practices since most HRM policies and practices can be easily imitated by rival companies. That is in line with RBV's main perspectives.

The first stage in the assessment of the mediation relationship according to Preacher and Hayes (2008) reveals that the findings of the direct relationship between e-HRM SU and organizational outcomes are significant (H5).

The second stage in the assessment of the indirect effect of e-HRM SU through POS on ES and OC is significant also. Where e-HRM- POS- ES has a path coefficient = 0.735 and e-HRM- POS- OC has a path coefficient = 0.621 which is significantly positive. Thus, the relationships between the e-HRM system and organizational outcomes (ES and OC) are partially mediated by POS because the direct link is significant also. These findings indicate empirical support for the mediating effect for hypotheses H8a and H8b.

Furthermore, Nitzl, Roldan, and Cepeda, (2016) recommended presenting the results of effect size (f^2) in order to explain and justify the presence of any proposed full or partial mediation effect. In the analysis, POS has strong f^2 with a value equal (0.542) that confirms the POS mediation role.

Finally, the results of total indirect effects (Table 17 and Table 19) indicate that e-HRM SU also has mediation roles between the predicting constructs (TMS, OCM, and role of HR professionals) and the outcomes (HRM effectiveness, POS, and organizational outcomes). Whereas all the results have a p-value of less than 0.001 except TMS- HRM Pol. (0.001) and the moderating effect values ranged from 0.001 to 0.003. Moreover, all indirect paths have a 99.5% confidence interval that does not include zero and T Statistics values above 1.96. In this context, the e-HRM system is considered the medium through which all aspects that predict the actual usage of the e-HRM system will impact the HRM effectiveness at all levels and the organizational outcomes. For that, the e-HRM system is considered the central hub that joints different HRM's interrelated variables.

6.3. Managerial Implications

There is an extensive evolution in IT capability. Technology applications have enabled organizations to share real-time information, improve the quality and the speed of HRM processing in an innovative way. For that, innovation-based- technology is considered one of the main critical factors for successful effort regarding achieving a level of desired competitive advantage and firm's effectiveness. The ways of managing HR have also changed, as HRM activities are not limited to HR professionals, but also increasingly devolved to LMs and employees themselves through e-HRM applications in form of MSS and ESS respectively.

The findings of the study offer clear insights for practitioners and HR specialists. The study is implemented in the Jordanian telecommunication sector, as telecom companies are in a progressive stage of transforming their HRM functions from traditional to a digital system. The study examines the use of e-HRM applications and discovers that these applications serve as

vital tools that enable the telecom companies to manage their HRM service quality.

One of the main findings is that “exchange relationships” based on SET will enhance LMs’ perceptions of HRM functions and encourage the e-HRM SU. The study investigates the role of TMS, OCM and the role of HR professionals which indicate that these factors have positive significant impacts on e-HRM systems actual usage, which, in turn, leads to improve HRM system effectiveness and successful implementation within the organization in addition to influencing organizational outcomes as OC and ES directly or through POS.

The significant role of HR professionals on e-HRM usage suggests that employees and managers at all organizational levels may have different perceptions regarding the disciplinary and monitoring role of the HR staff. This poses a challenge to the HR experts as that requires improving the image and the nature of the services offered by the HR department. Accordingly, the HR staff should receive advanced training to improve their knowledge, functional skills, and ability to perform HRM activities.

It is important, however, that the content of HRM policy and practices must be evaluated before the implementation of the e-HRM system to assure meeting the demands and expectations of different HRM end-users. Accordingly, the HRM policy must be distinctive and consistent, and there should be a consensus among all users. This will enhance the end user's satisfaction and the perceived efficiency and the effectiveness of the HRM system. Meanwhile, the implementation of e-HRM components will affect several common responsibilities of all HRM users and the way in which different HRM practices are performed. Therefore, a better understanding of the interactions between different e-HRM stakeholders leads to more successful implementation.

The e-HRM SU is shifting traditional HRM techniques to a more strategic approach which contributes to the firm’s performance based on e-HRM goals and business orientation. From a practical standpoint, implementing competitive strategies through technological applications and employees’

engagement is expected to create an alignment of valuable resources with business goals.

The implementation of e-HRM systems has led to a fundamental redistribution of HRM responsibilities and functions which used to be accomplished by HR managers. Most of the activities previously are executed by HR specialists can be accomplished through the components of the e-HRM system by managers and employees themselves. As administrative experts, some key roles of HR professionals include making HRM practices more effective and efficient, for example, through reengineering organizational processes, understanding the demands of their employees by using effective communication, providing them with the required resources and motivation. The e-HRM system enables the decentralization of several HRM functions to be accomplished with continuous encouragement from the HR staff, which is in line with previous research (Bae & Lawler, 2000; Dobre, 2013; Vanhala & Ahteela, 2011).

In addition to TMS and the role of HR specialists, LMs also play a key role in the implementation of HRM practices since LMs are the most important implementers of HRM activities and practices at the different organizational level (Bos-Nehles & Meijerink, 2018) and they are motivated and supported by top managers and HR professionals. Therefore, e-HRM components facilitate the execution of daily and regular HRM functions including training, praising, rewarding, and compensating (Parry, 2011).

It has to be considered that the main advantage of e-HRM which follows the debate of Bondarouk and Brewster (2016) regarding e-HRM as a cutting-edge and innovative which will enhance offering the “just-in-time personnel information that enables real-time insights for HRM” (p. 2659). Accordingly, HR professionals enhance LMs’ abilities by affording them the opportunity and the motivation in order to participate in the implementation of HRM practices (Trullen et al., 2016) in the way of decentralization of HRM duties.

The HRM-related researches attempt to determine how HRM effectiveness is interrelated with the preferred organizational consequences as it should meet the needs of key HRM users. Previous research has provided empirical

evidence that e-HRM functions contribute to HRM effectiveness within organizations (i.e., Maatman, 2006; Obeidat, 2016; Ruël et al., 2007; Ruël & Kaap, 2012). Thus, The literature suggests that e-HRM as innovation can be turned into strategic capability and enable organizations to achieve the outcomes of strategic HRM as advocated by Marler and Fisher (2013).

At the philosophy level, the HRM strategy is integrated with the organization's strategy. Hence, the HRM effectiveness at this level is related to good alignment and synchronization of HRM strategy with business strategy. Meanwhile, the HRM effectiveness at the policy level must focus on the distinctiveness and consistency of HRM policy and programs. On the other hand, HRM effectiveness at the practice level must focus on how different HR practices are implemented (Bowen & Ostroff, 2004; Maatman, 2006; Demo et al., 2012). Accordingly, the positive perception of HRM's effectiveness at the policy level due to the e-HRM SU supports the result of Bondarouk, Harms, and Lepak's (2017) where the better-quality HRM service is an outcome of e-HRM system implementation, meanwhile, the main drivers of HRM service quality establish the strengths of both the e-HRM and HRM systems. Indeed, the e-HRM system has become a necessity within organizations as its implementation is expected to produce distinctive outcomes, better HRM functions, and alignment of HRM strategy with the organization's policy (Maatman, 2006; Bondarouk & Ruël, 2012; Marler & Fisher, 2013). This is in line with the study which is conducted in the Netherlands by Ruël et al. (2007) who conclude that the actual usage of the e-HRM system through ESS has a positive significant influence on the strategic and technical effectiveness of HRM.

The study emphasized the vital role of TMS in OCM that is based on proper training in addition to the development. HRM practice has been considered a main influential factor for supporting employee development and durable investment in talents and skillful staff. Training, as well as official HR policies, are important differentiators of an organization's performance in the context of OCM. Training and development facilitate the progress of new existing procedures, evolve implemented systems, and assist HRM users to get along with changes in the organization. Continuous investment in innovations

requires effective opportunities for robust training and long-term development that are related to the anticipated organizational outcomes like ES and active commitment to the organization. In addition to employees' retention after OCM proceedings, training involvements will lead to active communication, collaboration, and better organizational culture awareness with a commitment between employees and both LMs and top management.

Accordingly, the study reveals that e-HRM is an economical way of providing most of HRM services and activities. It provides managers at different organizational levels with MSS access to the related HR data and information to carry out analysis, decision-making support, and interaction with or without HR staffs' support. Moreover, employees can manage and update their personal information, being able to make decisions regarding their situation by using ESS also.

As a result, the implementation of e-HRM system has an impact on the effectiveness and the efficiency of the whole HRM system via decreasing the cycle time, assuring data accuracy, as well as may lead to downsizing of HR staff. In turn, the actual usage of e-HRM components and functions empowers the whole HRM system to be able to enhance the firm's effectiveness. Therefore, the firm's performance could be reached through raising the proficiencies of LMs and employees which served the ultimate desired goal towards creating the desired added-value in an innovative means based on technology integration with HRM functions.

Findings indicate that TMS in OCM, the role of HR professionals, and organizational support are relevant to explaining the HR role of LMs' performance. Therefore, organizations should pay great attention to the development of a wide synchronized support network to ensure effective implementation of the e-HRM system by LMs. Consequently, the HR department can shape the required internal organizational conditions to facilitate successful HRM implementation. Simultaneously; the adopted approach must serve different managerial levels.

It is argued that HRM functions and practices cannot be appropriately realized without TMS besides suitable monitoring and control from the HR

department. Thus, employees have to be prepared to adapt to the new HRM system. Therefore, the role of HR professionals and TMS becomes crucial in achieving the organizational goals in terms of competitive advantages.

The success of e-HRM implementation requires the full involvement of different concerned units in the organization. The implementation process requires the effective involvement of managers and all staff members at every organizational level. The main objective of e-HRM system implementation and adoption creates real value through augmenting HRM processes and functions concerning the achievement of the organization's strategic goals and competitive advantage. Furthermore, the matters of OCM and system training must be transparent and realized. Thus, the strategic benefits of e-HRM implementation might be realized by considering the way in which e-HRM will influence the HR role of LMs and in what way they can contribute to the reaching of planned business' goals (Heikkilä et al., 2017).

It is worth mentioning that, e-HRM can offer precise and timely information for decision-maker in HRM process (employment, promotion, performance evaluation and appraisal, reimbursement, and several managerial issues) as well as the interaction between stakeholders inside the organization or externally located (Marler & Fisher, 2013; Stone & Dulebohn, 2013). For that, the study highlights the necessity for top management communication towards all levels, and the requirements to update the e-HRM system on a regular base and consider equally different stakeholders' perceptions of e-HRM and HRM system's effectiveness.

Therefore, e-HRM enables HR staff to have a more strategic role at a higher tactical and strategic level and to be strategic partners. Hence, the strategic role of e-HRM components and functions boosts the perceived position of the HRM system levels. For instance, most organizations face great pressure to accomplish better efficiency and effectiveness of HRM functions which encourage them gradually to adopt HRM web-based technology in the form of e-HRM as the best possible course of action for sustainability.

In recent times, e-HRM application and implementation have been extensively studied by several scholars. The major part of these studies

regarding e-HRM adoption is conducted mainly in Europe, the USA, and developed countries. Whereas, fewer studies are undertaken in the Middle Eastern countries which have different nature, economic, and technological environment in comparison with the developed economies. Due to the considerable variance in the business environments and administrative mechanisms between Jordan and developed countries, it is probable to have a significant difference in research outcomes in terms of e-HRM implementation and implications.

It became clear that the transformational leadership style can raise the awareness level between employees regarding the significance and the importance of desired organizational outcomes. Accordingly, it can be concluded that poor performance in the e-HRM implementation process is usually associated with the absence of leadership support. For that, using the e-HRM system is considered an innovative approach for the implementation of HRM philosophy, policy, and practice in organizations. The e-HRM is supporting the HRM functions and activities to be compatible with several HRM requirements through web-based technology channels.

Organizations are aware of the importance of innovation to cope up with uncontrollable dynamic commercial, societal and ecological forces. Bear in mind that stake-holders with organizations' efforts are willing to achieve a sustainable business environment for long-lasting commercial development. Taking into account the several benefits and some expected difficulties. It will be a wise option that all the organizations are encouraged to adopt the e-HRM system.

6.4. Theoretical Implications

This study is inspired by UTAUT and draws upon RBV, SET, OST, and LMX theories to support the perspectives of the proposed research framework with consideration of competitive advantage and HRM effectiveness at different organizational levels. POS and LMX are applied in the context of perceived support, TMS, and the role of HR staff regarding the mutual relationship between managers and employees. On the other hand, RBV is operationalized because of the available resources that enhance the

firm's capabilities to achieve a competitive advantage and added value. Meanwhile, the general perspectives of SET and OST are reflected in hypotheses development.

Many researchers have replicated the technology acceptance models and adjusted the model to determine the factors that affect various IT systems implementation and their effects on organizational outcomes (Venkatesh et al., 2012). Under this argument; findings of the study contribute to theory development by providing significant support for the proposed hypotheses. Thus, the integration of main UTAUT or TAM constructs with SET and RBV will produce a comprehensive framework. Specifically, examining how the new constructs (TMS and the role of HR professionals) in OCM will influence users' perceptions and attitudes towards the actual usage of the e-HRM system. TMS and OCM, as well as the role of HR staff, have a positive significant effect on e-HRM SU.

In brief, the main constructs explain the variance in e-HRM SU are the role of HR staff and OCM which is moderated by TMS. Thus, the findings show empirical support for the role of top management and OCM. In turn, the actual usage of e-HRM SU has a significant impact on HRM effectiveness and organizational outcomes.

The significant relationships between e-HRM SU and the effectiveness of HRM systems are confirmed from end-users' perspectives at the levels of philosophy, policy, and practice. This is the main contribution to the development theory, as the findings indicate the positive significant effect of e-HRM SU on the HRM system effectiveness at the philosophy level through the well-fitting and complementary relationship between HRM philosophy and business strategy. Moreover, the actual usage of the e-HRM system has a strong influence on consistency, distinctiveness, and consensus of HRM policy. Additionally, e-HRM SU has a positive significant impact on employees' perceptions of HRM practice concerning the quality of HRM service and real-time response to HRM needs.

This study supports the findings of previous HRM research that considered the value of e-HRM system implementation for the organization (Marler &

Fisher, 2013; Obeidat, 2016) and the enhancement of HRM effectiveness (Ruël et al., 2007; Bondarouk & Ruël, 2012) as the main consequences of e-HRM SU.

It is worth to mention that the study of Venkatesh et al.'s (2012) expanded on UTAUT2 in terms of consumers' acceptance and the adoption of new technology perspectives. Their extension produced improvement in variance explained in behavioral intention (about 74%) and technology use (about 52%) in comparison to the findings of Venkatesh et al., (2003) that UTAUT explained 56% and 40% of the variance in intention and use, respectively.

Meanwhile, our proposed model incorporates the new three constructs– the OCM, TMS, and the role of HR professionals - that explained 77.9% of the variance in e-HRM SU. These findings advocate the importance of the new constructs in assessing the validity of the proposed model in the end-users context and integrating these variables with RBV and SET perspectives in an organizational context.

The findings of the study are in line with debate and findings of Venkatesh et al., (2003), HRM territory of enquiry (Bondarouk, 2014) and Harvard model (Beer et al., 1984; Beer et al., 2015) and Bondarouk ad Brewster (2016) which emphasized the role of IT in the actual system use of HRM system.

The current study has responded to Venkatesh et al.'s (2012) call to explore more factors predicting SU. Moreover, the finding that POS is partially mediating the relationships between the e-HRM SU and organizational outcomes (OC and ES) emphasizes the importance of social exchange relationships within the organization. Furthermore, the findings confirm the relationship between the role of HR staff and e-HRM SU from the LMS' perspectives which must encourage HR staff to enhance the social relationship, their image, and the users' attitudes towards the HR department. Thus, the optimal use of the e-HRM system will enable HR staff to legitimize HRM functions by delivering visible, fair, agreeable, and trusted HRM practices to all employees.

The study draws upon SET and LMX perspectives that employees are deeply influenced by LMs' behavior and performance. LMs' motivation to implement HRM practices influences employees' awareness of HRM quality and effectiveness. Accordingly, HRM implementation is a social process that involves social exchange relations between different HRM end-users (Bos-Nehles & Meijerink, 2018). Meanwhile, TMS encourages the use of a newly implemented HRM system as an alternative to a previous HRM system (Bos-nehles & Bondarouk, 2017), wherever the new system provides support to all HR actors including employees, LMs, top management, job applicants, and different business partners (Stone & Dulebohn, 2013).

TMS can influence employees' intentions and attitudes towards using the HRM system and the actual e-HRM SU. Thus, since employees' perceptions of HRM practices depend on the reciprocal social relationships that they have with their managers (Bos-Nehles & Meijerink, 2018), the employees' perception of management support predicts their attitude towards e-HRM usage (Voermans & Van Veldhoven, 2007).

The central driver for the link between HRM and a firm's performance is based on the idea that HRM practices influence the employees' perceptions and behavior, which in turn leads to affect the organizational performance, which will also affect positively the financial performance. Various empirical pieces of evidence support the significant positive relationship between HRM and a firm's performance which is related to ES and OC (Paauwe, 2009).

In conclusion, based on the previous discussion and the presented evidence, aspects, and factors; HRM effectiveness may cause improved performance and better quality services. In a nutshell, there is a need to explore the black box to determine the nature and causal relationship between HRM effectiveness and organizational performance.

6.5. Philosophical Implications

Philosophical implications support exploring and answering the research questions. Thus, the research philosophy and approaches are the reflection of epistemology that establishes how we would gain knowledge

about this topic. Meanwhile, philosophical assumptions have practical implications for the research design according to Creswell (2007), where epistemology is usually associated with the study of the nature of knowledge, how knowledge is gained from social entities and to be aware of how knowledge is actually generated. Epistemology helps researchers to uncover the answer to the research questions.

In conclusion, the positivist researcher may use the existing theory to develop hypotheses that ought to be tested and confirmed or refuted. These hypotheses may require more development in future research. This will enrich our knowledge regarding e-HRM implantation and consequences as well as contribute to practical and theoretical implications.

6.6. Research Limitations

The main limitation of this study is interrelated to the limited sample size; a larger sample will produce more accurate results but it is more difficult to obtain. This study is also based on cross-sectional data, though longitudinal data are preferred in order to establish causality between the emphasized constructs. Even though, this study offers empirical evidence in the e-HRM context. Unfortunately, the study is limited to two companies, since the third telecommunication company (Zain) adopted a policy that does not participate in any surveys.

Another limitation is that the targeted group is limited to LMs who have different levels of awareness and perception of HRM policy and practices. However, previous researchers reveal that different stakeholder groups (employees, LMs, and HR staff) may have different standpoints regarding their experiences of e-HRM functions.

Despite some limitations, this current study can provide important insights into TMS, OCM, and the role of HR staff from LMs perspective. TMS moderated the relationship between OCM and e-HRM SU. Moreover, the partially mediated proposed mechanism considers POS as a mediator between the e-HRM system and both ES and OC.

6.7. Conclusion

IT has changed the approach in which the HR department handles HRM activities and information sharing. It reduces the paperwork extensively and changes the daily routine besides offering easy access to the bulk of data. The processing and transmission of digitalized HR information are achieved by using e-HRM which is supported by IT and web-based technology. The e-HRM technology can align and cope up with organizational HRM system strategy, policy, and practice.

The main aim of this research is to measure the HRM effectiveness and some organizational outcomes as consequences of e-HRM implementation and adoption towards achieving sustainable development of the organization in this hasty competitive world. This study further shows that e-HRM can transform the HRM functions into effective, more flexible and efficient procedures. Correspondingly, e-HRM components support the organization to develop employees' capabilities which resulted in cost decline and the decrease of the managerial burden. For that, e-HRM is considered the heart of the HRM functions' devolution to LMs and employees.

Adopting a novel approach, this research explored the links between HRM determinants and end-users' attitudes towards e-HRM usage, HRM system effectiveness, and organizational outcomes. This extensive revision highlights the significant role of e-HRM SU in improving the effectiveness of HRM systems at different levels. Finally, the management support will increase the frequency and the optimal usage of the e-HRM system.

The study's findings met the research's objectives through the establishment of a well-tested conceptual framework for the evaluation and assessment of the e-HRM adoption within the telecommunication sector in Jordan. Moreover, the findings answer the research questions related to e-HRM consequences, HRM effectiveness, and organizational outcomes.

The e-HRM system is an effective, consistent, user-friendly tool, and convenient to different HRM end-users. For that, e-HRM is one of the best technological ways of carrying out HRM functions. Through TMS for OCM

and HRM orientation towards the firm's effectiveness, e-HRM can enact as ICT means to achieve sustainable management of HRM activities and competitive advantage. The convenient, effective, and better performance could be occurred through implementing e-HRM technology despite all probable barriers that may face the OCM process. Consequently, e-HRM is considered a successful approach for realizing HRM strategies or philosophy, policy, and practice in the organization through a directed organizational sponsorship. Thus, e-HRM is the way of doing HRM functions and covers several aspects of HRM activities with the use of web-based technology.

The e-HRM role within organizations has ultimately changed from using basic functions related to the daily routine and traditional transactional HRM practices to handling more advanced transformational activities. Even though this study explores e-HRM SU in the telecommunication sector in Jordan, the results will benefit other similar businesses. There is a need to much focus on the ICT aspects related to HRM functions and activities.

Undoubtedly, there is a room for researchers to explore and conduct an in-depth investigation that is related to e-HRM applications and their effectiveness in different business services or industries. Finally, this study encourages future researches to explore the differences between diverse stakeholders' perceptions of e-HRM functions in addition to its impacts on the HRM effectiveness at the levels of philosophy, policy, and practice.

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APPENDIX A

QUESTIONAIRE

Using the e-HRM System in Jordan Telecommunication Sector:

The role of top management support and HR professionals

Part 1: Biographical Information: (Please circle the answer).

Company: ……..……..

1. Gender: a. Male. B. Female.

2. Age (Years):

a. 20 years and less. b. From 21-30. c. From 31-45. d. 45 and above.

3. Level of Education:

a. Diploma b. Bachelor. c. Master. d. Ph.D.

4. Type of employment (Current post): ……

a. Employee. b. Line-manager. c. HR. d. Senior manager.

5. Years of Experience:

a. 5 years and less. b. From 6-10. c. From 11-15. d. 16 and above.

6. How long have you been working in this company?

a. 5 years and less. b. From 6-10. c. From 11-15. d. 16 and above.

7. How often do you use the e-HRM system?

a. Daily. b. Weekly. c. Monthly. d. Rarely. e. Never.

8. For what tasks do you use the e-HRM system?

a. Payroll. b. Leave. c. Health issues. d. Training. e. Other (mention).

9. How would you describe your computer knowledge?

a. Poor. b. Acceptable. c. Good. d. Very good. e. Excellent.

10. How would you describe your general internet knowledge?

a. Poor. b. Acceptable. c. Good. d. Very good. e. Excellent.

Part 2: Using the e-HRM System in Jordan Telecommunication Sector

Below, various statements related to HRM practices and their outcomes are listed.

Please express how far these practices and their outcomes are prevailing in your organization by indicating your level of agreement/disagreement on a 7-point scale; every item could be scored as follows:

1 = *Completely Disagree (CD)*, 2 = *Moderately Disagree (MD)*,
3 = *Slightly Disagree (SD)*, 4 = *Neither Agree nor Disagree (NAD)*,
5 = *Slightly Agree (SA)*, 6 = *Moderately Agree (MA)*, and
7 = *Completely Agree (CA)*.

Top Management Support (TMS)		CD 1	MD 2	SD 3	NAD 4	SA 5	MA 6	CA 7
TM1	Top management encourages the use of e-HRM services.	□	□	□	□	□	□	□
TM2	The strategic plan emphasizes the usefulness of e-HRM usage and considers its adoption as strategically important.	□	□	□	□	□	□	□
TM3	The top management is likely to invest funds in the e-HRM system and has allocated adequate resources for its implementation.	□	□	□	□	□	□	□
TM4	The top management knows the advantages of e-HRM and they are enthusiastic to implement the system.	□	□	□	□	□	□	□
TM5	The top management has a clear vision for e-HRM goals.	□	□	□	□	□	□	□
TM6	The top management is interested in adopting the e-HRM system to gain a competitive advantage.	□	□	□	□	□	□	□
TM7	The top management use suitable communication to assure the flow of information regarding e-HRM implementation.	□	□	□	□	□	□	□

Change Management (CM)								
Characteristics of the e-HRM system (SC)		CD 1	MD 2	SD 3	NAD 4	SA 5	MA 6	CA 7
CM1	The e-HRM system leads to better adherence to policies and procedures.	□	□	□	□	□	□	□
CM 2	The e-HRM system is more efficient than the old way of doing things.	□	□	□	□	□	□	□
CM 3	The use of the e-HRM system makes the performance management of employees more objective.	□	□	□	□	□	□	□

Training								
CM 4	The training received during e-HRM implementation was adequate.	□	□	□	□	□	□	□
CM 5	Adequate resources and support from management were available to assist the users during training on the e-HRM system.	□	□	□	□	□	□	□
Communication								
CM 6	The communication regarding the new e-HRM system implementation was active and sufficient.	□	□	□	□	□	□	□
CM 7	A shared vision of the new HRM system was established and communicated.	□	□	□	□	□	□	□

The Role of HR staff (HR)								
HR1	The HR staffs encourage the use of e-HRM system services.	□	□	□	□	□	□	□
HR2	HR staff participates in the development of HRM processes.	□	□	□	□	□	□	□
HR3	HR staff spends its time on operational HRM activities instead of routine work.	□	□	□	□	□	□	□
HR4	HR staff actively participates in the implementation of e-HRM processes and related change management.	□	□	□	□	□	□	□
HR5	e-HRM tools are essential to the role of HR practitioners becoming more strategic.	□	□	□	□	□	□	□
HR6	HR professionals, with the help of e-HRM tools, can play more of an advisory role to line management.	□	□	□	□	□	□	□

e-HRM usage (SU)								
SU1	I use e-HRM for performing HR self-service.	□	□	□	□	□	□	□
SU2	I use the e-HRM system for (salary, leave approval, promotion, training, communication, ..).	□	□	□	□	□	□	□
SU3	I appreciate the activities that are provided through using e-HRM: Payroll, appraisal, communication.	□	□	□	□	□	□	□
SU4	Fewer errors occur when using e-HRM tools.	□	□	□	□	□	□	□
SU5	e-HRM usage has led to the automation of routine HR work.	□	□	□	□	□	□	□

The HRM effectiveness at philosophy level (PhL)		CD 1	MD 2	SD 3	NAD 4	SA 5	MA 6	CA 7
PhL 1	There are a clear fit and integration between HRM and business strategies.	☐	☐	☐	☐	☐	☐	☐
PhL 2	HR strategy and business strategy complement each other	☐	☐	☐	☐	☐	☐	☐
PhL 3	Managers are involved in decision making in the area of HR.	☐	☐	☐	☐	☐	☐	☐

HRM effectiveness at the policy level (PL)								
PL1	The policies of the HR department are clear and easy to comprehend.	☐	☐	☐	☐	☐	☐	☐
PL2	The policies of the HR department are credible.	☐	☐	☐	☐	☐	☐	☐
Consistency of HR policies								
PL3	The consequences of my HR actions are visible on a timely schedule.	☐	☐	☐	☐	☐	☐	☐
PL4	The HR department is consequent in its operations; it does what it says it does.	☐	☐	☐	☐	☐	☐	☐
Consensus about HR policies								
PL5	There is an agreement about HR policies among HRM decision-makers.	☐	☐	☐	☐	☐	☐	☐
PL6	The HR practices seem fair, and employees are treated equally.	☐	☐	☐	☐	☐	☐	☐

HRM effectiveness at the practice level (PrL)								
Responsiveness								
PrL1	The employee is updated about HR transactions immediately when they are important for him.	☐	☐	☐	☐	☐	☐	☐
PrL2	When I need advice on HR issues or HR services, I receive prompt service from the HR department.	☐	☐	☐	☐	☐	☐	☐
Service quality								
PrL3	The HR services are easily accessible and performed correctly for the first time.	☐	☐	☐	☐	☐	☐	☐
PrL4	The HR department is willing and ready to provide service.	☐	☐	☐	☐	☐	☐	☐
Helpfulness								
PrL5	HRM staffs are helpful to managers when dealing with HR matters.	☐	☐	☐	☐	☐	☐	☐
PrL6	HRM staffs are helpful to employees regarding their rights, entitlements, and needs.	☐	☐	☐	☐	☐	☐	☐

Perceived organizational support (POS)								
POS1	My organization values my contribution to its well-being.	□	□	□	□	□	□	□
POS2	My organization appreciates any extra effort and takes pride in employees' accomplishments.	□	□	□	□	□	□	□
POS3	My organization would not ignore any complaint and cares about general satisfaction at work.	□	□	□	□	□	□	□
POS4	My organization cares about my well-being and shows much concern for me.	□	□	□	□	□	□	□
POS5	When I did the best job possible, my organization would notice that.	□	□	□	□	□	□	□

Organizational Commitment (OC)								
OC1	I feel loyal to my organization and I share its values.	□	□	□	□	□	□	□
OC2	I talk up proudly this organization to my friends as a great organization to work for.	□	□	□	□	□	□	□
OC3	I am extremely glad that I chose this organization to work for over others I was considering at the time I joined.	□	□	□	□	□	□	□
OC4	I'm willing to exert effort to improve my org. performance.	□	□	□	□	□	□	□

Employee satisfaction (ES)								
JS1	I feel satisfied with overall e-HRM practices and the services as (training, compensation, payroll, communication, ..).	□	□	□	□	□	□	□
JS2	I feel satisfied with Line-Managers e-appraisal methods of performance.	□	□	□	□	□	□	□
JS3	I feel that the e-HRM system enhances the respectful treatment of all employees at all levels.	□	□	□	□	□	□	□
JS4	I feel that the e-HRM system guarantees job security.	□	□	□	□	□	□	□
JS5	I feel that the e-HRM system enhances the trust between employees and senior management.	□	□	□	□	□	□	□
JS6	I feel satisfied with the e-HRM system that offers the chance to make use of capabilities and job advancement.	□	□	□	□	□	□	□

APPENDIX B

Table 20: Indicator Cross-validated Communality

	SSO	SSE	Q^2 (=1-SSE/SSO)
CM1	306.000	129.846	0.576
CM2	306.000	125.087	0.591
CM3	306.000	154.759	0.494
CM4	306.000	119.531	0.609
CM5	306.000	123.363	0.597
CM6	306.000	149.930	0.510
CM7	306.000	158.887	0.481
ES1	306.000	188.748	0.383
ES2	306.000	179.331	0.414
ES3	306.000	185.662	0.393
ES4	306.000	177.062	0.421
HR PhL2	306.000	149.708	0.511
HR PhL3	306.000	148.804	0.514
HR Phl1	306.000	160.459	0.476
HR Pol1	306.000	179.210	0.414
HR Pol2	306.000	168.076	0.451
HR Pol3	306.000	168.081	0.451
HR Pol4	306.000	161.444	0.472
HR Pol5	306.000	165.237	0.460
HR Pr1	306.000	158.639	0.482
HR Pr2	306.000	146.803	0.520
HR Pr3	306.000	151.459	0.505
HR Pr4	306.000	147.946	0.517
HR Pr5	306.000	165.902	0.458
HR Pr6	306.000	182.083	0.405
HR1	306.000	161.904	0.471
HR2	306.000	148.620	0.514
HR3	306.000	158.553	0.482
HR4	306.000	177.312	0.421
HR5	306.000	149.071	0.513
OC1	306.000	149.616	0.511
OC2	306.000	158.685	0.481
OC3	306.000	167.978	0.451
OC4	306.000	199.743	0.347
OCM * TMS	306.000		1.000
POS1	306.000	165.063	0.461
POS2	306.000	176.404	0.424
POS3	306.000	152.167	0.503

POS4	306.000	160.322	0.476
POS5	306.000	161.734	0.471
SU1	306.000	199.155	0.349
SU2	306.000	132.485	0.567
SU3	306.000	145.366	0.525
SU4	306.000	166.901	0.455
SU5	306.000	166.780	0.455
TMS1	306.000	183.806	0.399
TMS2	306.000	136.976	0.552
TMS3	306.000	151.687	0.504
TMS4	306.000	162.244	0.470
TMS5	306.000	132.401	0.567
TMS6	306.000	107.407	0.649

Table 21: Total Indirect Effects (Path coefficient)

	ES	**HR Ph**	**HR Po**	**HR Pr**	**OC**	**POS**
HR Ph	**0.002**			**0.015**	**0.007**	
HR Po	**0.044**				**0.188**	
HR Staff	0.273	0.232	0.216	0.239	0.200	0.256
Mod. Effect	0.165	0.141	0.131	0.145	0.121	0.155
OCM	0.428	0.364	0.339	0.375	0.313	0.402
TMS	0.216	0.184	0.171	0.189	0.158	0.202
e-HRM SU	0.380		**0.028**	0.294	0.631	

Table 22: Total Effects

	ES	HR Ph	HR Po	HR Pr	OC	POS	e-HRM SU
HR Ph	0.002		0.036	0.015	0.007		
HR Po	0.044			0.412	0.188		
HR Pr	0.108				0.455		
HR Staff	0.273	0.232	0.216	0.239	0.200	0.256	0.303
Mod. Effect	0.165	0.141	0.131	0.145	0.121	0.155	0.183
OCM	0.428	0.364	0.339	0.375	0.313	0.402	0.475
POS	0.349				0.322		
TMS	0.216	0.184	0.171	0.189	0.158	0.202	0.239
e-HRM SU	0.901	0.767	0.714	0.789	0.660	0.846	

Table 23: Specific Indirect Effects

The indirect relationship	P-Value
HR Staff -> e-HRM SU -> HR Philosophy -> HR Policy -> HR Practices -> E Satisfaction	0.000
Moderating Effect 1 -> e-HRM SU -> HR Philosophy -> HR Policy -> HR Practices -> E Satisfaction	0.000
OCM -> e-HRM SU -> HR Philosophy -> HR Policy -> HR Practices -> ESatisfaction	0.001
HR Philosophy -> HR Policy -> HR Practices -> ESatisfaction	0.002
e-HRM SU -> HR Philosophy -> HR Policy -> HR Practices -> ESatisfaction	0.001
TMS -> e-HRM SU -> HR Philosophy -> HR Policy -> HR Practices -> E Satisfaction	0.000
HR Staff -> e-HRM SU -> HR Policy -> HR Practices -> E Satisfaction	0.009
Moderating Effect 1 -> e-HRM SU -> HR Policy -> HR Practices -> E Satisfaction	0.006
OCM -> e-HRM SU -> HR Policy -> HR Practices -> E Satisfaction	0.014
HR Policy -> HR Practices -> E Satisfaction	0.044
e-HRM SU -> HR Policy -> HR Practices -> E Satisfaction	0.030
TMS -> e-HRM SU -> HR Policy -> HR Practices -> E Satisfaction	0.007
HR Staff -> e-HRM SU -> HR Practices -> E Satisfaction	0.016
Moderating Effect 1 -> e-HRM SU -> HR Practices -> E Satisfaction	0.010
OCM -> e-HRM SU -> HR Practices -> E Satisfaction	0.025
e-HRM SU -> HR Practices -> E Satisfaction	0.053
TMS -> e-HRM SU -> HR Practices -> E Satisfaction	0.013
HR Staff -> e-HRM SU -> POS -> E Satisfaction	0.089
Moderating Effect 1 -> e-HRM SU -> POS -> E Satisfaction	0.054
OCM -> e-HRM SU -> POS -> E Satisfaction	0.140
e-HRM SU -> POS -> E Satisfaction	0.295
TMS -> e-HRM SU -> POS -> E Satisfaction	0.071
HR Staff -> e-HRM SU -> E Satisfaction	0.158
Moderating Effect 1 -> e-HRM SU -> E Satisfaction	0.096
OCM -> e-HRM SU -> E Satisfaction	0.248
TMS -> e-HRM SU -> E Satisfaction	0.125
HR Staff -> e-HRM SU -> HR Philosophy	0.232
Moderating Effect 1 -> e-HRM SU -> HR Philosophy	0.141
OCM -> e-HRM SU -> HR Philosophy	0.364
TMS -> e-HRM SU -> HR Philosophy	0.184
HR Staff -> e-HRM SU -> HR Philosophy -> HR Policy	0.008
Moderating Effect 1 -> e-HRM SU -> HR Philosophy -> HR Policy	0.005
OCM -> e-HRM SU -> HR Philosophy -> HR Policy	0.013
e-HRM SU -> HR Philosophy -> HR Policy	0.028
TMS -> e-HRM SU -> HR Philosophy -> HR Policy	0.007
HR Staff -> e-HRM SU -> HR Policy	0.208
Moderating Effect 1 -> e-HRM SU -> HR Policy	0.126
OCM -> e-HRM SU -> HR Policy	0.326
TMS -> e-HRM SU -> HR Policy	0.164
HR Staff -> e-HRM SU -> HR Philosophy -> HR Policy -> HR Practices	0.003

Moderating Effect 1 -> e-HRM SU -> HR Philosophy -> HR Policy -> HR Practices	0.002
OCM -> e-HRM SU -> HR Philosophy -> HR Policy -> HR Practices	0.005
HR Philosophy -> HR Policy -> HR Practices	0.015
e-HRM SU -> HR Philosophy -> HR Policy -> HR Practices	0.011
TMS -> e-HRM SU -> HR Philosophy -> HR Policy -> HR Practices	0.003
HR Staff -> e-HRM SU -> HR Policy -> HR Practices	0.086
Moderating Effect 1 -> e-HRM SU -> HR Policy -> HR Practices	0.052
OCM -> e-HRM SU -> HR Policy -> HR Practices	0.134
e-HRM SU -> HR Policy -> HR Practices	0.283
TMS -> e-HRM SU -> HR Policy -> HR Practices	0.068
HR Staff -> e-HRM SU -> HR Practices	0.150
Moderating Effect 1 -> e-HRM SU -> HR Practices	0.091
OCM -> e-HRM SU -> HR Practices	0.235
TMS -> e-HRM SU -> HR Practices	0.118
HR Staff -> e-HRM SU -> HR Philosophy -> HR Policy -> HR Practices -> OC	0.002
Moderating Effect 1 -> e-HRM SU -> HR Philosophy -> HR Policy -> HR Practices -> OC	0.001
OCM -> e-HRM SU -> HR Philosophy -> HR Policy -> HR Practices -> OC	0.002
HR Philosophy -> HR Policy -> HR Practices -> OC	0.007
e-HRM SU -> HR Philosophy -> HR Policy -> HR Practices -> OC	0.005
TMS -> e-HRM SU -> HR Philosophy -> HR Policy -> HR Practices -> OC	0.001
HR Staff -> e-HRM SU -> HR Policy -> HR Practices -> OC	0.039
Moderating Effect 1 -> e-HRM SU -> HR Policy -> HR Practices -> OC	0.024
OCM -> e-HRM SU -> HR Policy -> HR Practices -> OC	0.061
HR Policy -> HR Practices -> OC	0.188
e-HRM SU -> HR Policy -> HR Practices -> OC	0.129
TMS -> e-HRM SU -> HR Policy -> HR Practices -> OC	0.031
HR Staff -> e-HRM SU -> HR Practices -> OC	0.068
Moderating Effect 1 -> e-HRM SU -> HR Practices -> OC	0.041
OCM -> e-HRM SU -> HR Practices -> OC	0.107
e-HRM SU -> HR Practices -> OC	0.225
TMS -> e-HRM SU -> HR Practices -> OC	0.054
HR Staff -> e-HRM SU -> POS -> OC	0.082
Moderating Effect 1 -> e-HRM SU -> POS -> OC	0.050
OCM -> e-HRM SU -> POS -> OC	0.129
e-HRM SU -> POS -> OC	0.272
TMS -> e-HRM SU -> POS -> OC	0.065
HR Staff -> e-HRM SU -> OC	0.009
Moderating Effect 1 -> e-HRM SU -> OC	0.005
OCM -> e-HRM SU -> OC	0.014
TMS -> e-HRM SU -> OC	0.007
HR Staff -> e-HRM SU -> POS	0.256
Moderating Effect 1 -> e-HRM SU -> POS	0.155
OCM -> e-HRM SU -> POS	0.402
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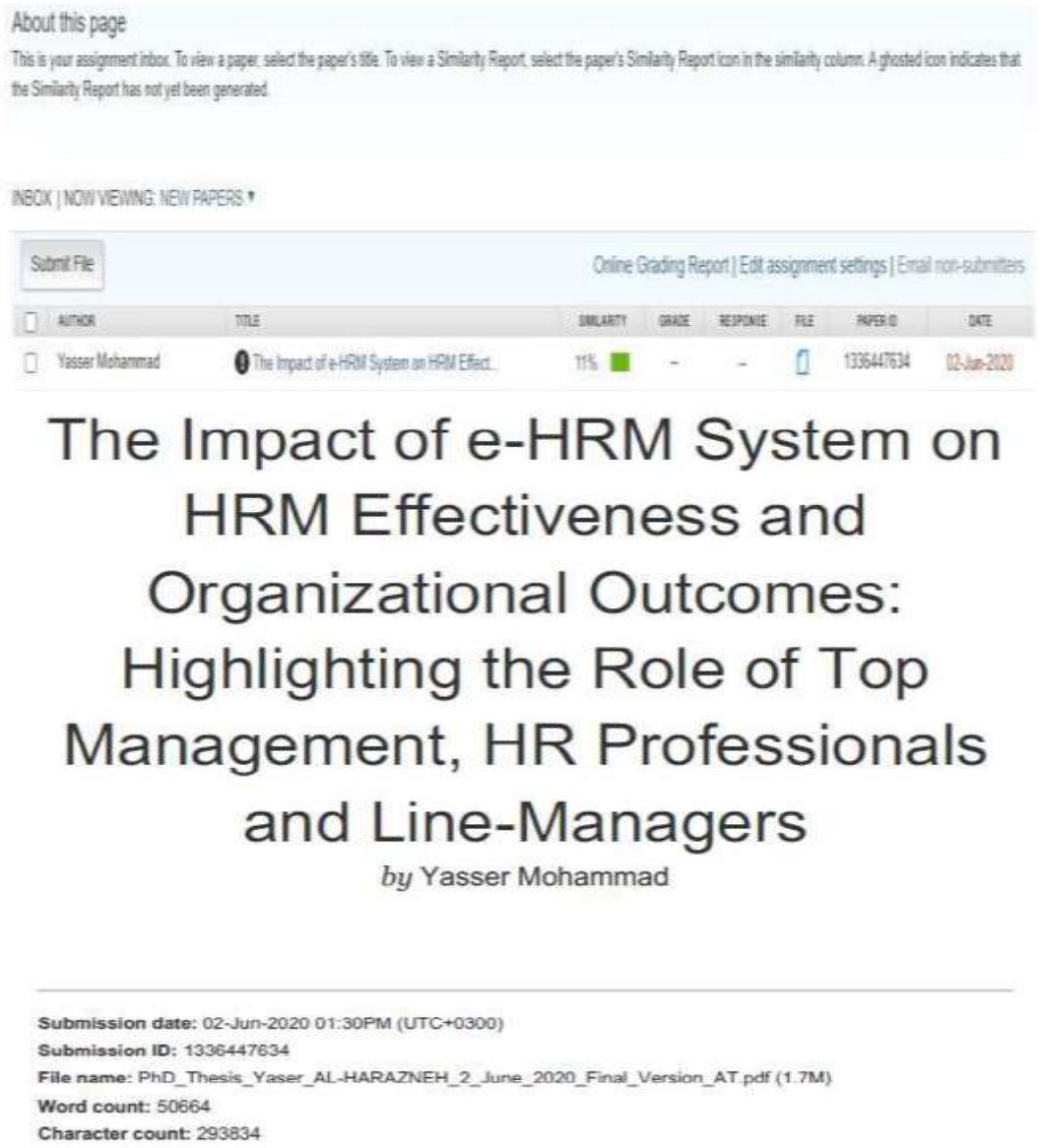

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