

An Evidence-Based Review of e-HRM and Its Impact on Strategic Human Resource Management

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Abstract

Evidence-based review of e-HRM on strategic human resource management plays a crucial role for HR managers. The review of the literature reveals that numerous studies have been conducted to comprehend how modern HR management teams in several organizations have successfully developed a set of interrelated internal delivery and professional service strategies to meet the external challenges posed by modern organizations' business strategies and the longer-term brand recognition and company's reputation drivers. The aim of this research is to establish whether or not enhancing strategic human resource management is heavily dependent on evidence-based e-HRM in accordance with the adoption of the Saudi Arabia e-HRM system, which enhanced the effectiveness of enhancing strategic human resource management. This study has been conducted at the management level of the private and government sectors in Saudi Arabia. The total number of respondents in this study is 150, and the data analysis tool used in this study is SPSS-22. The study highlighted the significant impact of evidence-based E-HRM on strategic human resource management. E-HRM plays a significant role in improving decision making, enhancing human capital, training, and performance assessment of employees, leading to the strategic advantage. The regression analysis showed a significant positive impact of E-HRM on strategic human resource management.

Keywords

E-HRM, Strategic Human Resource Management, Human Capital, E-Employees, HR Managers

1. Introduction

Modern information technology-based management has emerged due to com-

munication and information technology systems improvements. Because these are readily available, HRM decision support systems function is under intense pressure to improve more effective, successful, creative, and competent in promoting strategic goals and developing a new e-HRM strategy. Most recent developments in HR have been significantly impacted by technology. Most recent developments in HR have been significantly impacted by technology which focuses on information-based relevant data, self-service, and interactive workplace (Iqbal et al., 2019).

Because of advancements in technology, strategic human resource management had to adapt in order to deal with shifting attitudes among employees, become more adaptable, and improve its efficiency in terms of costs. As a result, it is essential to assess both positive and bad consequences when implementing and developing E-HRM. For example, it is essential to monitor changes in the impact of evidence-based E-HRM. As a consequence of this, the focus of the research will be on the following issues:

- How does evidence-based electronic human resource management affect things?
- How does the implementation of e-HRM affect the strategic management of human resources?

One of the most significant advancements in HRM is electronic human resource management (e-HRM) (Bondarouk et al., 2017). Every facet of human life has been impacted by information technology (Boukis & Kabadayi, 2020); HRM is one such area and an essential component (Calvard & Jeske, 2018). Essentially, e-HRM refers to the utilization of technology used in every firm to carry out various human resources or personnel tasks, including recruitment, hiring, training, performance reviews, and career advancement and progression (Obeidat, 2016). Recognizing the distinction between e-HRM and human resource information systems (Cascio & Montealegre, 2016). The former deals with activities involving employees and internal and external parties (Cheng & Hackett, 2019); the latter interacts with the organization's human resource department (Connelly et al., 2020). An additional significant sustainability challenge has been brought to light by rising technology consumption and resource depletion. Every sort of resource, including intellectual property, capital, and technology, can benefit from the sustainability concept.

Regarding the definition of e-HRM, there is neither consistency nor consensus. So, a variety of definitions have been put forth. According to Ruël, Bondarouk, and Looise (2004), the term "e-HRM" refers to any combination of HRM and IT to benefit specific managers and employees. The design, implementation, and use of information technology for networking and supporting at least two individual or collective actors in the joint performance of human resource activities are called electronic human resource management (e-HRM). It is utilized for transactional tasks, hiring, choosing, training, paying, and managing performance (Winarto, 2018).

Wege, Ngige, and Dieli (2019) highlighted that electronic, human resources management is the administrative assistance provided to the human resources

(HR) unit to facilitate business transactions and implement HR plans, policies, and practices in businesses. According to [Zafar \(2013\)](#), the main e-HRM functions are:

1.1. Profile for E-Employees

The E-Employee Profile is a comprehensive employee database system and web application that creates a single access point to employee information. Certification, Designation, Honor/Award, Affiliation, Education, Prior Work Experience, Assessment Skills, Professional Competence, Workplace Assignment Rules, Employee Availability, Staff Exception Working Days, Employee Consumption, Employee Techniques, Employment Data, Sensitive Job Information, Service Information, and Employee Locator Easy are all included in an employee's electronic profile.

1.2. E-Recruitment

Online recruitment is considered one of e-HRM function. It alludes to a website run by an online recruiting provider that enables businesses to advertise job openings on their corporate websites and accept electronic resume submissions from candidates via email. The location of resumes and current online searches are also included ([Milon, Alam, & Pias, 2022](#)).

1.3. E-Learning

Any learning, training, or educational program using electronic tools, programs, and procedures for knowledge development, management, and transfer is referred to as e-learning. "eLearning" refers to various tools and procedures, including computer-based learning, virtual classrooms, and online collaboration. It delivers material available on the Internet, intranet/extranet (LAN/WAN), CD-ROM, audio- and video recording, satellite broadcast, and more. The training curriculum is available. The online testing procedures utilized in the E-selection process are HRM and are used to acquire data on the degree of knowledge, behavior, and attitude.

By reducing direct costs (instructors, printed materials, training facilities) and indirect costs (travel time, housing and meal costs, worker downtimes), online learning is becoming a more popular alternative for businesses to disseminate training internally. According to [Hirschman & Gaizauskas \(2001\)](#), e-learning provides a solution for training in isolated or underprivileged areas and individualized instruction tailored to each learner's needs ([Mumford, 2003](#)).

System for e-performance is a web-based assessment system that uses the web (intranet and Internet) to assess employees' abilities, knowledge, and performance while spending less money.

1.4. E-Compensation

Compensation planning is a requirement for all businesses, large and small. The

process of ensuring that managers distribute salary increases fairly across the firm while maintaining budget constraints is known as compensation planning. The use of the intranet and Internet has grown essential as businesses have begun to develop. E-Compensation Management uses an intranet and the Internet to plan compensation while saving money. By establishing the workforce in advance and examining the prior data records of the employee absence, the e-HRM called E-Leave helps to reduce costs.

1.5. Performance in the Workplace (O.P.)

According to business studies, organizational performance is the most interesting phenomenon. It is an outcome-based financial and operational indicator believed to indicate the achievement of organizations' economic aims (Al-Alwana et al., 2022). According to Iqbal et al. (2019), organizational performance indicates how well a company accomplishes its objectives. Similarly, Connelly et al. (2020) assert that organizational performance is a social construct that considers the expectations of stakeholders as well as organizational values and goals when creating the standards that will serve as the basis for its assessment. Concerning these concepts, the O.P. define as the decision that considers corporate values and goals and how it represents stakeholder satisfaction.

1.6. The Theory of the Resource-Based View

According to the resource-based view, the firm's human resources are the most valuable component of its organizational competitive advantage since they are valued, distinctive, inimitable, and difficult to replace (Barney, 1991). The use of e-HRM functions like e-learning and e-recruiting can help businesses maintain their competitive advantage which this paper focused on (Wege, Ngige, & Dieli, 2019).

2. Research Questions

This study is based on the following research questions:

- What is the impact of evidence-based E-HRM?
- What is the impact of e-HRM on strategic human resource management?

3. Research Objectives

This study is based on the following research objectives:

- To analyze the impact of evidence-based E-HRM.
- To examine the impact of e-HRM on strategic human resource management.

4. Literature Review

Classification of E-HRM and Its Impact on Strategic Human Resource Management

The development of e-HRM began many years ago when Lepak & Snell (1998) discussed three significant e-HRM classifications: 1) operational e-HRM (which

deals with basic activities functions related to administration of HR processes like payroll and personal information records of employees), 2) relational e-HRM (which covers more fundamental activities associated with training, performance appraisal, and organizational development), and 3) Transformational e-HRM (strategic consideration based on knowledge management, change management and competency following skills and abilities (Mojeed-Sanni & Ajonbadi, 2019; Diaz-Carrion et al., 2021). A transformative e-HRM, strategic e-HRM systems change the organization's overall operational activities (Gardas et al., 2019). Similarly, Ulrich & Dulebohn (2015) identified three categories of e-HRM roles: transactional, traditional, and transformational. The body of research to date supports several organizational benefits of e-HRM. E-HRM allows digitizing analog or manual organizational records and data to be processed digitally in the future (Gelbard et al., 2018).

Additionally, e-HRM enables enterprises to investigate the possibilities of information transformation through electronic means to realize strategic objectives like long-term e-HRM systems (Golden-Biddle, 2020). According to eminent academics (Guerci et al., 2019), automating human resource operations improves the organization's long-term sustainability and provides cost control. Additionally, it supports effective and accurate decision-making about activities related to human resources (Muisyo & Qin, 2021). Kupper et al. (2021) discussed the tactical and overarching e-HRM viewpoints. Strategic e-HRM guides toward higher organizational performances, whereas operational e-HRM assists organizations in increasing return on investment. However, different organizations or businesses have various challenges in adopting e-HRM and its related operations.

Acceptability of e-HRM solutions is the main issue that enterprises are facing. According to Necula & Strmbei (2019), the idea of sustainable e-HRM is linked to environmentally friendly operations. At present, e-HRM practices and long-term e-HRM systems must be coordinated, which is a major problem for human resource professionals (Pham & Paille, 2019). It requires a lot of time and effort to comprehend and adapt e-HRM practices, then connects them to long-term e-HRM systems. The former covers measures that can improve employee capacities through electronic, human resource management (e-HRM). It will involve developing ethical brochures, emphasizing moral principles, teaching digital skills to selected employees, and engaging in ethical leadership; practices that improve opportunities for e-HRM (unethical activities are brought to light through whistle-blowing, workplace collective bargaining involvement, morally acceptable knowledge building for employees, and comprehension of the electronic climate); and practices that improve motivation for e-HRM (involve incentive plans for ethical behavior, award programs) through employee training to utilize digitally furnished e-HRM systems, progress monitoring of e-HRM systems, and ethically built sustainable e-HRM systems all improve employee and organizational performance.

Hypothesis 1: H1: there is a significant relationship between E-HRM on strategic human resource management.

5. Research Methodology

The use of e-HRM practices differs from country to country and industry to industry because there are not any standards for them (Iqbal et al., 2019). According to Iqbal et al. (2019), there is empirical proof of the value creation in e-HRM proposition relevant to emerging nations. According to research, country-specific empirical evidence is required to prove the e-HRM.

Individual-industry studies allow researchers to determine the most important competitive metrics that industry participants take into account and evaluate the distinct tactics that organizations participate in to increase performance measured by those indicators, which is quite pertinent to the discussion of e-HRM performance. The study choose sample from HR managers working in (the government and private sectors in Saudi Arabia). The background of the HR managers in Saudi Arabia can be divided into privatization and nationalization. In the evolution of privatization, an antiquated system has existed for some time, and ineffective use of important organizational resources like human resources is crucial and worries the HR managers (Burki & Niazi, 2009).

To develop individual HR managers, it is essential to have capable, successful, and competent personnel. The subject of this study is confidential. There is evidence for the value production of operational, interpersonal, and transformative e-HRM techniques.

5.1. Research Design

The process of selecting an appropriate data collection strategy from the numerous available options is an essential part of the research design process. It is possible to think of it as the process of choosing between quantitative and qualitative data (Leavy, 2017). On the other hand, it can also be defined as the overall strategy for carrying out the process of data collecting and analysis (Snyder, 2019). This interpretation of the term is more common. The research will make use of an explanatory research design, in which the defining aspects of the occurrence will be laid forth in minute detail (Creswell & Creswell, 2017). The explanatory research design makes use of a methodical approach for defining the population and the situation; nevertheless, it does not offer an explanation for the characteristics, behaviours, or attitudes that are being studied (Bloomfield & Fisher, 2019). It is possible to employ statistical analysis, but it does not provide analysis of the causal relationships between the many components that were identified in the research. The study employs a method of data collection known as cross sectional data, in which the data is gathered only once during a span of time.

5.2. Questionnaire

In the course of this investigation, we shall be making use of the questionnaire

with closed-ended questions. The questionnaire with no room for open-ended responses makes it easier to collect data that is pertinent to the investigation (Palinkas et al., 2015). In the closed-ended questionnaire, the demographic questions will be separated from the questions on leadership attitudes by a dividing line. Questions pertaining to demographic data such as age, gender, income, tenure, and other aspects will be included in the list of those to be asked. The nominal, ordinal, and interval scales are going to be used in the formulation of these questions (Goertzen, 2017). Questions pertaining to gender will be graded on a nominal scale, but questions pertaining to age and income will be graded on an interval scale. The ordinal scale will be utilized in the construction of the question regarding tenure. The second half will consist of questions regarding leadership attitudes, and each question will be constructed according to the Likert scale, which has five points (Goertzen, 2017). It gives the impression that the ratio scale is going to be used to develop questions on leadership attitude, and that the scale is going to range from strongly agree to strongly disagree.

A structured self-administered questionnaire in Riyadh and Jeddah was distributed. A total of 200 questionnaires were distributed to the HR managers of the upper level, middle level, and lower-level managers. 150 questionnaires were returned to researchers, so the response rate was 75%. This study is an explanatory, cross-sectional, deductive approach, and the research philosophy is positivism. Empirical work, consultant reports, industry and vendor surveys about e-HRM, and conceptual and empirical studies were all analyzed to determine the characteristics and practices of operational, relational, and transformational e-HRM systems. Operational, relational, and transformational (e-HRM) systems cover a wide range of activities, including e-payroll, employee self-profiling systems, e-benefits, timetables, e-attendance registers, e-performance management systems, e-recruitment and selection, e-talent monitoring, e-training, e-grievance strategic planning, knowledge generation, access and sharing practices, and firm communities.

5.3. Data Collection

Convenient sampling was used in this study. 21 items of e-HRM were utilized (Iqbal et al., 2019). Cronbach's alpha of this scale was .77. The data analysis tools used for this study were SPSS-22 and Microsoft Excel. The data were analyzed through descriptive statistics, reliability, correlation, and regression.

5.4. Data Analysis

SPSS was used to analyze the data. The data were analyzed through frequencies, descriptive, correlation, and regression. SPSS is used as the statistical tool in this research (Palinkas et al., 2015). Initially, the data is imported from excel sheet and then descriptive statistics and response frequencies are evaluated.

5.5. Summary of the Data

Table 1 shows the total number of respondents was 150, with age having a mean

Table 1. Descriptive statistics and frequencies.

		Age	Gender	Education	Experience in years	Level of Management	Sector
N	Valid	150	150	150	150	150	150
	Missing	0	0	0	0	0	0
	Mean	1.860	1.467	2.400	2.267	1.733	1.333
	Std. Deviation	.8112	.5006	.8027	1.2406	.7743	.4730
	Variance	.658	.251	.644	1.539	.600	.224
	Skewness	.262	.135	-.852	.334	.503	.714
	Std. Error of Skewness	.198	.198	.198	.198	.198	.198
	Kurtosis	-1.433	-2.009	-.912	-1.523	-1.162	-1.510
	Std. Error of Kurtosis	.394	.394	.394	.394	.394	.394
	Minimum	1.0	1.0	1.0	1.0	1.0	1.0
	Maximum	3.0	2.0	3.0	4.0	3.0	2.0

value of 1.8, gender having a mean value of 1.467, education being 2.400, experience being 2.267 and 1.733, and the sector being 1.33. The standard deviation value should be between +1/-1, and kurtosis ranges from +3/-3. So, all values are within range of the data.

6. Results

The frequency range of the data concerning age refers to 20 - 30 consisting of 61 respondents, 31 - 40 includes 49, and 41 - 50 includes 40 respondents. In gender, 80 included males, and 70 respondents were females. In education demographics, the respondents with a degree of bachelors were 30, Masters' Degree was 30, whereas respondents who held a degree of Ph.D. were 90. The experience of respondents was also divided into four categories. The first category based on 1 - 5 includes 60 respondents, the 6 - 10 category includes 30 respondents, the 11 - 15 category includes 20 respondents, whereas the 16 and above category includes 40 respondents.

The data was gathered at the management level, respondents in the current study. Upper-level management includes 70 respondents, Middle-level management includes 50 respondents, and Lower-level management includes 30 respondents. The HR managers are divided into two categories which include private and public. The public sector includes 100 respondents, whereas the private sector includes 50. Therefore, this study highlighted that data includes 150 respondents, and there was no missing value.

6.1. Descriptive Statistics

Descriptive statistics were also analyzed for all the demographic and variables

used in the study. Age, gender, education, experience, management level, and sector were measured through skewness and kurtosis. E-HRM and strategic management were also measured, and their skewness and kurtosis values are also shown. The table below shows that the skewness and kurtosis values are within the acceptable range, which skewness values are from -1 to $+1$, and kurtosis values also range from -3 to $+3$. This table also shows the number of respondents, minimum, maximum, mean value, standard deviation, skewness, and kurtosis. The value of E-HRM includes $-.544$ and -1.213 skewness and kurtosis value, whereas SHRM includes $-.309$ and $-.270$ skewness and kurtosis, respectively as presented in **Table 2**.

6.2. Reliability

For checking internal consistency, **Table 3** shows that Cronbach alpha was conducted. **Sekaran (2006)** states the reliability value should be greater than $.6$. So, both the variables used in this study have the α -value of E-HRM is $.916$, having 21 items of good reliability, whereas the study has the α -value of SHRM is $.708$, having 5 items, which is also good reliability.

Pearson correlation was conducted and presented in **Table 4**. The correlation depicts the relation of one variable with another. This study analyzed the correlation between E-HRM and SHRM, highlighting that the correlation value is $.503^{**}$. The value of correlation should be between $+1/-1$. This value depicts a significant positive relationship, and they are highly correlated.

6.3. Regression

The regression value depicts the impact of one variable on another variable. In this study, E-HRM is an independent variable, whereas SHRM is a dependent variable. The regression value lies from $0 - 1$. Here in this model in **Table 5** and **Table 6**, the regression value R determines as $.503$ with R^2 change being $.253$. So

Table 2. Descriptive statistics.

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Age	150	1.0	3.0	1.860	.8112	.262	.198	-1.433	.394
Gender	150	1.0	2.0	1.467	.5006	.135	.198	-2.009	.394
Education	150	1.0	3.0	2.400	.8027	-.852	.198	-.912	.394
Experience n years	150	1.0	4.0	2.267	1.2406	.334	.198	-1.523	.394
Level of Management	150	1.0	3.0	1.733	.7743	.503	.198	-1.162	.394
Sector	150	1.0	2.0	1.333	.4730	.714	.198	-1.510	.394
EHRMC	150	2.29	4.00	3.3778	.67264	-.544	.198	-1.213	.394
SHRMC	150	1.00	5.00	3.7693	.77572	-.309	.198	-.270	.394
Valid N (listwise)	150								

Table 3. Reliability statistics.

	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
E-HRM	.916	.908	21
SHRM	.708	.670	5

Table 4. Pearson correlation.

		EHRMC	SHRMC
	EHRMC	1	.503**
	SHRMC	.503**	1

** . Correlation is significant at the .01 level (2-tailed).

Table 5. Model summary.

Model	R	R Square	Adjusted R Square	Std. The error in the Estimate	Change Statistics				
					R Square Change	F Change	df 1	df 2	Sig. F Change
1	.503a	.253	.248	.67274	.253	50.108	1	148	.000

a. Predictors: (Constant), EHRMC; b. Dependent variable: SHRMC.

Table 6. Coefficients.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	1.810	.282		6.416	.000			
	EHRMC	.580	.082	.503	7.079	.000	.503	.503	.503

a. Dependent variable: SHRMC.

here in this model, there is a 50% change in strategic human resource management. The significant value is .00. The regression analysis showed that there is a significant positive impact of E-HRM on strategic human resource management.

7. Discussion

The perceptual link between these two constructs is most commonly explored in the literature on e-HRM, and strategic HRM, which, until, has adopted a contingent theoretical perspective. Different studies we looked at offer proof of a significant correlation between people's opinions of e-HRM efficacy and perceptions of the strategic effectiveness of the HRM function (e.g., employees, HR managers, line managers, senior executives). The second most popular strategy views e-HRM as the root of business process enhancements that are thought to be connected to more strategic, possibly more effective, HRM practices (Iqbal et al., 2019).

Most empirical studies on e-HRM and strategic HR have looked at the connection between e-perceived HRM's traits and perceptions of the strategic potency of the HR function or of HR managers. The evidence repeatedly points to a strong, favorable association. These researches show a correlation between strategic HR effectiveness and e-HRM perceptions (Diaz-Carrion et al., 2021). As a result, opinions of HR's strategic efficacy are positively (or negatively) correlated with perceptions of e-HRM. Although the aforementioned causal ordering is assumed in these cross-sectional and case study analyses, there is no evidence to refute the opposite relationship. In other words, it's also possible that opinions about strategic HR effectiveness will influence e-HRM effectiveness favorably or negatively.

HR managers anticipate that e-HRM implementations will enhance their strategic capabilities and allow them to become strategic business partners. Results on whether these hopes were fulfilled are inconsistent. While more recent investigations have called this notion into doubt, earlier exploratory experiments have suggested that such a strategic objective is achieved. Other strategic goals like competitive advantage, organizational performance, or improved HR results like greater human capital, decreased turnover, or increased organizational commitment or work satisfaction were also associated with e-HRM. The current research focuses on variables one step (or more) distant from such strategic outcomes.

8. Implications

8.1. Theoretical Implications

One of the key contributions of our study is the finding that operational, relational, and transformational e-HRM strategies have the potential to increase employee productivity. According to the report, using e-HRM practices raises the efficiency of HR procedures, boosting worker output. Previous studies have shown that e-HRM practices raise the caliber of HR services. However, several authors have claimed (Al-Alwana et al., 2022) that the e-HRM performance relationship is influenced by perceptions of high-quality HR services and that achieving strategic outcomes for the organization is the ultimate goal of the HRM system. As a result, the study adds to the literature review by demonstrating that e-HRM practices raise the caliber of HR services by increasing employee productivity. This study expands on the e-HRM models by demonstrating how E-HRM impacts strategic human resource management.

Any organization that wants to improve the employer-employee relationship must have access to e-HRM. As a result, e-HRM is an operational, relational, and transformative technology that gives businesses a competitive edge.

8.2. Managerial Implications

The study clearly has management implications. The mere implementation of e-HRM is insufficient for managers to achieve their strategic goals; rather, they

must adopt a comprehensive strategy and boost the system's effectiveness by concentrating on the caliber of its services. Additionally, there is much room for the remaining Saudi HR managers to implement technology based HRM solutions to support their staff and meet their strategic goals. This research demonstrates that businesses should be aware of the operational e-capabilities of HRMs and efficacy because it significantly impacts staff productivity and how HRM services are perceived. Furthermore, relational e-HRM techniques like electronic performance reviews and grievance procedures enhance views of the working environment. The productivity of employees is also strongly predicted by transformational e-HRM practices that concentrate on knowledge management procedures, including information access, exchange, and employee development. Practitioners may provide value to their organizations and help the HR function advance strategic goals by implementing e-HRM practices (Obeidat, 2016).

9. Conclusion

The study successfully argued that spending money on human resource management programs and procedures is associated with effective strategic human resource management. The findings also support the idea that improving strategic human resource management is highly dependent on evidence-based e-HRM. The study demonstrated that adopting the Saudi Arabia e-HRM system improved effective strategic human resource management.

It specifically shows how operational, relational, and transformational e-HRM approaches are essential for enhancing the caliber of HR services and strategic human resource management. Even though additional research is needed to examine the impact of e-HRM on workforce performance and should take other factors into account, such as commitment and turnover, to provide conclusive findings about e-HRM performance linkages, this study offers a helpful starting point for evaluating the impact of e-HRM on strategic human resource management.

This study has the following limitations. This study was cross-sectional, so it is difficult to generalize these results. This study was based on some of the HR managers with limited respondents, and in the HR managers of Saudi Arabia only based on limited cities. This study is based on variables like regression analysis, such as the impact of E-HRM on strategic human resource management. This study needs to be conducted in other cities in Saudi Arabia and other sectors such as sim-government and non-profit organization to increase the generalizability.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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