

Impact of e-HRM system on employee performance

Theppithak Kaewkhamnuan ^{1,*}
Siriluck Rotchanakitumnuai ²

*Corresponding author

¹ Master Student, Thammasat University, Thailand, theppithak-kae63@tbs.tu.ac.th

² Professor, Thammasat University, Thailand, siriluck@tbs.tu.ac.th

ABSTRACT

This paper focused on understanding the use of an e-HRM system by employees and investigating employee performance. This paper adapted and developed the research model with theoretical frameworks from the information systems success model (IS success model) and the expectation-confirmation model (ECM). Data was collected by questionnaire from 350 samples, all employees over age 20 working currently or in the past, with willingness to accept jobs in different types of companies. Samples also had experience with using e-HRM by e-recruiting and selection, e-training and development, e-compensation and benefits, or e-performance management. Data was analyzed by confirmatory factor analysis and the structural equation model (SEM). Results were that system quality and perceived usefulness positively affected user satisfaction and there was a positive relationship between confirmation of expectations and perceived usefulness. In addition, service quality and user satisfaction were predictors of e-HRM use and information quality was a strong determinant of user satisfaction and e-HRM use. Finally, e-HRM use was a major influence on employee performance. These findings may help organizations better understand functions, features, and modules most frequently employed by e-HRM users.

Keywords: e-HRM System, Employee Performance, IS success model, Expectation-Confirmation Model.

INTRODUCTION

Today, many organizations are faced with digital disruption due to the Novel Coronavirus 2019 (COVID-19) pandemic. Social distancing and work from home are the optimal choice for most organizations to prevent the spread of this disease. Moreover, digital disruption also has become a catalyst for digital transformation of many organizations. Information Technology; for example, cloud computing, autonomous system, and Internet of Things (IoTs), plays a major role in being digital. Consequently, organizations need to find a solution to manage human capital management; for instance, remote work, delegation, human resource activities, and employee performance tracking. An e-HRM system is a great tool for human resource management during COVID-19 outbreak because any employee can access the services of HR activities via online or self-service system anywhere and anytime.

There is an impact of the e-HRM system on human resource practices greatly. In the past, human resource job was related to paper-based work (Stone & Dulebohn, 2013). Latterly, emerging of the e-HRM system in terms of web-based technology had made massive changes in human resource management since 1990. Some face-to-face HR activities were replaced with the system (Ruël, Bondarouk, & Van der Velde, 2007). In other words, the day-to-day HR activities were replaced by autonomous or self-service system. HR Department was an important player driving organizations to be digital, not to do digital (Deloitte, 2017). The e-HRM system was one of the digital HR tools to help organizations create a competitive advantage (Marler, 2009; Parry, 2011), reduce costs, and improve HR services (Bondarouk & Ruël, 2009).

Although an evaluation of e-HRM system success has been studied in the literature, most of the studies were conducted by examining technology adoption based on the perception of Technology-Organization-People (Bondarouk, Parry, & Furtmueller, 2017); for instance, ease of use, (Haines & Petit, 1997), sector (Tomeski & Lazarus, 1974), and top management support (Hannon, Jelf, & Brandes, 1996). Furthermore, a myriad of researchers studied about consequences of e-HRM including operational consequences, namely administrative burden reduction and payroll (Ruël, Bondarouk, & Looise, 2004), relational consequences; for example, communication (Panayotopoulou, Vakola, & Galanaki, 2007), and transformational consequences; for instance, strategic re-orientation (Lepak & Snell, 1998; Ruël et al., 2004).

Therefore, the purpose of this paper is to evaluate the post-adoption impact of the e-HRM system. This research aims to study e-HRM system success supporting HR activities, and the impact of the e-HRM system on employee performance. This work states the following questions: (a) Which factors can describe the antecedents of e-HRM use and user satisfaction? (b) What are the effects of the e-HRM system on employee performance?

LITERATURE REVIEW

e-HRM (electronic Human Resource Management)

Some scholars attempted to define what e-HRM was. Strohmeier (2007) defined the e-HRM as a planning, implementation, and application of information technology that networked and assisted work between at least two people or collective actor for achieving their HR activities. Moreover, Bondarouk and Ruël (2009) also gave a definition of e-HRM which was an umbrella

term regarding the linkage between human resource management and information technology. It aimed to create internal and inter-organization value for employees and managements. In addition, e-HRM also was described as a process of building human resource strategies, policies, and practices in organizations towards the full utilization of web-technology-based channels (Ruël et al., 2004). We, thereby, referred e-HRM as information systems linking and integrating HR activities amongst various stakeholders without the limitation of space and time for achieving the organization's goals.

IS success model of DeLone and McLean

DeLone and McLean (1992) proposed an original IS success model in 1992 which comprised six dimensions indicating the success of information systems: system quality, information quality, use, user satisfaction, individual impact, and organizational impact. In 2002, they updated their original model by including a new construct, like service quality, which was a critical variable in marketing studies. There was also another update to the model that was a replacement of individual impact and organizational impact with net benefits due to the beneficial purpose of multiple levels of analysis (DeLone & McLean, 2003). In addition, DeLone and McLean (2003) also described each of the six main success dimensions of their revised model as follows. Firstly, system quality was desirable characteristics of an information system. For instance, ease of use, functionality, system reliability, system flexibility, portability, availability, adaptability, and response time. Secondly, information quality was defined as desirable characteristics of the system output. For example, relevance, understandability, completeness, and security. Thirdly, the quality of the service or support that system users obtained from IS department and IT support personnel was the definition of service quality, namely responsiveness, reliability, empathy, and assurance. Fourthly, system use was described as the degree in which users utilized the full capabilities of an information system measured by navigation patterns, number of site visits, amount of use, frequency of use, and nature of use. Fifthly, user satisfaction was explained as users' level of satisfaction with reports, Web sites, and support services. Finally, the extent to which IS were causing to the success of individuals, groups, organizations, industries, and nations was an explanation of net benefits; for instance, to enhance decision support, and to increase productivity.

The e-HRM system, linking HR activities and employees in organizations, was one type of information systems. According to the purpose of this study, we developed the theoretical framework based on the prior studies of IS success. DeLone and McLean's IS success model (2003) argued that there were six major success dimensions to evaluate the success of information systems. The existing studies (Alshibly, 2014; Jaafreh, 2017; Martins et al., 2019) proposed the research model based on the IS success model of DeLone and McLean (2003). Thus, the related relationships of the IS success model of DeLone and McLean (2003) were tested in this paper and allowed us to understand the success of the e-HRM system and its impact.

Expectation-confirmation model

Bhattacharjee (2001) proposed the expectation-confirmation model (ECM), which had its roots in the expectation-confirmation theory (ECT) of Oliver (1980), to explain the related variables of intention to continue using an IS. Importantly, the ECM posited that IS continuance intention would be determined by evaluation of users in the post-usage stage regarding confirmation of expectations, perceived usefulness, and satisfaction. Moreover, the findings of Bhattacharjee (2001) revealed that satisfaction, which was predicted by confirmation of expectations and perceived usefulness, was a motivated driver of users affecting IS continuance intention. In addition, there was a positive relationship between confirmation of expectations and perceived usefulness. Perceived usefulness also had a significant effect on continuance usage intention.

According to the ECM, it posited that satisfaction was influenced by two main factors: confirmation of expectations and perceived usefulness (Bhattacharjee, 2001). Previous studies (Min & Shenghua, 2007; Kumar & Natarajan, 2020) established the research model based on ECM in the IS context. Unlike the traditional way of managing human resource tasks, the e-HRM system was a self-service information system to handle the HR processes. Since investigating the usage of the e-HRM system by employees was one of the purposes of this study, the satisfaction of the users was a related variable to evaluate. We, thereby, adapted the ECM to explain the user satisfaction determined by perceived usefulness and confirmation of expectations.

Employee Performance

Employee performance is vital for every organization to achieve its goals. The overall success of an organization was affected by the performance of each employee derived from 3 elements (Mathis & Jackson, 2008: pp. 71-72). Firstly, it was an employee's ability, which was composed of talents, interests, and personality characteristics. Secondly, it was an effort including motivation, work ethic, attendance or turnover, and job design. The last element was organization support, namely training and development, equipment and technology, performance standards, and management and co-workers. However, a lack of one of those elements would decrease the performance of employees. Moreover, job performance was described as scalable actions, behaviour, and outcomes that link between employees and organizational goals (Viswesvaran & Ones, 2000).

Alshibly (2014) examined the perceived net benefits of the e-HRM system and found that the e-HRM system could raise the job performance and productivity of employees. Furthermore, Begum et al. (2020) also studied the improvement of employee productivity through Human Resource Information System (HRIS). It indicated that utilizing the HRIS could enhance the productivity of employees and let managers and employees concentrate more on strategic duties rather than doing HR related administrative activities. In other words, the HRIS could support employees to increase their productivity instead of using the traditional way of operating human resource activities. By implementing e-HRM, the processes of HR-related activities could

run smoothly and offer better services. It also concluded that there was an influence of e-HRM on improving the performance of employees (Nurlina, Situmorang, Akob, Quilim, & Arfah, 2020).

HYPOTHESIS DEVELOPMENT

System Quality, Information Quality, Service Quality, and User Satisfaction

According to the IS success model of DeLone and McLean (2003), system quality, information quality, and service quality were the antecedents of user satisfaction. A previous study of Halawi, McCarthy, and Aronson (2008) indicated that system quality, information quality, and service quality had a positive influence on user satisfaction. Similarly, it is consistent with the findings of Alshibly (2014). Hence, we proposed that:

Hypothesis 1 (H1): *System quality positively affects the user satisfaction.*

Hypothesis 2 (H2): *Information quality positively affects the user satisfaction.*

Hypothesis 3 (H3): *Service quality positively affects the user satisfaction.*

Perceived Usefulness, Confirmation of Expectations, and User Satisfaction

The ECM of Bhattacherjee (2001) showed that the satisfaction of users was affected by perceived usefulness and confirmation of expectations. In addition, there was a positive relationship between confirmation of expectations and perceived usefulness. Existing studies (Thiruselvi, Yusliza, Ramayah, & Nur Zahitah, 2013; Kumar & Natarajan, 2020; Hung, Talley, Kuo, & Chiu, 2021) based on ECM in many contexts also found positive relationships amongst confirmation of expectations, perceived usefulness, and satisfaction of users. Thus, we proposed that:

Hypothesis 4 (H4): *Perceived usefulness positively affects the user satisfaction.*

Hypothesis 5 (H5): *Confirmation of expectations positively affects the user satisfaction.*

Hypothesis 6 (H6): *Confirmation of expectations positively affects the perceived usefulness.*

System Quality, Information Quality, Service Quality, and e-HRM Use

DeLone and McLean (2003) revealed that usage of information systems was derived from system quality, information quality, and service quality. The findings of the previous studies (Alshibly, 2014; Jaafreh, 2017; Martins et al., 2019) also illustrated the significant effect of system quality, information quality, and service quality on system use. Therefore, we hypothesized that:

Hypothesis 7 (H7): *System quality positively affects the e-HRM use.*

Hypothesis 8 (H8): *Information quality positively affects the e-HRM use.*

Hypothesis 9 (H9): *Service quality positively affects the e-HRM use.*

User Satisfaction and e-HRM Use

The DeLone and McLean's IS success model (2003) established a reciprocal dependence between user satisfaction and system usage. However, this paper captured the system dependence of e-HRM users; thereby, the influence of user satisfaction on e-HRM use was tested. The empirical study of Rai, Lang, and Welker (2002) found a positive effect of user satisfaction on system use that measured the users' behaviour towards information systems. It represented how users evaluated their attitude towards information systems. In other words, the more users were satisfied, the more system dependence was. It is consistent with the findings of Iivari (2005) that there was a positive relationship between user satisfaction and actual use. In addition, Baroudi, Olson, and Ives (1986) suggested that user satisfaction was an attitude of users towards information systems and system usage was viewed as behaviour by the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975). Therefore, the influence of attitude on behaviour and the impact of user satisfaction on intention to use or actual use were alike. Moreover, the usage of the system also performed the consistency in user's needs. Thus, an increase in user satisfaction should enhance system use by users. Conversely, if the system was inconsistent with the user's requirements, users would not be satisfied and avoid using the system. Accordingly, we proposed the following hypothesis:

Hypothesis 10 (H10): *User satisfaction positively affects the e-HRM use.*

e-HRM Use, User Satisfaction, and Employee Performance

System use and user satisfaction positively influenced individual impact which was an effect of the system on the behaviour of the users (DeLone & McLean, 2003). A previous study of Isaac, Abdullah, Ramayah, and Mutahar (2017) found that performance impact, namely process, knowledge acquisition, communication quality, and decision quality, was influenced by the actual usage of internet technology and the satisfaction of users. In addition, it is also coherent with the findings of Igbaria and Tan (1997) that found the evidence of the relationship amongst system use, user satisfaction, and individual performance; for example, to increase productivity and effectiveness. Hence, the following hypotheses are proposed:

Hypothesis 11 (H11): *e-HRM use positively affects the employee performance towards the e-HRM system.*

Hypothesis 12 (H12): *User satisfaction positively affects the employee performance towards the e-HRM system.*

Research Framework

According to the hypotheses, the proposed research framework is depicted in Figure 1. This paper aims to study the impact of the e-HRM system on employee performance combining theoretical framework between IS success model and expectation-confirmation model.

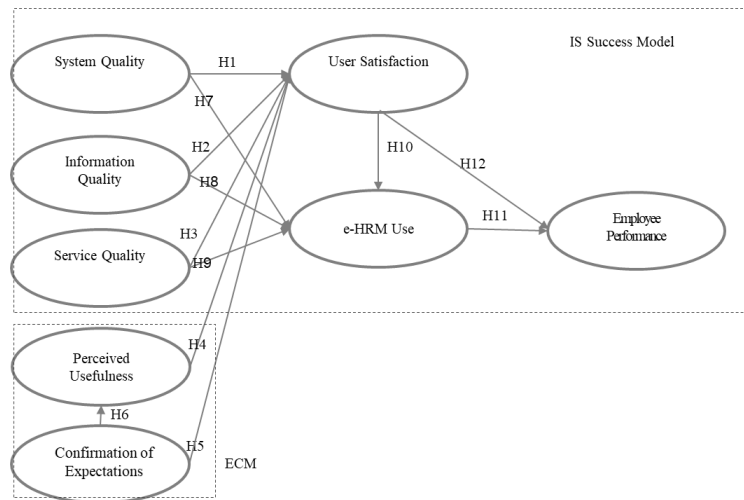


Figure 1: Proposed research model

RESEARCH METHODOLOGY

Sample Collection

The empirical data for verifying the proposed hypotheses were collected by conducting a survey in Thailand. The target samples for this research comprised employees who had experience with using the e-HRM system. We used an online survey to collect the data. Moreover, we shared the questionnaire on social media platforms, namely Facebook and Line, to approach the participants. To ensure that the respondents were actual users of the e-HRM system, the respondents were required to answer three screening questions: “Are you over 20?”, “Do you work currently or in the past, with willingness to accept jobs in different types of companies?”, and “Have you ever used the e-HRM system?”. The valid sample used to test our hypothesized model was 350 cases.

The questionnaire survey of this paper consisted of three sections. The first section of this survey had 24 question items for verifying the proposed research model including the system success and employee performance. Moreover, the second and third section of the survey included demographic questions and e-HRM system usage behavioural questions. The survey questionnaire in this study was primarily adapted from the previous studies on IS success model and the expectation-confirmation model.

Measurements

The questionnaire was developed questions derived from the literature. The variables in this study were measured on a 5-point Likert scale from strongly disagree to strongly agree. System quality (SQ) was measured by three items that reflected desirable characteristics of the e-HRM system including ease of use, availability, and response time adapted from the study of DeLone and McLean (2003). Information quality (IQ) was measured by three items that illustrated desirable characteristics of e-HRM system outputs including completeness, timeliness, and understandability adapted from the earlier studies (Bailey & Pearson, 1983; DeLone & McLean, 2003). Service quality (SVQ) was measured by three items that presented the quality of the service or support that system users obtain from support personnel for e-HRM system including responsiveness, empathy of the personnel staff, and reliability adapted from the previous studies (Pitt, Watson, & Kavan, 1995; Chang & King, 2005). Perceived usefulness (PU) was measured by three items that represented the degree to which an individual believes that there is an increase in their performance regarding HR activities by using the e-HRM system including quality of work, job performance, and job effectiveness adapted from the previous study (Davis, 1989). Confirmation of expectations (CON) was measured by three items that indicated users’ perception of the congruence between the expectation of e-HRM system use and its actual performance adapted from the study of Bhattacharjee (2001). User satisfaction (SAT) was measured by three items that showed users’ level of satisfaction with the e-HRM system adapted from the study of Seddon and Yip (1992). e-HRM use (USE) was measured by three items that demonstrated the degree in which users utilize the full capabilities of the e-HRM system including frequency of use, and system dependence adapted from the existing studies (Iivari, 2005; Bondarouk, Harms, & Lepak, 2017; Rai et al., 2002). Finally, employee performance (EP) was measured by three items that explained the effect of the e-HRM system on the behaviour of the users adapted from the previous studies, including decision effectiveness (Gable, Sedera, & Chan, 2008) and perceived performance impact (Goodhue & Thompson, 1995).

RESULTS

Demographic Characteristics and e-HRM System Usage Behaviour of the Sample

In this research, there were 350 valid cases. The descriptive analysis results of the respondents were as follow: male accounted for 50.86% while 49.14% were female. 44% of the respondents were aged 31 to 35. Most of the survey participants hold a Bachelor's degree as the highest education level accounted for 70.57%. In addition, this paper also collected data from the respondents regarding their usage behaviour of the e-HRM system. The system usage behaviour results of the participants were as follow: the majority of the survey participants' experience with using the e-HRM system was years of 6 – 10 accounted for 38.86%. Surprisingly, the functions, features, and modules that e-HRM users most frequently employed were learning and training development, payroll, time attendance, performance evaluation, and onboarding program accounted for 13.46%, 11.49%, 11.06%, 10.92%, and 9.44% respectively. The demographic characteristics and e-HRM system usage behaviour of the respondents are shown in Table 1.

Table 1: Demographic Characteristics and e-HRM System Usage Behaviour of the respondents

Category	Subcategory	Frequency	Percentage
Gender	Male	178	50.86
	Female	172	49.14
Age	20 to 25 years old	21	6
	26 to 30 years old	73	20.86
	31 to 35 years old	154	44.00
	36 to 40 years old	66	18.86
	40 to 45 years old	12	3.43
	46 to 50 years old	11	3.14
	Above 50 years old	13	3.71
Highest education level	High school diploma	18	5.14
	Bachelor's degree	247	70.57
	Master's degree	85	24.29
Year of e-HRM usage experience	Below 1 year	46	13.14
	1 to 5 year	132	37.71
	6 to 10 year	136	38.86
	11 to 15 year	34	9.71
	16 to 20 year	2	0.57
Functions, features, and modules most frequently employed by e-HRM users (can choose more than one)	Learning and Training Development	191	13.46
	Payroll	163	11.49
	Time Attendance	157	11.06
	Performance Evaluation	155	10.92
	Onboarding Program	134	9.44
	Compensation	132	9.3
	Recruitment and Selection	128	9.02
	Benefits	127	8.95
	Workforce Management	97	6.84
	Career Planning and Development	69	4.86
	HR Report	66	4.65

Confirmatory Factor Analysis (CFA)

In this paper, Confirmatory Factor Analysis (CFA) was performed by AMOS software for evaluating all variables of the proposed model. The results of the goodness of fit test demonstrate in Table 2. The goodness of the model's fit in accordance with the recommended value of Schumacker and Lomax (2010) tested by Chi-square Statistic, χ^2/df (Chi-square/Degree of freedom), Goodness-of-fit index (GFI), Adjusted Goodness-of-fit index (AGFI), Comparative Fit Index (CFI), Root-mean-square residual (RMR), Root-mean-square error of approximation (RMSEA), Tucker–Lewis Index (TLI), and Normed fit index (NFI) indicated that the model reached the acceptable value and fit very well.

Table 2: The results of the goodness of fit test

Fitting Index	Reference	Measured Value
Chi-square Statistic	p-value \geq 0.05	0.183
Chi-square/Degree of freedom	< 2.0	1.126
Goodness-of-fit index (GFI)	> 0.95	0.974
Adjusted Goodness-of-fit index (AGFI)	> 0.90	0.923
Comparative Fit Index (CFI)	> 0.95	0.998
Root-mean-square residual (RMR)	< 0.05	0.036
Root-mean-square error of approximation (RMSEA)	< 0.05	0.019
Tucker–Lewis Index (TLI)	> 0.95	0.993
Normed fit index (NFI)	> 0.95	0.979

Construct Validation and Reliability Estimation

To evaluate the construct validity, it could be tested by standardized loading estimates (λ) value of the latent variables that all items should be greater than 0.70. Moreover, Average Variance Extracted (AVE) based on a squared root of standardized loading estimates could measure the convergent validity or internal consistency of the variables which their values should be at least higher than 0.5. In addition, both Maximum Shared Variance (MSV) and Average Shared Variance (ASV) should be lower than AVE to verify the validity. Composite Reliability (CR) reflected the reliability estimation for a construct which the acceptable value of CR was higher than 0.7 (Hair, Black, Babin, & Anderson, 2010). Discriminant Validity that indicated the distinction amongst the constructs could be observed by comparing the value of shared variance between each variable and the squared root of AVE values in accordance with the criterion of Fornell and Larcker (1981) suggested that the squared root of AVE of each variable should be greater than the correlation involving the construct. Table 3 illustrates the tests of convergent validity, discriminant validity, and composite reliability of the proposed model. Furthermore, Table 4 displays the correlation matrix and discriminant validity. The results showed that all variables achieved every indicator of construct validation and reliability estimation by assessing the loading estimates, AVE, and CR.

Table 3: The tests of convergent validity, discriminant validity, and composite validity

Construct	Items	Standardized loading estimates (λ)	CR	AVE	MSV	ASV
SQ	SQ1	0.727	0.753	0.689	0.225	0.073
	SQ2	0.772				
	SQ3	0.627				
IQ	IQ1	0.798	0.760	0.506	0.446	0.192
	IQ2	0.562				
	IQ3	0.777				
SVQ	SVQ1	0.897	0.916	0.519	0.446	0.217
	SVQ2	0.879				
	SVQ3	0.880				
CON	CON1	0.961	0.903	0.784	0.126	0.024
	CON2	0.824				
	CON3	0.817				
PU	PU1	0.716	0.788	0.553	0.077	0.037
	PU2	0.754				
	PU3	0.760				
SAT	SAT1	0.943	0.881	0.757	0.219	0.097
	SAT2	0.924				
	SAT3	0.638				
USE	USE1	0.734	0.868	0.717	0.429	0.209
	USE2	0.852				
	USE3	0.895				
EP	EP1	0.851	0.817	0.599	0.434	0.203
	EP2	0.740				
	EP3	0.725				

Note: CR>0.7; AVE > 0.5; MSV < AVE; ASV < AVE.

Table 4: Correlation matrix and discriminant validity

Construct	SQ	IQ	SVQ	CON	PU	SAT	USE	EP
SQ	0.711							
IQ	0.265	0.720						
SVQ	0.297	0.668	0.885					
CON	0.078	0.355	0.078	0.870				
PU	0.232	0.277	0.190	0.115	0.744			
SAT	0.152	0.345	0.365	0.033	0.170	0.847		
USE	0.215	0.581	0.613	0.118	0.210	0.468	0.830	
EP	0.474	0.412	0.659	0.019	0.098	0.392	0.655	0.774

Tests of Hypothesis

Testing the proposed research model, Structural Equation Model (SEM) was performed by employing AMOS software in this paper. As shown in Table 5, the results of the goodness of fit test indicated that the proposed model was fit very well in accordance with the recommended value of Schumacker and Lomax (2010) tested by Chi-square Statistic, χ^2/df (Chi-square/Degree of freedom), Goodness-of-fit index (GFI), Adjusted Goodness-of-fit index (AGFI), Comparative Fit Index (CFI), Root-mean-square residual (RMR), Root-mean-square error of approximation (RMSEA), Tucker–Lewis Index (TLI), and Normed fit index (NFI). The indicators also showed that the results of the goodness of fit test of SEM reached the acceptable value. In other words, it was consistent between empirical data and the hypothesized research model in this paper.

Table 5: The results of the goodness of fit test of SEM

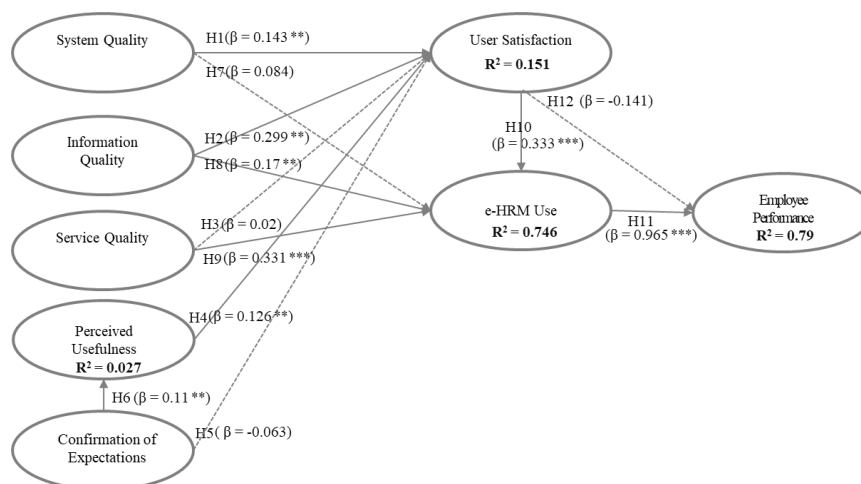
Fitting Index	Reference	Measured Value
Chi-square Statistic	p-value \geq 0.05	0.071
Chi-square/Degree of freedom	< 2.0	1.218
Goodness-of-fit index (GFI)	> 0.95	0.973
Adjusted Goodness-of-fit index (AGFI)	> 0.90	0.918
Comparative Fit Index (CFI)	> 0.95	0.996
Root-mean-square residual (RMR)	< 0.05	0.046
Root-mean-square error of approximation (RMSEA)	< 0.05	0.025
Tucker–Lewis Index (TLI)	> 0.95	0.988
Normed fit index (NFI)	> 0.95	0.978

The results of the tests of hypotheses in this paper are shown in Table 6. Moreover, the results of the model verification are illustrated in Figure 2 including coefficients and their significance of the structural model estimations. As shown in Table 6 and Figure 2, the path coefficient of the research model demonstrates that most of the proposed hypotheses in this study are supported, except H3, H5, H7, and H12. Particularly, system quality ($\beta = 0.143$, $p < 0.05$), information quality ($\beta = 0.299$, $p < 0.05$), and perceived usefulness ($\beta = 0.126$, $p < 0.05$) could predict user satisfaction, confirming H1, H2 and H4. However, the effect of service quality ($\beta = 0.02$, $p > 0.05$) and confirmation of expectations ($\beta = -0.063$, $p > 0.05$) on the satisfaction of users is insignificant, rejecting H3 and H5. In addition, confirmation of expectations ($\beta = 0.11$, $p < 0.05$) is a predictor of perceived usefulness, supporting H6. Furthermore, information quality ($\beta = 0.17$, $p < 0.05$), service quality ($\beta = 0.331$, $p < 0.001$), and user satisfaction ($\beta = 0.333$, $p < 0.001$) are determinants of e-HRM use, confirming H8, H9, and H10. On the other hand, system quality ($\beta = 0.084$, $p > 0.05$) has no significant effect on e-HRM use, rejecting H7. Finally, although employee performance is influenced by e-HRM use ($\beta = 0.965$, $p < 0.001$), supporting H11, user satisfaction ($\beta = -0.141$, $p > 0.05$) does not affect the performance of the employees, rejecting H12. To conclude, the R^2 values are 0.151, 0.027, 0.746, and 0.79 for user satisfaction, perceived usefulness, e-HRM use, and employee performance, respectively. In other words, 15.1% of the user satisfaction, 2.7% of the perceived usefulness, 74.6% of the e-HRM use, and 79% of the employee performance are explained by the related variables.

Table 6: The results of the tests of hypotheses

Hypothesis	Dependent Variable	Independent Variable	Estimate β (path coefficient)	SE	CR (t-value)	p-value	Result
H1	User Satisfaction	← System Quality	0.143	0.07	2.026	0.043**	Support
H2	User Satisfaction	← Information Quality	0.299	0.12	2.421	0.015**	Support
H3	User Satisfaction	← Service Quality	0.02	0.07	0.264	0.792	Not Support
H4	User Satisfaction	← Perceived Usefulness	0.126	0.06	2.03	0.042**	Support
H5	User Satisfaction	← Confirmation of Expectations	-0.063	0.06	-1.125	0.26	Not Support
H6	Perceived Usefulness	← Confirmation of Expectations	0.11	0.04	2.834	0.005**	Support
H7	e-HRM Use	← System Quality	0.084	0.06	1.42	0.156	Not Support
H8	e-HRM Use	← Information Quality	0.17	0.07	2.327	0.02**	Support
H9	e-HRM Use	← Service Quality	0.331	0.05	6.43	0.000**	Support
H10	e-HRM Use	← User Satisfaction	0.333	0.09	3.635	0.000**	Support
H11	Employee Performance	← e-HRM Use	0.965	0.11	8.676	0.000**	Support
H12	Employee Performance	← User Satisfaction	-0.141	0.11	-1.288	0.198	Not Support

Note: ** p-value < 0.05, ***p-value < 0.001



Note: ** p-value < 0.05, ***p-value < 0.001

Figure 2: The results of the model verification

DISCUSSION AND CONCLUSION

This research is principally concentrated on combining IS success model of DeLone and McLean with expectation-confirmation model to highlight how users evaluate the impact of e-HRM system on employee performance in the context of human resource management. Several major findings from the analysis results drive interesting discussions as follows.

Firstly, system quality has a positive effect on user satisfaction. This result is in line with the DeLone and McLean's IS success model (2003) and several previous studies (Rai et al., 2002; Iivari, 2005; Halawi et al., 2008; Alshibly, 2014). It reflects the fact that e-HRM users are worried about the desirable characteristics of the system. Hence, providing great quality of the system including ease of use, availability, and response time has a significant role in increasing users' satisfaction towards the e-HRM system. However, the relationship between system quality and e-HRM use is not significant, which is incoherent with the IS success model of DeLone and McLean (2003) and the conclusion of some existing studies (Rai et al., 2002; Iivari, 2005; Halawi et al., 2008; Alshibly, 2014). It could be possibly explained that using the e-HRM system does not require much effort from users because they can easily access the features, functions, and modules that they would like to employ. In other words, users know how to utilize the system very well. Thus, system quality does not affect the usage of the e-HRM system.

Secondly, the influences of information quality on both satisfaction and e-HRM use are significantly positive, which is coherent with the IS success model of DeLone and McLean (2003) and similar to the findings of the previous researches (Rai et al., 2002; Halawi et al., 2008; Alshibly, 2014; Jaafreh, 2017). Essentially, information quality is the strongest determinant of user satisfaction ($\beta = 0.299$) amongst the three dimensions of the DeLone and McLean's IS success model. Therefore, these findings underline the remarkable role of information quality in boosting usage and especially the satisfaction of users towards the e-HRM system. Thus, if the e-HRM system can provide the information in terms of completeness, timeliness, and understandability, users will be more satisfied and utilize the system intensively.

Thirdly, there is no positive effect of service quality on user satisfaction, which is opposed to the conclusion of the previous studies (Halawi et al., 2008; Alshibly, 2014; Jaafreh, 2017; Martins et al., 2019). One possible explanation could be that users might not have a lot of experience in contacting with support personnel or being serviced by support personnel. Service quality obtained from support personnel; thereby, becomes insignificant for the satisfaction of users. Unlike satisfaction, the effect of service quality on e-HRM use is significant, which is conforming to the findings of the existing studies (Alshibly, 2014; Jaafreh, 2017; Martins et al., 2019). It could be inferred from these results that if the support personnel of the e-HRM system provides great willingness to help, personalized attention, and proper solutions to users, their usage will increase markedly.

Fourthly, confirmation of expectations is not a positive indicator of the satisfaction of users. This finding is inconsistent with the ECM of Bhattacherjee (2001). It is also not similar to the conclusion of the previous studies (Thiruselvi et al., 2013; Kumar & Natarajan, 2020; Hung et al., 2021) that the confirmation of expectations was a motivated driver of user satisfaction. The possible explanation is that the expectations of users have changed over time. Moreover, the e-HRM system might not provide unexpected services or services beyond users' expectations. Thus, confirmation of expectations does not positively affect user satisfaction. However, the perceived usefulness of users is found to be positively affected by expectations' confirmation, which is consistent with the finding of the previous studies (Bhattacherjee, 2001; Thiruselvi et al., 2013; Kumar & Natarajan, 2020; Hung et al., 2021). In other words, if users' expectations; for example, experience with using the system, and service level provided by the system, are better than they expect or confirmed, they will strongly believe that the e-HRM system is helpful.

Fifthly, this paper allows us to realize that perceived usefulness is a significant antecedent of user satisfaction, which verifies the original conclusion of Bhattacherjee (2001). Similarly, the earlier studies (Thiruselvi et al., 2013; Kumar & Natarajan, 2020; Hung et al., 2021) also support that there is a positive relationship between perceived usefulness and user satisfaction. It

indicates that if users have perceptions of beneficial experience with using the e-HRM system, they will feel more satisfied. It also represents that the more users perceive the e-HRM system as useful, the more presumably they are delighted.

Sixthly, there is a significant positive effect of user satisfaction on e-HRM use, which is consistent with the conclusion of DeLone and McLean (2003). Importantly, this finding emphasizes that user satisfaction is the strongest predictor of e-HRM use ($\beta = 0.333$) amongst the antecedents of this study. Hence, this result points out the critical role of user satisfaction in predicting e-HRM usage by employees. However, the satisfaction of users is not a determinant of employee performance. This result is incoherent with the finding of the existing studies (Igarria & Tan, 1997; Isaac et al., 2017). The possible reason why there is no positive relationship between user satisfaction and employee performance is that the users already have a positive attitude towards the e-HRM system. As a result, this finding reveals that user satisfaction does not have a significant effect on enhancing employee performance towards the e-HRM system.

Finally, e-HRM use has a positive influence on employee performance towards the e-HRM system, which is coherent with the findings of the existing studies (Igarria & Tan, 1997; Isaac et al., 2017). This result addresses the crucial role of e-HRM usage in enhancing employee performance. It could be inferred from these results that if users or employees utilize the e-HRM system intensively or rely on the system, their performance, namely decision making, productivity, and efficiency, will be increased. In addition, the results confirm that e-HRM use is positively affected by user satisfaction and there is a significant effect of e-HRM use on employee performance towards e-HRM system. Thus, it could be implied that the satisfaction of users indirectly affects employee performance through the usage of the e-HRM system.

CONTRIBUTIONS AND IMPLICATIONS

Theoretical Implications

This paper contributes to the progression of developing a theoretical framework related to e-HRM system success and employee performance in several ways. Firstly, this research is one of the studies which try to explore the key predictors of employee performance involving the e-HRM system from the views of IS success model and ECM. Most of the existing studies attempted to investigate e-HRM system adoption (Tomeski & Lazarus, 1974; Hannon et al., 1996; Haines & Petit, 1997) and its consequences (Lepak & Snell, 1998; Ruël et al., 2004; Panayotopoulou et al., 2007). However, this research aims to examine the performance of employees towards the e-HRM system and its values. It also introduces an empirical study of verifying the integrated model from those two frameworks which are expected to propose a deeper understanding of the antecedents of e-HRM system success and employee performance. Moreover, most of the relationships amongst the proposed model in this paper are confirmed, which is valid for the reason why we combined the IS success model with ECM as the theoretical foundation. Undoubtedly, the explanatory power of the integrated model can explain 15.1% of the observed variance in user satisfaction. These findings still motivate other researchers to recognize the IS success model and the ECM in future work on employee performance concerning other information systems or contexts.

Secondly, user satisfaction and system use have proven to be the critical determinants of individual impact in many contexts (Igarria & Tan, 1997; Rai et al., 2002; Halawi et al., 2008; Alshibly, 2014); however, there was limited research which investigated its role in the context of e-HRM system. This paper sheds new light on the influence of user satisfaction and usage in enhancing employee performance towards the e-HRM system. Thus, future research on e-HRM system success and its impact on employee performance should not exclude user satisfaction and system use in predicting employee performance towards the e-HRM system.

Finally, this research enriches our understanding of employee performance in the context of information systems related to HR. Human capital management is having a digital transformation towards automated and data-driven HR processes and is presently concentrating on improving employee performance by deploying digital HR technology. The empirical research on enhancing employee performance towards the e-HRM system in the post-adoption stages still is limited despite the fact that most organizations could take advantage of implementing the e-HRM system. According to the theoretical basis of IS success model and ECM, this paper offers a deeper insight into the perception of employees in the post-adoption stage towards the e-HRM system and its relevant HR functions, features, and modules.

Practical Implications

By deploying of e-HRM system, most organizations are advantageous for the HR processes and the employee performance. These findings can provide a valuable guideline for many organizations in developing practical solutions to encourage employees' e-HRM usage and improve employee performance. This research illustrates that the performance of employees will be improved only if they utilize the e-HRM system intensively and perceive its performance impact. Moreover, organizations should also pay close attention to the satisfaction of employees and the perspectives of e-HRM system's quality.

Firstly, satisfying employees' concerns is a top priority of organizations to determine e-HRM system success and boost the e-HRM usage of employees heavily. Thus, organizations will achieve their goals regarding the success of e-HRM system only if users are satisfied with the system performance and have a positive attitude towards the system. Because information quality plays a vital role in user satisfaction and e-HRM use, the e-HRM system must provide employees with information, which is completeness, timeliness, and understandability. Therefore, high-quality information provided to employees by the e-HRM system will allow them to be satisfied greatly and they will utilize the system intensively. In addition, service quality is also

another critical determinant of e-HRM use showing that support personnel needs to be always greatly willing to help the users. Paying individualized attention and providing appropriate solutions to users are also a pleasant service quality of support personnel that could drive the usage of the e-HRM system increasingly. Moreover, system quality is a predictor of user satisfaction. This finding emphasizes the preferable quality of the e-HRM system that users are concerned about. Therefore, it recommends that the e-HRM system should offer high system quality with uncomplicated usage, high availability, and immediate response time to make users feel satisfied. Since perceived usefulness has a positive effect on user satisfaction, organizations should ensure that employees realize the e-HRM system as a helpful tool that can finish their HR-related work effortlessly. Although confirmation of expectations acts as an essential driver of perceived usefulness, user satisfaction is not positively affected by expectations' confirmation. However, it could be implied that confirmation of expectations indirectly influences user satisfaction through perceived usefulness. These findings suggest that if the expectations of users towards the e-HRM system are confirmed, they will recognize the system as a useful platform for their HR-related tasks. Thus, the level of user satisfaction will be increased dramatically if organizations could secure that users' expectations are confirmed or fulfilled, and they perceive the e-HRM system as being beneficial to use in facilitating their jobs regarding HR activities.

Secondly, this paper also depicts that deploying the e-HRM system enhances employee performance greatly including decision support, HR-related productivity, and efficiency of HR activities. In other words, the more users depend on the e-HRM system, the higher employee performance is. Although user satisfaction does not affect employee performance towards the e-HRM system, e-HRM use is influenced by user satisfaction. In turn, e-HRM use affects employee performance towards the e-HRM system positively. Hence, it could be inferred that user satisfaction has an indirect impact on the performance of employees through e-HRM use. Thus, this result proposes advantageous information to organizations that it would be great for improving employee performance if organizations could encourage users to intensively utilize the capacities of the system and maintain their satisfaction at an extremely high level.

Finally, this research provides an exciting insight into the study of functions, features, and modules most frequently employed by e-HRM users. According to the survey results, five functions, features, and modules of the e-HRM system most frequently utilized by e-HRM users are learning and training development, payroll, time attendance, performance evaluation, and onboarding program, respectively. By demonstrating that the aforementioned functions, features, and modules are highly popular or relevant to e-HRM users because the users utilized them frequently, our findings suggest that implementing the e-HRM system in any organization should be concerned with whether there are the functions, features, and modules of the e-HRM system that users expect or not. Additionally, it might be able to say that those functions, features, and modules could be essential for users to employ the e-HRM system frequently or provide the appropriate solution to users' requirements.

LIMITATIONS AND FUTURE RESEARCH

In summary, the results show that system quality, information quality, and perceived usefulness positively affect user satisfaction; however, service quality and confirmation of expectations are not predictors of user satisfaction. In addition, the positive relationship between confirmation of expectations and perceived usefulness is confirmed. Moreover, system quality does not have a significant effect on e-HRM use. Unlike system quality, e-HRM use is found to be positively affected by information quality, service quality, and user satisfaction. Finally, the influence of e-HRM use on employee performance is significantly positive, whereas user satisfaction is not a determinant of employee performance.

Although the e-HRM system has received much attention from scholars and the business sectors during the COVID-19 pandemic, existing studies have not been conducted in Thailand so far. The e-HRM system is a human capital management tool for operating and maintaining HR activities. The e-HRM system plays a critical role in increasing employee performance concerning decision making, HR-related productivity, and HR activities' efficiency. By developing a research model with theoretical frameworks from IS success model and ECM, this paper could explain how to evaluate the e-HRM system success and the impact of the e-HRM system on employee performance. The findings of this study recommend that organizations need to leverage factors affecting user satisfaction, e-HRM use, and employee performance towards the organization's e-HRM system to build a plan that contributes to an efficient human capital management and an improvement of employee performance.

Even though this paper has several limitations, it could inspire some opportunities for other scholars and future works. Firstly, approximately half of the survey respondents have over six years of experience with using the e-HRM system. Since the e-HRM users with different years of experience with employing the e-HRM system might have different expectations and hold different attitudes towards the e-HRM system, it might impact the applicability of our proposed model and findings. Secondly, 2.7% of the perceived usefulness is explained by confirmation of expectations. Thus, this result demonstrates that there is a high error in the relationship between confirmation of e-HRM users' expectations and perceived usefulness. Therefore, the generalizability of this study needs to be done carefully.

Finally, our research concentrates on investigating e-HRM system success and the impact of the e-HRM system on employee performance; however, it could extend the study by adapting more additional theoretical framework based on our proposed research model. We suggest that future works might include the task-technology fit model (TTF) of Goodhue and Thompson (1995) to extend the present research model. It could further explain how the fit between technology and users' task leads to employee performance. The linkage between the task-technology fit which consists of task and technology characteristics, e-

HRM utilization, and the performance impact of employees has not been investigated. A significant gap and scholarly opportunities for future study remain. In addition, future research could also be examined in different levels of analysis, from the individual level of analysis to the organizational level of analysis, in order to measure e-HRM system success and its organizational impact or performance. The Balanced Scorecard of Kaplan and Norton (1992) could be adapted to future work based on our proposed research model. It could measure organizational performance from not only a financial perspective but also non-financial perspectives regarding customer, internal process, and learning and growth. Those indicators could assess the value of an organization's investment in the e-HRM system.

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