

## **The Relationship between Electronic Human Resources Management and Employees Engagement**

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**Abstract.** The infrastructure and use of the Internet have developed rapidly in recent years, which propelled traditional human resources systems into a new electronic human resources (E-HRM) approach. A vision of King Abdullah II, King of Jordan, is to invest in the information technology sector in terms of providing the necessary infrastructure and activating e-government and electronic services for public sector and citizens. Therefore, this paper come to explore the relationship between e-HRM and employees' engagement (EE). A total number of 215 usable questionnaires were collected from employees working in different public organizations in Jordan. Partial least square (PLS-SEM) is employed to test the research hypotheses. The results indicate that e-training and e-compensation has a positive relationship with EE, while no relationship between e-performance appraisal and EE. Accordingly, the current study recommends that governments to enhance and apply e-HRM in their organization to improve and increase EE. The study's limitations and recommendations for future studies are also considered.

**Keywords:** e-HRM, public sector, employee engagement, government organization, Jordan.

## **1. Introduction**

In every organization equipped with advanced technology, skilled HR aspects are the main resources to achieve the organizations goals. Skilled HR can be achieved through good management, and through active management of HR, individuals will develop a high level of engagement in which individuals are completely involved in their work and the strength of their job and organization (Saragih & Prasetyo, 2020). According to Zenoff (2012) engagement is a significant key for an organization to track its goals, and there is a strong link between engagement and customer loyalty.

To enhance EE, organizations need to know the predecessors that effect engagement, several factors have an effect on EE such as the role of effective HRM practice that can make employees feel satisfied to work above standard (Sabiu et al, 2019). With the development of HRM technology, it becomes a major problem for the human resource department. However, with the implementation of a new cloud-based system, HRM becomes more effective when compared to its early stages (Ghosh & Tripathi, 2018).

A study conduct in Jordanian public sector by Alnawaiseh and Almasarweh (2020) recommended that Jordanian public universities have to pay more attention to GHR recruitment-which is a practice of HRM- to gain high qualification and professionals' employees that leads to increasing engagement. Prior studies conducted in Jordan related to e-HRM applied on private sector (e.g. AlHamad et al, 2022; Al-Ajlouni, Nawafleh & Alsari, 2019; Khashman, 2022; Malkawi, 2018). The e-government program came within the framework of a lofty royal vision that aims to improve government performance in terms of service provision and performance efficiency, reduce the time and cost required, address administrative slack, get rid of traditional management methods, reduce some aspects of administrative corruption such as nepotism, and reduce the use of papers in business (Olimat, 2018). Therefore, there are a paucity of studies related to e-HRM conducted in Jordan in public sector.

In here the main aims of this study is to identify, how EE gradually changed with the implementation of e-HRM and also to find out how EE linked with e-HRM.

## **2. Literature review and Hypotheses**

### **2.1. Electronic human resources management (e-HRM)**

e-HRM management has traditionally focused on implementing and structuring the HR process using technology to create HR network structures throughout the organization (Strohmeier, 2007). Boundarouk and Ruël (2009) expanded on this definition by including a focus on targeting employees and managers because these stakeholders are the consumers who create value for web-based technologies. Boundarouk and Ruël (2009) define e-HRM as “a comprehensive term that covers all possible mechanisms and contents of integration between human resource management and information technology with the aim of creating value within and

across organizations for target employees and management”. Also, e-HRM can be well defined as the effective use of HR functions over a network or internet medium that is linked to the common goals and objectives of the organizations (Nanayakkara, 2020). As well as, Espinosa et al (2014) defined e-HRM as doing HRM activities via internet. Online HR provides real-time information to owners, managers, and employees anywhere, anytime. E-HRM implements human resource strategies, policies, and practices based on web-based technology. With the assessment of human resources from personnel management to digitization, most HR functions are now cloud-based (Ghosh and Tripathi, 2018).

On the other hand, e-HRM practices provide several key benefits to organizations. Among the benefits highlighted by the circles of researchers and practitioners are: enhanced HR efficiency; lower costs; increase HR planning; Enabling HR professionals to become institutional partners (Gueutal & Stone, 2005; Kavanagh, & Johnson, 2017)

## **2.2. E-HRM practices**

e-HRM is actually a relatively new term for IT-enabled HRM, particularly via the use of web technology. Against this background, e-business development includes ways to transfer HRM practices to information technology and the Internet (Zheng et al., 2010). However, organizations are increasingly relying on e-HRM practices to offer management solutions that contribute to the effectiveness of human capital. These solutions include e-training, e-performance appraisal, and e-compensation. These are described in detail in the following subsections

## **2.3. E-training**

The most notable trend regarding employee training in the past two decades has been the increased use of technology in the training process (Brown, Charlier, & Pierotti, 2012). E-training is similar to e-learning in several ways especially in terms of delivery methods and technology used, except that it refers to a much shorter time frame of learning which is usually tailored to the achievement of a particular learning objective or skill. Typical types of e-training are video conferencing and web-based training. These technologies are intended to allow for "new, better, cheaper, and faster" instruction (Taylor, 2002) than traditional classroom methods.

The shift to adopting e-training methods and practices in the workplace to provide employees with skills has become an essential component of training in many organizations (Al-malika, 2015). E-training is an effective entry point for HR development and the formation of individuals capable of achieving goals in organizations (Al-Hila et al, 2017).

## **2.4. E-performance appraisal**

The performance level enabled by technological development has transformed the standard of performance, satisfaction in appraisal remains an issue among organizations despite the fact that technology is at the forefront as a feedback mechanism (Cardy & Miller, 2005). The high quality performance feedback is an important factor that assists organization retention, motivation, and workforce development and is possible only with satisfied employees of their appraisal so that they support the system (Ilgen, Fisher & Taylor, 1979). The contribution of technology to appraisal satisfaction can be drawn through its contribution to performance management in two ways: first, technology enables individual performance measurement through unobtrusive computer monitoring that requires minimal input from individuals about the performance of their tasks; Second, technology is used to write reviews or create feedback about performance (Cardy & Miller, 2005).

HR evaluation is allowed to perform the entire assessment which will be done online and which is at the front of the company's intranet. This means that board members and employees are able to submit performance information directly to the HRD through electronic forms (Khashman & Al-Ryalat, 2015). Self-service applications allow managers to instantly enter performance appraisal management results, employee performance goals, results, and performance planning on their personal pages (Ball, 2001).

## **2.5. E-compensation**

Dulebohn and Marler (2005) revealed that e-compensation refers to the "use of web-based software tools that allow a manager to effectively design, manage and communicate compensation and benefits information". The use of electronic compensation tools can provide HR professionals and managers with greater access to information that may contribute to maximizing the effectiveness of compensation initiatives (Dulebohn & Marler, 2005). Employee self-service, allows all employees of the organization to electronically submit their preferences in terms of the chosen interest and reduce the burden on human resource management. However, it is believed that the delivery of employee benefits online, if done correctly, requires significant savings for the human resource department. Additionally, the manager's self-service allows the manager to take action or confirm payroll, bonus, and inventory management changes (Khashman & Al-Ryalat, 2015).

## **2.6. Employees engagement (EE)**

Employee engagement is the level of commitment employees show to the values of the organization in which they work (Anitha, 2014). Poisat (2006) defining EE as the extent of the employee's commitment to helping the organization, whether emotionally, cognitively, or personally; Therefore, do better than what is required. On the other hand, Valentine (2014) found that EE contributes to an organization's

productivity and performance, employee retention and customer outcomes. Therefore, when employees are engaged, they become more productive, which in time leads to a positive impact on business results (Cawe, 2006). Furthermore, engaged employees with the organization are 87% less likely to leave, which indicates a significant improvement in productivity and organizational performance (Grobelaar, 2021).

## **2.7. E-HRM practices and EE**

Real HR practices can positively impact EE. An organization that provides training, compensation and career development can have reciprocal actions, and employees become more engaged (Saragih & Prasetyo, 2020). Karam et al (2017) concluded that HR practice will increase the skills of employees and give them sufficient job resources that make them more engaged. Also, Alfes et al. (2013) found a positive relationship between HR practices and EE. EE is an important aspect of HRM, which plays an essential role in the financial success of an organization, in this context, Hosseini et al (2021) found a positive relationship between sustainable HR and EE. Moreover, Abu Rumman, Al-Abbadi and Alshawabkeh (2020) indicated that HRD practices (employee training, employee empowerment, employee promotion) has a positive effect on EE, and they indicated that employee empowerment and employee promotion has the highest impact on EE. As well as, Grobbelaar (2021) found a positive relationship between e-HRM and EE. On the other hand, social exchange theory state that the employees and the organization management exchange resources with each other such as, cash incentives and employees' recognition, which lead to positive outcomes from EE (Fletcher, 2019). Based on the abovementioned literature, the following hypotheses were assumed:

H1. There is a positive relationship between e-training and employees' engagement

H2. There is a positive relationship between e-compensation and employees' engagement

H3. There is a positive relationship between e-performance appraisal and employees' engagement

Accordingly, Figure 1 shows a research framework of the current study.

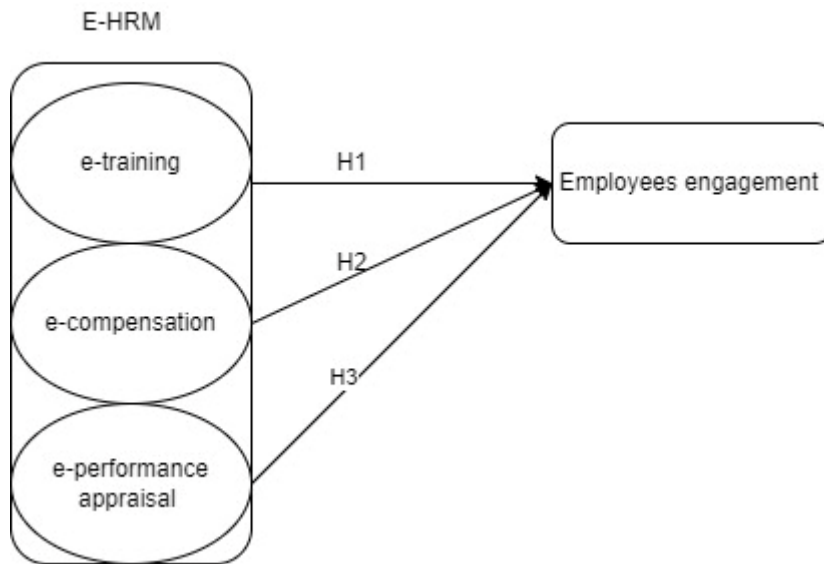


Fig. 1: Research framework.

### 3. Data and Methodology

The target population of this study comprised employees who work in government organization. Convenience sample choose from deferent government employs. The researcher sends google form link to the public service department in some government organization with the assistant of some friends and some persons who work in these organizations (e.g. ministry of health, greater Amman municipality, ministry of industrial and trade, ministry of education, civil services bureau, social security corporation, land and department of land and survey). The participants were given one week to complete the questionnaire, out of 230 questionnaires were retrieved, 215 questionnaires are valid for analysis.

The instruments used in this study were adopted from prior studies. Nine items adapted from Adli et al (2014) measured e-HRM (five items to measure e-training, five items to measure e-compensation, and four items to measure e-performance appraisal), and five items adapted from Saks (2006) measured employee engagement. The instrument was based on a 5-point Likert scale, ranging from (1) strongly disagree to (5) strongly agree

### 4. Results and Discussion

#### 4.1. Sample profile

Among the participants, 58% were male and 42% were female. For age groups, 20.8% of participants were aged between 18 and 30, 47.7% of participants were aged between 31 and 40, and 31.5% of participants were above the age of 41. Concerning

education backgrounds, 76.3% of participants held diploma degrees and above, and 23.7% of participants held high school degrees or below.

## 4.2. Measurement model results

The measurement model was test through the convergent validity and discriminant validity. Factor loading, Composite Reliability (CR), and Average Variance Extracted (AVE) were used, with cut off values of  $\geq 0.5$  for AVE and  $\geq 0.7$  for CR (Hair et al., 2020). Although the loadings are suggested to be more than 0.7, if the AVEs are already higher than 0.5 then loadings between 0.5 and 0.7 are also acceptable (Ramayah et al., 2018). As shown in Table 1 and figure 2, the AVEs were all higher than 0.5, the CRs higher than 0.7 and most of the loadings more than 0.590.

Table 1: Items loading, AVE and composite reliability for the measurement model.

Construct	Item	Loading	CR	AVE
E-training	ET1	0.877	0.896	0.64
	ET2	0.892		
	ET3	0.892		
	ET4	0.591		
	ET5	0.698		
E-compensation	ECOMP1	0.822	0.908	0.669
	ECOMP2	0.863		
	ECOMP3	0.906		
	ECOMP4	0.869		
	ECOMP5	0.591		
E-performance appraisal	EPA1	0.843	0.899	0.691
	EPA2	0.826		
	EPA3	0.859		
	EPA4	0.794		
Employee Engagement	EE1	0.846	0.904	0.653
	EE2	0.852		
	EE3	0.79		
	EE4	0.734		
	EE5	0.812		

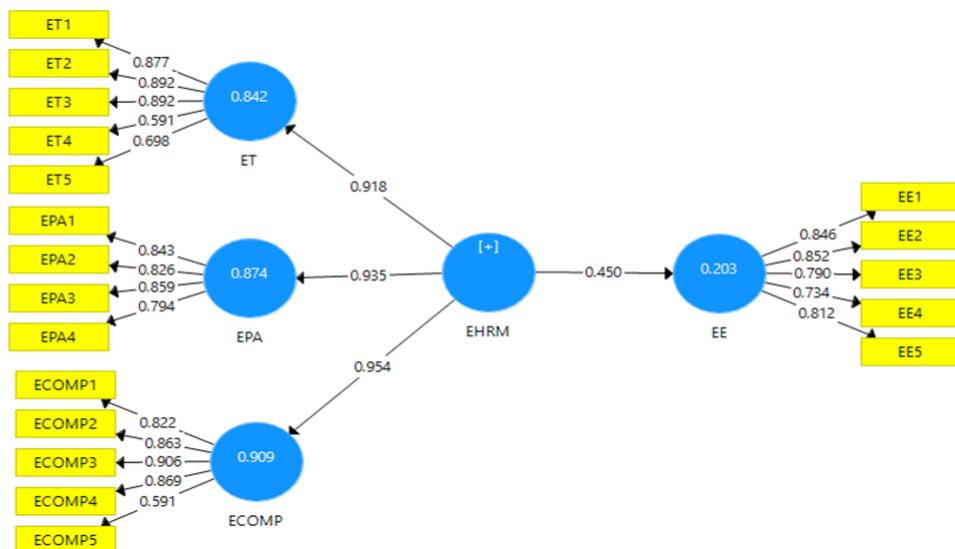


Fig. 2: Measurement model.

Also, discriminant validity was then tested in the measurement model. Discrimination validity refers to the extent to which a particular latent construct is different from other latent constructs (Duarte & Raposo, 2010). To build discriminant validity, the criterion and cross-loading scores of Fornell and Larcke (1981) are employed. Table 2 demonstrates that for all latent variables the square root of AVE was larger than interconstruction correlations supporting validity.

Table 2. Discriminant validity analysis.

	ECOMP	EE	EPA	ET
ECOMP	<b>0.818</b>			
EE	0.481	<b>0.808</b>		
EPA	0.818	0.429	<b>0.831</b>	
ET	0.8	0.336	0.778	<b>0.81</b>

### 4.3. Structural model results

This study utilised the PLS algorithm procedure to examine the path coefficients' significance (Hair et al., 2013). Table 3 shows the path coefficient values and the bootstrapping results. The results explain the hypothesized relationship among the study variables. To illustrate the research model conceptualized for this study, Figure 3 is provided. As shown, the  $R^2$  values for EE is 0.265. This outcome indicates that e-HRM can explain 26.5% of the variance in EE.



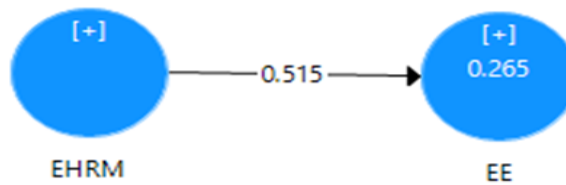


Figure 3: Structural model.

In this study, e-Training and e-Compensation are found to have a positive relationship with EE among employees attached to the public organizations in Jordan ( $\beta = 0.321$ ;  $t = 3.043$ ;  $p < 0.001$ ;  $\beta = 0.719$ ;  $t = 6.659$ ;  $p < 0.001$ ). This therefore supports H1 and H2. This results indicated that Jordanian public sector concern and tend to apply and practice the electronic methods to train and compensate employees. This results also support by the e-government program in Jordan which empower all the in society through access to government information, and improved public services, communications and transactions with the government. The findings further postulate that the public sector organizations in Jordan should focus on the e-compensation and e-training of the employees, because the employees feel satisfied and fair when the compensation procedures of e-compensation and e-training go electronically, which shows a kind of transparency and equal opportunity in the compensation distribution process. Also, e-training provided to public sector employees may provide opportunities for all employees to attend or participation in training and also its reduce the cost of training which in line with e-government vision. Our findings are in line with (Alfes et al, 2013; Grobbelaar, 2021).

In contrast, however, in our case, e-performance appraisal postulates unexpected impacts. One of the possible reasons, e-performance appraisal has less worth for those employees to engage in organization, because public sector in Jordan has no clear objectives, and the employees not evaluated based on their performance, because the employees sure that it is difficult to dismiss them or terminate their services without official letter from prime ministry. Our finding in line with Albloush et al. (2022) who indicated that green performance appraisal has no impact on organizational performance in public sector in Jordan.

Table 3: Hypotheses testing.

Path	Hypotheses	Path Coefficients	t-value	p-value	Decision
ECOMP -> EE	H2	0.719	6.659	0.00	support
EPA -> EE	H3	0.125	1.106	0.269	not support
ET -> EE	H1	0.313	3.043	0.002	support

## 5. Conclusion

This study has examined the relationship between e-HRM and EE. The findings derived from this study are in line with previous literature, thereby providing additional empirical evidence in the context of Arab countries. The findings of this study also offer practical implications. Based on the results, it is suggested that the decisions maker in public organization in Jordan make an effort to enhance and apply e-HRM in their respective organizations, this is because the e-HRM practice has a positive impact on EE. This study has offered some good insights into the issue of e-HRM in the context of Jordan. Nonetheless, like all studies, it also faced some limitations. The current study used cross-sectional data which only tested the association between constructs at one-point in a time. Given that the impact of e-HRM in organizations may require lag time, it is suggested that future researchers conduct a longitudinal study. As mentioned early, this study incorporated employees from few governmental organizations. In this way, the relationship between e-HRM and EE may be conceptualized as indirect, indicating a possible presence of some mediators and moderator, therefore this study recommends to use a mediator or moderator variable between e-HRM and EE, such as IT infrastructure or organizational culture.

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