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Continuance Intention Usage towards E-HRM

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Abstract

The study is focused on a model extension of the attitude towards using Electronic Human Resource Management (E-HRM) by linking attitude to E-HRM continuance intention. In addition, the proposed model elaborates the contingent factors that based on Technology Continuance Theory (TCT) that shape E-HRM continuance intention. This paper advances the emerging body of research on E-HRM by extending the theoretical boundaries of the E-HRM continuance model, and contributes to E-HRM technology research. Questionnaire was used to collect the data from 193 respondents among E-HRM users in Penang and Partial Least Square (PLS) was used as a tool for model construction and hypothesis testing. The survey questions were based upon the Technology Continuance Theory (TCT) using a 7-point Likert scale. The study found that the perceived usefulness, attitude and satisfaction were positively related to continuance usage of E-HRM. Perceived ease of use, satisfaction and perceived usefulness were positively related to attitude. Usefulness and Confirmation were also found to be positively related to satisfaction. Ease of use and Confirmation were found to be positively related to Usefulness. Future empirical studies based on the model studied in this paper should help identify areas with significant impact on users' continuance intention towards using E-HRM technology in a fast moving environment.

Key words: E-HRM, attitude, continuance intention

1. Introduction

Over the years the information technologies (IT) have created many benefits and opportunities. However, at the same time it also does creates unlimited challenges for managers and employees whom are using them in daily operation. The rapid development of Internet during the last decade has boosted the implementation and application of Electronic Human Resource Management (E-HRM) (Strohmeier, 2007). E-HRM is a web-based solution that takes advantage of the latest web application technology to deliver an online real-time Human Resource Management Solution. E-HRM aims at making information available to managers and employees at anytime and anywhere (Panayotopoulou, Vakola, & Galanaki, 2007). The term of E-HRM was first used in the late 1990's when "e-commerce" was sweeping the business world (Olivas-Lujan, Ramirez & Zapata-Cantu, 2007). E-HRM can be specifically defined as administrative support of the HR function in organizations by using internet technology (Voermans & van Veldhoven, 2007).

In 2006, as the CedarCrestone (2006) HCM Survey shows, companies broadened the scope of HRM applications: although administrative E-HRM was still the most popular application (62% of surveyed companies), companies reported an increasing use of strategic applications like talent acquisition services (61%), performance management (52%), or compensation management (49%) (CedarCrestone, 2006). However, the participant of the survey was only from North America, Europe and Australia (CedarCrestone, 2006). Lepak and Snell (1998) distinguished three (3) types of E-HRM: operational; relational; transformational E-HRM. Operational HRM concerns the basic HR activities in the administrative area. The closest example for this area will be payroll. The second area, relational HRM, concerns more advanced HRM activities which emphasizes on HR tools that support basic business processes such as recruiting and the selection of new personnel, training, performance management and appraisal, and rewards. Online recruitment and selection is one of the most frequently cited applications of the internet to HRM which also brings substantial benefits in terms of cost, time, candidate pool and quality of response (Panayotopoulou, et al., 2007). Transformational HRM, the third area concerns HRM activities with a strategic character (Ruël, Bondarouk, & Looise, 2004). These will be activities that looks into the long term planning from the department.

E-HRM applications assist to locate and relocate the human assets around the world according to the project developed using the web-based HR applications (Olivas-Lujan et al., 2007). Companies are increasingly using these systems to deliver training, manage employee performance, and administer compensation and benefit systems (Strohmeier, 2007). In the globally competitive marketplace, organizations could not afford the disadvantages associated with traditional paper and pencil, labor intensive HR tasks (Olivas-Lujan et al., 2007). With E-HRM, HR processes can be reduced as it requires less paperwork or manual job. The data accuracy can be increased and this directly affects the efficiency of the HR Department. The increased data accuracy and less paperwork could also provide the HR department with more time to develop their skills and strategically contribute to the management level. Companies are increasingly utilizing IT to design and deliver their HR practices (Zafar, 2010).

E-HRM as a research stream is only recently emerging, partly as a consequence of the technology advancements (Olivas-Lujan et al., 2007). The involvement of academia in this topic is quite recent and yet to find a serious answer (Ruël, et al., 2007; Wickramasinghe, 2010). But Strohmeier (2007) finds that it is actually in the increasing trend. Even though the study on E-HRM is yet to take effect worldwide but eventually more popular in the US and European countries (Wickramasinghe, 2010), and fewer studies in Malaysia (Yusliza & Ramayah 2011a; Yusliza, Ramayah, & Haslindar, 2011; Yusliza & Ramayah 2011b; Yusliza & Ramayah 2011c).

In Malaysian context, there has been limited study done on E-HRM topic. Yusliza and Ramayah (2011a) examined HR professionals' self-reported intention to use E-HRM technology by employing the Theory of Planned Behaviour (TPB) as the research framework. Yusliza, Ramayah, and Haslindar (2011) conducted a preliminary investigation on HR roles and E-HRM among 51 HR professionals by utilizing Technology Acceptance Model. Yusliza and Ramayah (2011b) examined various technology factors on attitude towards using E-HRM. Yusliza and Ramayah (2011c) investigated the relationship between HR competencies and attitudes towards using E-HRM. Yusliza, Ramayah, and Haslindar (2010) proposed a model based on Technology Acceptance Model and HR Roles that examine the relationship between HR roles and E-HRM adoption. Ramayah, Nornina, Noorliza, and Normalini

(2006) studied the adoption and usage of an HR information system (HRIS) among HR executives and HR professionals working in companies in Penang. Hooi (2006) studied the extent of E-HRM practiced in the small and medium sized manufacturing companies.

While the above studies did a reasonable job at predicting attitude towards using E-HRM, none have examined E-HRM continuance intention by utilizing TCT. We attempt to fill the above gaps in the IS continuance intention literature by proposing an extended model of E-HRM continuance intention, and this will be done from Malaysian context. We therefore need to continue to study the contingent factors on E-HRM continuance intention. Also, TCT is considered a new theory and not much study has been done so far to test on its effectiveness.

2. Literature Review

This section explained the related theories in understanding the E-HRM continuance intention.

2.1. Technology Continuance Theory

Technology Continuance Theory (TCT) is introduced by Liao, Palvia, and Chen (2009) is a new theory on predicting the users' continuance intention towards a technology. It is a combination of three most used theories in the research of Technology and information system namely Technology Acceptance Model (TAM) by Davis (1989), Expectation Confirmation Model (ECM) by Bhattacherjee (2001b), and Cognitive Model (COG) by Oliver (1980). TCT is a three-level model with IS continuance intention as the final dependent variable. TCT includes two central constructs: satisfaction and attitude, and three first level antecedents: confirmation, perceived usefulness, and perceived ease of use. All of the hypotheses proposed in TAM, ECM, and COG are included in TCT (Liao et al., 2009).



Figure-2.1. Technology Continuance Theory (TCT) by Liao et al. (2009)

2.1.1. Technology Acceptance Model

The TAM (Davis, 1989) is grounded in both Theory of Reasoned Action and Theory of Planned Behavior. TAM was specifically tailored for modeling user acceptance of an IS with the aim of explaining the behavioral intention to use the system. The original TAM gauged the impact of four internal variables upon the actual usage of the technology. The internal variables in the original TAM were: perceived ease of use (PEU), perceived usefulness (PU), attitude toward use (A) and behavioral intention to use (BI). In this model, perceived usefulness and perceived ease of use were considered as two predecessors affecting attitude toward a technology, which affects behavioral intention to use that technology. According to Venkatesh, Morris, Davis and Davis (2003), TAM was tailored to IS contexts, and was designed to predict the IT acceptance and usage on the job. It has received wide attention from IS researchers from many areas. TAM hypothesizes that actual system use is determined by users' behavioral intention to use, which in turn is influenced by users' attitudes toward using. TAM proposes that perceived ease of use and perceived usefulness are two main beliefs

affecting user adoption (Davis, 1989). A recognized limitation of TAM is that it does not take into consideration any barriers that would prevent an individual from adopting a particular information systems technology (Taylor & Todd, 2001).

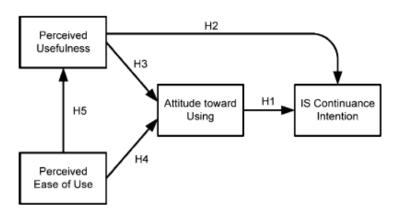


Figure-2.2. Technology Acceptance Model (TAM), (Davis, 1989)

2.1.2. Expectation Confirmation Model

On the other hand, ECM was introduced by Bhattacherjee (2001b). The theory was adopted from Oliver's Expectation-Confirmation Theory (ECT) which involves a customer behaviour model commonly used to define and predict satisfaction and repurchase intention. According to Bhattacherjee (2001b), user satisfaction is affected by two major determinants: post-adoption expectations regarding the IS and discrepancies between pre-adoption expectations and actual performance of the IS. Users' IS continuance intention is determined primarily by their satisfaction with prior use. ECT expectation confirmation theory posits that user satisfaction is determined by two constructs: expectation of the IS and confirmation of expectation following actual use.

As derived from Bhattacherjee (2001b), the process by which consumers reach repurchase intentions in an ECT framework is as follows (Oliver, 1980). First, consumers form an initial expectation of a specific product or service prior to purchase. Second, they accept and use that product or service. Following a period of initial consumption, they form perceptions about its performance. Third, they assess its perceived performance vis-à-vis their original expectation and determine the extent to which their expectation is confirmed. Fourth, they form a satisfaction, or affect, based on their confirmation level and expectation on which that confirmation was based. Finally, satisfied consumers form a repurchase intention, while dissatisfied users discontinue its subsequent use. Expectation provides the baseline level, against which confirmation is assessed by users to determine their evaluative response or (Bhattacherjee, 2001b). ECM replaces pre-consumption expectations with post-consumption expectations and postulates that satisfaction is a function of expectations and confirmation (Liao et al., 2009).

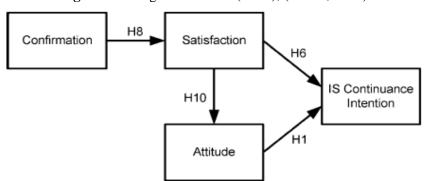


Figure-2.3. Cognitive Model (COG), (Oliver, 1980)

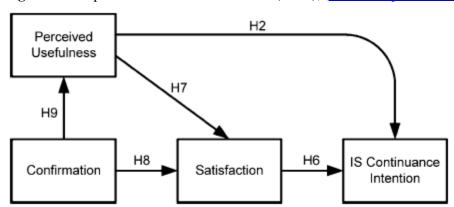


Figure-2.4. Expectation Confirmation Model (ECM), (Bhattacherjee, 2001b)

2.2. Research Model and Hypotheses

This section discussed on the research model that will be used for the purpose of this study and the hypotheses generated from the relationship between the variables proposed.

2.2.1. Research Model

The research Model (See Figure 3.1) focuses on preferred HR roles, attitude, perceived ease of use, perceived usefulness, confirmation, satisfaction, and E-HRM continuance intention. This model adopted the original TAM's (Davis, 1986)'s Perceived Usefulness, Perceived Ease of Use, Attitude, and Intention in casual relationship. Confirmation and Satisfaction variables are derived from ECM's (Bhattacherjee, 2001b).

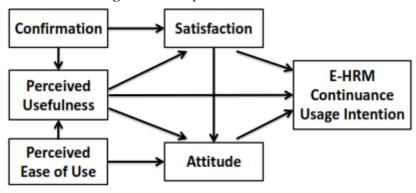


Figure-2.5. Proposed Research Model

2.2.2. Research Hypotheses

There were 10 hypotheses generated from the variables proposed in the Figure 2.5.

2.2.2.1. Relationship between Perceived Ease of Use and Perceived Usefulness

Perceived ease of use refers to users' beliefs that using a particular system are without difficulty and effort (Davis, 1989). TAM replaces determinants of attitude of TRA by perceived ease of use and perceived usefulness (Cakmak, Benk, & Budak, 2011). Perceived usefulness is also influences by perceived ease of use because of other things are equal; the system (technology) could be more useful as long as it is easier (Venkatesh & Davis, 2000). Many researchers concluded, both theoretically and empirically, that the easy use of technology will lead to peoples' perception of usefulness (e.g., Cakmak et al., 2011; Ghorbani & Madani, 2011; Lai & Chang, 2011; Wen, Prybutok, & Xu, 2011; Wu & Gao, 2011; Zhou, 2011). When users find it easy to use E-HRM technology, they will consider this technology more useful. Therefore, perceived ease of use has an essential effect on perceived usefulness. Thus, we set the following hypothesis:

H1: Perceived ease of use has direct positive relationship towards perceived usefulness

2.2.2.2. Relationship between Confirmation and Perceived Usefulness

Bhattacherjee (2001b) regards that confirmation is helpful in improving the rate of users' perceived usefulness. Cognitive dissonance theory also assumes users may have cognitive inconsistency or anxiety when disconfirmation of their pre-acceptance perception of perceived usefulness exists (Ho, 2010). Ho further argued that the rationale is that users typically attempt to adjust their perception of pre-acceptance usefulness, such that it is consistent with post-acceptance reality that is, confirmation enhances perceived usefulness and reduces the occurrence of disconfirmation. Some recent studies have found that confirmation have a positive influence on perceived usefulness (Chen, Huang, Hsu, Tseng & Lee, 2010; Ho, 2010; Tang & Chiang, 2010; Yen & Tsai, 2011). Thus, it can be summarized that:

H2: Confirmation has a direct positive relationship towards perceived usefulness

2.2.2.3. Relationship between Perceived Usefulness and Satisfaction

Bhattachejee (2001a) uses the TAM to show that perceived usefulness is one of the primary motivators of IS acceptance and that it can also influence subsequent continuance decisions. Therefore, the expectation-confirmation based IS continuance model proposes that perceived usefulness has a direct impact on satisfaction. Many recent studies have confirmed this association in different contexts. A study by Muhammad Jamil Ajnum (2011), in Pakistani industry with the purpose to indentify and ensure potential success factors of Enterprise Resource Planning implementation found that perceived usefulness is positively associated with user's satisfaction. In a study to develop a novel integrated model that characterizes e-learning continuance intention, found that perceived usefulness was the major antecedent of user satisfaction, attitude and continuance intention (Ho, 2010). Many researchers have confirmed the positive relationship between perceived usefulness and satisfaction towards continuance usage intention. (Bhattacherjee, 2001b; Ho, 2010; Liao, Chen, & Yen, 2007; Liao, et al., 2009).

It can be assumed that user's perception of usefulness of a technology have a significant positive impact on satisfaction. Thus,

H3: Perceived usefulness has a direct positive relationship on satisfaction

2.2.2.4. Relationship between Confirmation and Satisfaction

Confirmation is a cognitive belief defined as: the extent to which a user's expectation of the performance of an IS is realized during actual IS use (Bhattachejee, 2001b). The relationship between confirmation and satisfaction has been developed in Bhattacherjee's (2001b) study where an Expectation Conformation Model was proposed based on continued use rather than initial adoption in an IS discipline. Many studies have validated the association between confirmation and user satisfaction in different contexts (Chen et al., 2010; Ho, 2010; Yen & Tsai, 2011).

According to a study carried out predict a user's continuance behavior toward MDS based on the expectation—confirmation model (ECM) and the theory of planned behavior (TPB), it was found that Confirmation of expectations is positively associated with user satisfaction (Kim, 2010). When exploring continuance intention of customers based on their IT-related capabilities, social cognitive factor, and performance, the research findings showed that the most important influential factor of satisfaction is confirmation. Thus, it can be summarized that:

H4: Confirmation has a direct positive relationship with satisfaction

2.2.2.5. Relationship between Perceived Usefulness and Attitude

Behavioral intention is jointly determined by attitude and perceived usefulness. Perceived usefulness and perceived ease of use are considered as two external variables to influence user's technology acceptance and these two factors will affect users' attitude (Chi, 2011). The relationship between perceived usefulness and attitude has been tested in a study conducted among JKKK members on the usage of ICT. It has been proven by the study that attitude was the most contributors

for perceived usefulness towards ICT usage (Musa, Bahaman, Hayrol Azril & Jeffrey Lawrence, 2011). In evaluating a study done one student's perception on Web-enhanced classes using WebCT (e-learning), it was found that perceived usefulness being most highly predictive of student attitudes toward the eLearning management system (Ho, 2010). This is another positive relationship confirmed between Perceived usefulness and attitude of users. In a study to understand the Acceptance of Tax Office Automation System (VEDOP) by its employees in Turkey, Cakmak, Benk, and Budak (2011) found that employee's perceived usefulness of the new system is a significant predictor of attitudes for its adoption. Thus,

H5: Perceived usefulness has a direct positive relationship on attitude

2.2.2.6. Relationship between Perceived Ease of Use and Attitude

Previous research has consistently argued that there is a positive relationship between perceived ease of use and acceptance of IT. The TAM premise is that perceived ease of use has direct as well as indirect (through perceived usefulness) influence on attitude. In another study done to test senior citizen's attitude towards e-commerce websites, it is found that the perceived ease of use of an e-commerce Web site had a positive relationship towards attitude to use. On the other hand perceived ease of use significantly affects citizen's attitudes to use the e-Government systems (Lin et al., 2011). Thus it can be concluded that,

H6: Perceived ease of use has a direct positive relationship on attitude

2.2.2.7. Relationship between Satisfaction and Attitude

In relation to satisfaction and attitude, several studies have found that satisfied users is associated with forming positive attitude towards using the technology (Hong, Kim, & Lee, 2008; Carlson & O'Cass 2010; Ho, 2010). Hence, we infer that user-perceived satisfaction with E-HRM technology will positively affect attitude. Thus,

H7: Satisfaction has a positive significant relationship towards attitude

2.2.2.8. Relationship between Perceived Usefulness and E-HRM Continuance Intention

In the classic IT continuance intention research model – ECM (Bhattacherjee, 2001b), perceived usefulness is validated to positively affect IT continuance intention. As highlighted by Ho (2010), the TAM proposes that as the degree to which a user believes an IS is helpful for his or her job increases, the degree of positivity toward continuance increases. As demonstrated by many studies, significant relationship exist between perceived usefulness and continuance intention (Al.maghrabi, Dennis, & Halliday, 2011; Chen et al., 2010; Ho, 2010; Yen & Tsai, 2011).

In a research done on a financial healthcare's e-service users found that perceived usefulness has the strongest affect on continuance usage intention suggesting the management to focus on the delivery of value adding functionality (Naidoo & Leonard, 2007). When exploring continuance intention of customers based on their IT-related capabilities, social cognitive factor, and performance, the research findings showed that the most influential determinant of repurchase intention is perceived usefulness (Chen et al., 2010). In a study to develop a novel integrated model that characterizes elearning continuance intention found that perceived usefulness was the major antecedent of user continuance intention (Ho, 2010). Thus,

H8: Perceived usefulness has a direct positive relationship towards E-HRM continuance usage intentions.

2.2.2.9. Relationship between Satisfaction and E-HRM Continuance Intention

User satisfaction with IS has been seen as one of the most important issues in IS research and it has been linked to the continued use of IS (Bhattachejee, 2001b). Due to its importance, organizations often invest significant amounts of financial and HR in the measurement and analysis of user

satisfaction while simultaneously trying to improve the level of satisfaction (Najmul Islam, 2011). According to Bhattacherjee (2001b), satisfaction with IS use is the strongest predictor of users' continuance intention. Satisfaction also may be the key to explaining the IS acceptance-discontinuance anomaly which is user discontinuance of IS after its initial acceptance. IS continuance intention is determined primarily by their satisfaction with prior IS use (Bhattacherjee, 2001b). Although many studies have been conducted on user satisfaction, very few studies have found a positive relationship between satisfaction and the continuance intention (Akter, D'Ambra, & Ray, 2010; Chen et al., 2010; Ho, 2010; Yen & Tsai, 2011) particularly to the users of E-HRM systems. Thus, we make the following hypothesis:

H9: Satisfaction has a positive significant relationship towards E-HRM continuance usage intentions

2.2.2.10. Relationship between Attitude and E-HRM Continuance Usage Intention

Both Robey (1979) and Swanson (1982) determined that attitude affects technology usage. That behavior is affected by attitude is a view widely shared by many behavior researchers (Reeve & Deci, 1996). According to the TAM (Davis et al., 1989), perceived usefulness and perceived ease of use are utilized to measure an individual's attitude toward adopting a technology, and attitude further influences adoption intention. Therefore, we proposed that user attitude positively affects continuance intention. In a recent study by Ho (2010), he found that user-perceived attitude toward using an elearning platform has a significant influence on continuance intention.

H10: Attitude has a direct positive relationship towards E-HRM continuance usage intentions

3. Methodology

This section discussed on the sample, data collection, measurements and variables tested for this study.

3.1. Sample and Data Collection

The total number of questionnaire collected is 230. After filtering invalid and incomplete responses, a total of 193 survey responses were received. For this particular study, this research only interested in those E-HRM users in Penang, Malaysia.

3.2. Measure

Table-3.2. Variables and Measures

Construct	Items	Source	
Perceived	Using E-HRM would increase my performance in	Davis (1993)	
Usefulness	handling HR activities	1 = Strongly Disagree,	
	Using E-HRM in my job would increase productivity in	7 = Strongly Agree	
	handling HR activities		
	Using E-HRM would enhance my effectiveness in		
	handling HR activities		
	I would find E-HRM useful in handling HR activities.		
Perceived Ease		Davis (1993)	
of Use	My interaction with E-HRM would be clear and	1 = Strongly Disagree,	
	understandable	7 = Strongly Agree	
	I would find E-HRM easy to interact with		
	It would be easy for me to become skilful with E-HRM		
	I would find E-HRM easy to use		
Attitude	Using E-HRM would be a good idea	Davis (1993)	
towards E-	I like working with E-HRM	1= Strongly Disagree, 7	
HRM	In my opinion, it is desirable to use the E-HRM	= Strongly Agree	
	Using E-HRM is a pleasant experience		

	Using E-HRM is a wise idea		
Confirmation	My experience with using E-HRM was better than what I expected. The service level provided by E-HRM was better than what	1 = Strongly Disagree,	
	I expected. Overall, most of my expectations from using E-HRM were confirmed.		
Satisfaction	I was very satisfied with my overall E-HRM used I was very pleased with my overall E-HRM used I was very contended with my overall E-HRM used' I was absolutely delighted with my overall E-HRM used	Oliver (1980) 1= Strongly Disagree, 7 = Strongly Agree	
E-HRM Continuance usage Intention	I intend to continue using E-HRM rather than discontinue its use. My intentions are to continue using E-HRM than use any alternative means If I could, I would like to discontinue my use of E-HRM	Bhattacherjee (2001b) 1= Strongly Disagree, 7 = Strongly Agree	

4. Data Analysis

This section explains in detail the data analyses by using Smart PLS software 2.0 version.

4.1. Convergent Validity

First, this study tested the convergent validity which is the degree to which multiple items to measure the same concept are in agreement. As suggested by Hair et al. (2010) we used the factor loadings, composite reliability and average variance extracted to assess convergence validity. The loadings for all items exceeded the recommended value of 0.5 (Hair et al., 2010).

Composite reliability values (see Table 4.1), which depict the degree to which the construct indicators indicate the latent, construct ranged from 0.915 to 0.969 which exceeded the recommended value of 0.7 (Gefen et al., 2000). The average variance extracted (AVE) measures the variance captured by the indicators relative to measurement error, and it should be greater than 0.50 to justify using a construct (Chin, 1998). The AVE, were in the range of 0.784 and 0.887 much higher than the recommended value.

Table-4.1. Measurement Model

Construct	Item	Loading	AVE	CR
Confirmation	CONF1	0.905	0.803	0.924
	CONF2	0.934		
	CONF3	0.846		
E-HRM Continuance Intention	CONT1	0.943	0.843	0.915
Perceived Ease of Use	PEU1	0.873	0.810	0.955
	PEU2	0.926		
	PEU3	0.903		
	PEU4	0.904		
	PEU5	0.893		
Perceived Usefulness	PU1	0.905	0.862	0.961
	PU2	0.936		
	PU3	0.947		
	PU4	0.925		
Satisfaction	SAT1	0.940	0.887	0.969
	SAT2	0.951		

 SAT3	0.951
SAT4	0.924

Note: Composite reliability (CR) = (square of the summation of the factor loadings)/ $\{$ (square of the summation of the factor loadings) + (square of the summation of the error variances) $\}$

Average variance extracted (AVE) = (summation of the square of the factor loadings)/ $\{$ (summation of the square of the factor loadings) + (summation of the error variances) $\}$

4.2. Discriminant Validity

Discriminant validity of the measures is the degree to which items differentiate among constructs or measure distinct concepts. To assess discriminant validity, the root square of AVE and all reflective inter-construct correlations were compared. All inter-construct correlations are shown as elements off the diagonal of the matrix in Table 4.2, while the square roots of AVE are shown in the diagonal elements. All the square roots of AVE should be larger than off-diagonal elements in the same row and column (Sanchez-Franco & Roldan, 2005). In total, the measurement model demonstrated adequate convergent validity and discriminant validity.

Table-4.2. Discriminant Validity of Constructs

	1	2	3	4	5	6
Attitude	0.907					
Confirmation	0.535	0.896				
E-HRM Continuance Intention	0.625	0.563	0.918			
Perceived Ease of Use	0.692	0.546	0.594	0.900		
Satisfaction	0.520	0.702	0.700	0.538	0.942	
Perceived Usefulness	0.604	0.522	0.588	0.654	0.512	0.928

Note: Values in the diagonals represent the square root of the AVE and the off-diagonals represent correlations

4.3. Hypothesis Testing

This study tested the 10 hypotheses and Table 4.3 as below shows the results.

Table-4.3. Results from the Structural Model (Hypotheses Testing)

Hypothesis		Beta	Std Error	t-value	Decision
H1	Ease of Use -> Perceived Usefulness	0.526	0.062	8.460**	Supported
H2	Confirmation -> Perceived Usefulness	0.235	0.076	3.087**	Supported
Н3	Perceived Usefulness -> Satisfaction	0.200	0.080	2.510**	Supported
H4	Confirmation -> Satisfaction	0.597	0.077	7.712**	Supported
Н5	Perceived Usefulness -> Attitude	0.226	0.090	2.524**	Supported
Н6	Perceived Ease of Use -> Attitude	0.448	0.073	6.165**	Supported
H7	Satisfaction -> Attitude	0.177	0.091	1.950*	Supported
Н8	Perceived Usefulness -> E- HRM Continuance Intention	0.188	0.066	2.856**	Supported
Н9	Satisfaction -> E-HRM Continuance Intention	0.462	0.052	8.948**	Supported
H10	Attitude -> E-HRM Continuance Intention	0.271	0.068	3.965**	Supported

^{**}p < 0.01, *p < 0.05

5. Discussion and Implications

Based on the analysis, it was found that perceived ease of use play an important role in making E-HRM to be perceived as useful. The result of the current study support prior research finding between the perceived ease of use and perceived usefulness of IS (e.g., Cakmak et al., 2011; Ghorbani & Madani, 2011; Lai & Chang, 2011). Besides, confirmation was found to positively related to perceived usefulness and this result is consistent with previous studies (e.g., Chen et al., 2010; Ho, 2010).

With regard to the effects of perceived usefulness on satisfaction, attitude and E-HRM continuance intention, findings indicated that perceived usefulness is predictor of the satisfaction, attitude and E-HRM continuance intention. In particular, the effects satisfaction on E-HRM continuance intention is stronger than of the perceived usefulness and attitude on E-HRM continuance intention.

Besides, it was also found that satisfaction is positively related to attitude. The result is consistent with those of previous studies (Hong, Kim, & Lee, 2008; Carlson & O'Cass 2010; Ho, 2010). The finding suggests that satisfaction is associated with attitude towards the continuance usage intention of E-HRM.

With regard to the effects of satisfaction and attitude on E-HRM continuance intention, analysis showed that satisfaction and attitude are both positively related to E-HRM continuance intention. In particular, satisfaction the effect of satisfaction is more profound than that of the perceived usefulness and attitude on E-HRM continuance intention.

There are several practical implications that can be drawn from the present study's results. In order to make users continue the usage of E-HRM in their organization, management shall look into how to make it look useful, easy to use for the employees. Written manuals or diagrams can be given to coach them on the application of E-HRM. Apart from that, demo sessions shall be arranged for the employees to feel satisfied towards E-HRM. This shall change the user's attitude towards the acceptance and continuance usage of the system. Also, more applications shall be included in the E-HRM software so that it adds more value and users finds it more useful.

Apart from that, the users shall be given a time frame to use the system in a test area so they gain the confirmation towards the usage of it. Also, it is important to minimize the potential errors by the system to increase the confirmation of the user's usage.

6. Limitations and Future Research

This study has several limitations. First, this study was conducted in Penang, where E-HRM is developing rapidly but still in its infancy. Thus, the present study's results need to be generalized to other region or countries with established E-HRM. Second, the study used a quantitative approach design, which may not reflect an in-depth investigation on the subject of interest. Next, the accuracy of the findings may depend on the respondent's understanding about the usage and usefulness of the e-HRM system. This is because the education and information regarding it in individual organizations may vary. The data may be more accurate if the respondents have are from companies which strongly emphasizes on the usage of e-HRM.

First of all, future work can overcome limitations of the present study in terms of the number of the respondents. Increasing the number of the respondents may help in generalizing the findings.

Furthermore, future research should look into SMEs in Malaysia as this study has majority of its respondents from large manufacturing and service Industries. A comparison between manufacturing and service industry can also be an interesting area to look into.

It can also be interesting to look into other variables such as sustainable competitive advantage and also performance of e-commerce

Lastly, we would also like to suggest future research to study if perceived risk can be a constraint for continuance usage intention towards e-HRM.

7. Conclusions

This study contributes and builds on the existing studies on technology acceptance by presenting the Malaysian perspective and followed the recommendations from previous studies that have highlighted the need to validate the TCT with different contexts and cultures to enhance its generalizability.

The present study concludes that end users attitude, perceived usefulness and satisfaction determines the continuance usage of the e-HRM system. Although there are some limitations, it is hoped that the first step taken in studying e-HRM continuance usage intention is significant for further justification

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References

- Akter, S., D'Ambra, J., & Ray, P. (2010). Service quality of mHealth platforms: Development and validation of a hierarchical model using PLS. *Electronic Markets*, 20 (3-4), 209-227.
- Al-Maghrabi, T., Dennis, C., & Halliday, S. V. (2011). Antecedents of continuance intentions towards e-shopping: The case of Saudi Arabia. *Journal of Enterprise Information Management*, 24 (1), 85-111.
- Bhattacherjee, A. (2001a). Understanding information systems continuance: An expectation-confirmation model. *MIS Quarterly*, 25 (3), 351-370.
- Bhattacherjee, A. (2001b). An empirical analysis of the antecedents of electronic commerce service continuance. *Decision Support Systems*, 32 (2), 201-214.
- Cakmak, A. F., Benk, S., & Budak, T. (2011). The acceptance of tax automation system (VEDOP) by employees: Factorial validation of Turkish adapted Technology Acceptance Model (TAM). *International Journal of Economics and Finance*, *3* (6), 107-117.
- Carlson, J. & O'Cass, A. (2010). Exploring the relationships between e-service quality, satisfaction, attitudes and behaviours in content-driven e-service web sites. *The Journal of Services Marketing*, 24 (2), 112-127.
- Chen, Y-Y., Huang, H-L., Hsu, Y-C., Tseng, H-C., Lee, Y-C. (2010). Conformation of expectations and satisfaction with Internet shopping: The role of internet self-efficacy. *Computer and Information Science*, 3 (3), 14-23.
- Chin, W.W. (1988). The partial least squares approach to structural equation modeling. In: Marcoulides, G.A. (Ed.). *Modern Methods for Business Research* (pp. 295-336). Lawrence Erlbaum: New Jersey.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technologies. *MIS Quarterly*, *13* (3), 319-340.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technologies. *MIS Quarterly*, *13* (3), 319-340.
- Davis, F. D. (1993). User acceptance of information technology: System characteristics, user perceptions, and behavioural impacts. International Journal of Man- Machine Studies, vol. 38(3), 475-487.
- Ghorbani, H. & Madani, F. A. (2011). An empirical investigation of the determinants of user acceptance of electronic exchanges (case study: buying and selling section of active companies of Iran's textile industry. *International Journal of Marketing Studies*, 3 (2), 73-82.
- Hair, J.F., Black, W.C., Babin, B.J., Anderson, R. E. (2010) Multivariate data analysis. Prentice-Hall, Upper Saddle River
- Lai, J-Y. & Chang, C-Y. (2011). User attitude toward dedicated e-book readers for reading. The effects of convenience, compatibility and media richness. *Online Information Review*, *35* (4), 558-580.

- Liao, C, Palvia, P. & Chen, J. L. (2009). Information technology adoption behavior life cycle: Toward a technology continuance theory. *International Journal of Information Management*, 29, 309-320
- Lin, L.-H. (2011). Electronic human resource management and organizational innovation: the roles of information technology and virtual organizational structure. *The International Journal of Human Resource Management*, 22(2), 235–257. doi:10.1080/09585192.2011.540149
- Lepak, D. P., & Snell, S. A., (1998). Virtual HR: Strategic human resource management in the 21st century. *Human Resource Management Review*, 8(3), 215-234.
- Ho, C-H. (2010). Continuance intention of e-learning platform: Toward an integrated model. *International Journal of Electronic Business Management*, 8 (3), 206-216.
- Hong, S., Kim, J., & Lee, H. (2008). Antecedents of use-continuance in information systems: Toward an integrative view. *The Journal of Computer Information System*, 48 (3), 61-74.
- Hooi, L. W. (2006). Implementing e-hrm: The readiness of small and medium sized manufacturing companies in Malaysia. *Asia Pacific Business.Review*, 12 (4), 465-485.
- Najmul Islam, A. K. M. (2011). The determinants of the post-adoption satisfaction of educators with an e-learning system. *Journal of Information Systems Education*, 22 (4), 319-331.
- Olivas-Lujan, M. R., Ramirez, J., & Zapata-Cantu, L. (2007). e-HRM in Mexico: adapting innovations for global competitiveness. *International Journal of Manpower*, 28(5), 418–434. doi:10.1108/01437720710778402
- Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of *satisfaction* decisions. *Journal of Marketing Research*, 17 (4), 460-469.
- Panayotopoulou, L., Galanaki, E., & Papalexandris, N. (2010). Adoption of electronic systems in HRM: is national background of the firm relevant? *New Technology, Work and Employment*, 25(3), 253–269. doi:10.1111/j.1468-005X.2010.00252.x
- Ramayah, T., Nornina, D., Noorliza, K., & Normalini, M. K. (2006). Perceived characteristics of innovation (PCI): The case of the human resource information system (HRIS). *Advances in Global Business Research*, *3* (1), 159-165.
- Reeve, J. & Deci, E. L. (1996). Elements of the competitive situation that affect intrinsic motivation. *Personality and Social Psychology Bulletin*, 22 (1), 24-33.
- Robey, D. (1979). User *attitudes* and management information system use. *Academy of Management Journal*, 22 (3), 527-538.
- Ruel, H. J. M., Bondarouk, T. V., & Van der Velde, M. (2007). The contribution of e-HRM to HRM effectiveness: Results from a quantitative study in a Dutch Ministry. *Employee Relations*, 29 (3), 280-291.
- Strohmeier, S. (2007). Research in E-HRM: Review and implications. Human Resource Management Review, 17, 19-37.
- Swanson, E. B. (1982). Measuring user attitudes in MIS research: A review. OMEGA, 10 (2), 157-165.
- Tang, J-T. E. & Chiang, C-H. (2010). Integrating experiential value of blog use into the Expectation-Confirmation Theory Model. *Social Behavior and Personality*, *38* (10), 1377-1390.
- Wen, C., Prybutok, V. R., & Xu, C. (2011). An integrated model for customer online repurchase intention. *The Journal of Computer Information Systems*, 52 (1), 14-24.
- Wickramasinghe, V. (2010). Employee perceptions towards web-based human resource management systems in Sri Lanka. *The International Journal of Human Resource Management*, 21(10), 1617–1630. doi:10.1080/09585192.2010.500486
- Wu, X. & Gao, Y. (2011). Applying the extended Technology Acceptance Model to the use of clickers in student learning: Some evidence from macroeconomics classes. *American Journal of Business Education*, 4 (7), 43-51.
- Venkatesh, V. & Davis, F. D. (2000). A theoretical expansion of the technology acceptance model: Four Longitudinal field studies. *Management Science*, 46 (2), 186-204.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. MIS Quarterly, 27(3), 425–478.
- Voermans, M., & van Veldhoven, M. (2007). Attitude towards E-HRM: An empirical study at Philips. *Personnel Review*, *36* (6), 887-902.

- Yen, Y-R. & Tsai, B-Y. (2011). Exploring the influential factors toward the continuance intention of on-line books purchase. *International Journal of Organizational Innovation*, *3* (4), 140-158.
- Yusliza, M. Y., & Ramayah, T. (2011a). Explaining the intention to use electronic HRM among HR professionals: Results from a pilot study. *Australian Journal of Basic and Applied Sciences*, 5 (8), 489-497.
- Yusliza, M. Y., & Ramayah, T. (2011b). Factors influencing attitude towards using electronic HRM. Proceedings of the 2nd International Conference on Business and Economic Research, Kedah, Malaysia.
- Yusliza, M. Y., & Ramayah, T. (2011c). *Electronic human resource management (E-HRM) and human resource (HR) competencies*. Proceedings of the International Conference on Information and Communication Technology, Singapore.
- Yusliza, M. Y., Ramayah, T., & Haslindar, I. (2010). E-HRM: A proposed model based on technology acceptance model. *African Journal of Business Management*, 4 (13), 3039-3045.
- Zhou, T. (2011). Examining the critical success factors of mobile website adoption. *Online Information Review*, 35 (4), 636-652.