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E-HRM: FROM ACCEPTANCE TO VALUE CREATION

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ABSTRACT

The purpose of this research is to analyze the effect of electronic human resources management (E-HRM) acceptance on value creation in organizations. The research population consisted of line and project managers and staff who work with E-HRM tools. Partial least squares were used to analyze the research hypotheses. Results demonstrated that E-HRM has positive and significant effect on value creation. It's worth mentioning that just E-HRM acceptance doesn't result in operational cost reduction. For fulfilling these results, we need managerial decisions which will cause the desired results and affect them.

Keywords: E-HRM, technology acceptance, value creation

INTRODUCTION

Nowadays, technology is an inherent part of our daily lives. People have been simplifying some routine tasks and problems with the use of computers and the Internet. In contemporary business, information technology (IT) tools are fundamental to realize processes in a faster and more efficient way. Global competition is demanding and organizations have to use innovative ideas to stay competitive. Every department in a company plays a fundamental role for success, but we believe that Human Resources (HR) departments play a critical role in contributing to the overall productivity and strength of an organization. As HR helps to build a stronger workforce through better recruiting, training and retention, the workforce helps drive the efficiency of the business as a whole [38]. To improve their own efficiency and contribute to the organizations' bottom line, many human resources organizations are transforming to an E-HR business model, moving traditional HR tasks, tools and processes onto internal intranets or the Internet via a portal. E-HRM is the application of IT for HR practices which enables easy interactions between employees and employers. It stores information such as company payroll, employee data, training, and recruitment [3]. New electronic human resource (E-HR) systems allow individuals to apply for jobs, change their job-related benefits, and enhance their knowledge, skills, and abilities (KSAs) through web-based training systems [40]. But,

even with the latest research in the field and despite the impact and importance of E-HRM system adoption and implementation nowadays, citing a recent study [45] we must point out that the factors that lead to successful E-HRM adoption still do not get the attention they deserve in terms of research interest. In fact, if we were to be more specific, it can be stated that the empirical research in the field of E-HRM is mainly non-theoretical. The theories applied are all micro-level oriented, of a diverse nature and eclectic in application. Also, macro-level theories of HRM that were recognized by the scientific society were not taken into consideration. It is also safe to say that still the field lacks any leading paradigm [41]. All these issues show us that the research in E-HRM must continue and develop and that the field is still young and there are many unsorted quarrels and unanswered questions that need to be attended to. From this standpoint, this study was conducted to identify the main factors that lead to the successful adoption of E-HRM in organizations.

E-HRM

The ways in which human resources are managed has changed dramatically in recent years. HR activities can now be delivered, not only by specialized HR professionals, but also increasingly by line managers, information technologies and through outsourcing [46, 47]. The focus of this study is one of these methods of delivery, information technology, or more specifically, E-HRM.

E-HRM has been defined as "a way of implementing HR strategies, policies and practices in organizations through a conscious and directed support of and/or with the full use of web-technology-based channels" [35] or more recently, and more broadly, as "the (planning, implementation, and) application of information systems for both networking and supporting actors in their shared performing of HR activities" [41]. E-HRM can be used for transactional activities (i.e. those that involve day-to-day transactions and record keeping); traditional HRM activities such as recruitment, selection, training, compensation and performance management; and transformational activities that add value to the organization [44], and may be used to manage HR across the whole employee lifecycle. E-HRM varies not only in the functions for which it is used but also in the degree of sophistication which it involves [31]. The development of web-based technology has allowed firms to provide services directly to employees and managers through the use of self-service systems. Over recent years, we have seen a shift in the delivery of transactional HRM from an approach which is "labor intensive" to one which is "technology-intensive" [20] whereby a large proportion of transactional activities are now delivered using a wide variety of software rather than by HR administrators.

There has been much discussion in the literature about the possible goals and outcomes of E-HRM [37]. E-HRM has been suggested to have operational, relational and transformational impacts [28]. Similarly, Ruel et al. [35] suggested the four goals of cost-reduction, improving HR services, improving strategic orientation and global orientation. Much of this literature has focused on two main benefits of E-HRM for the HR function: the improvement of efficiency and reduction of costs associated with HRM [9] and the facilitation of a more strategic role for the HR function itself [22, 39]. The common adoption of E-HRM (see for instance [10]) is presumably based upon the expectation of these positive consequences for E-HRM [41]. Therefore research is needed to establish the relationship between the use of E-HRM and factors such as efficiency and a strategic orientation for the HR function. Past research in the field of E-HRM has been criticized for a general lack of theory [5, 41]. We will attempt to address this inadequacy by adopting a well-established theoretical framework in our analysis.

Table 1: Traditional HRM and E-HRM comparison

Type	***Traditional HRM***	***E-HRM***
Operational	*Remuneration management* *Personnel data management*	*HR planning system* *Other HR information systems*
Relationship	*Personnel recruitment and selection* *Personnel training*	*Electronic recruitment* *Electronic selection* *Electronic learning*
Transformational	*Knowledge management* *Competency management*	*Knowledge management systems* *Intranet and inner portals*

TECHNOLOGY ACCEPTANCE

Driven by market competitiveness, business enhancement, service improvement and work efficiency, organizations have invested heavily in information technology with the likelihood of continuing this investment pattern into the foreseeable future [12]. Some estimates show that since the 1980s, 50% of all new capital investment in organizations has been in information technology [50]. Understanding the factors that influence user technology acceptance and adoption in different contexts continues to be a focal interest in information systems (IS) research.

A variety of models from different perspectives and at various levels have been developed to explain IT acceptance perceptions and behaviors: TAM [16, 17], Computer Self-Efficacy [13, 14], Task–Technology Fit [23, 24], Motivational Model [18] and adapted Theory of Planned Behavior [32, 43]. These models have all been recognized in the IS discipline. Using TAM as an example, abundant studies have been done to test [16, 17, 1], extend [48, 49], or compare it with other models [17, 32, 43, 49]. Overall, these theoretical models have contributed to our understanding of user acceptance perceptions and behaviors. In a recent study, a unified theory of acceptance and usage of technology was proposed and tested by integrating some of the prior models [50].

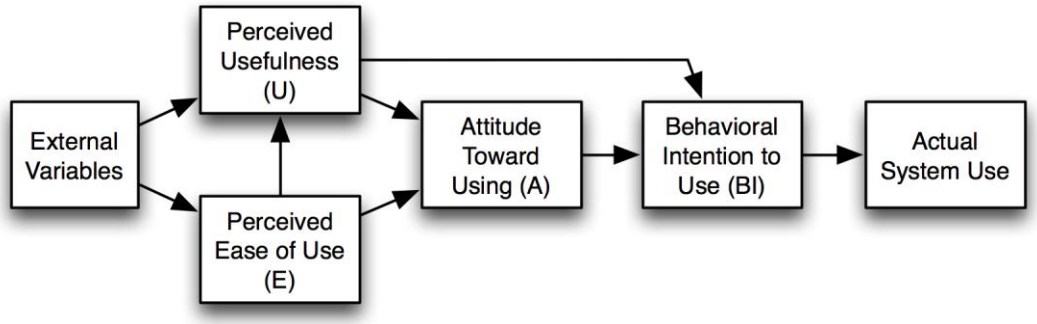

Figure 1: The technology acceptance model [16]

Over the years, information system (IS) usage has been a prominent topic in IS research. Prior efforts have sought to establish a theoretical base by explicating the determinants and mechanisms of users' adoption decisions. It is widely believed that the adoption process influences successful use of information systems [26]. Many scholars have investigated the factors that influence the diffusion of IS innovations in organizations. Others have proposed psychological models for explaining and predicting users' behavior toward IS adoption at the

individual level (e.g., [17, 49, 50]). These two streams of research suggest that the determinants and mechanisms for an individual's adoption decision may vary from stage to stage during the lifecycle of IS usage, i.e., at initial adoption and then subsequent stages of continued usage. Thus using the same or mis-directed managerial tactics to facilitate adoption behavior across various stages may result in negative consequences and reduced IS effectiveness. Though different behavioral models [26] have been recognized as relevant to user adoption behavior at different stages, what is lacking is a clear comparison of these models in terms of their theoretical underpinning and application practices. Without a clear understanding of the differences in users' adoption behavior over time, both scholars and practitioners will not be able to effectively manage the issues related to system design, individual cognition, and organizational actions.

The technology acceptance model (TAM) [16, 17] has dominated IS "use" research and has led to much exploration and widespread discussion over its application and extensions.

However, there is still room for improvement. In this research, we focus on two aspects: the explanatory power of prior user technology acceptance research and the inconsistent relationships between studies.

VALUE CREATION

Value creation is a central concept in the management and organization literature [29], but relatively new, technology-driven phenomena such as E-HRM raise questions regarding value creation [15], most importantly whether E-HRM creates value and how value created by E-HRM can be measured.

Following Haksever et al. [25, p. 292], we define value as the capacity of a product, service, or activity to satisfy a need or provide a benefit to a person or a legal entity. Value creation takes place when organizations develop new ways of doing things, using new methods [34]. Amit and Zott [2] "observe that in e-business new value can be created by the ways in which transactions are enabled" (p493). Organizations that invest in E-HRM aim at renewing their ways of implementing HR policies and practices, hoping for benefits such as improved efficiency and effectiveness. We consider these benefits as value-creating factors.

Strohmeier [41] found that research on E-HRM so far has shown that it alleviates the administrative burden and improves the accuracy of results and quality of HR activities. It leads to better information responsiveness and more information autonomy. Also, it provides time and cost savings. Ruël et al. [35] observed signs of a shift in responsibility from HR staff to line managers and employees.

However, attempts to investigate empirically whether and how E-HRM creates value are relatively scarce, and there is little research on the question of whether the organizational context makes a difference. This means that organizations have started to consider E-HRM as a competitive advantage and a way to create strategic value, even though there is no clear evidence about its value creation capacity or how to measure it [5, 6].

According to Bondarouk and Ruël [7], there are three levels on which value can be created: the personal level, the organizational level, and the society level. This study focuses on E-HRM usage and value creation at the organizational level, assuming that this is realized through improved HR service delivery. Bowman and Ambrosini [8] differentiate between two types of value creation at the organizational level: use value and exchange value. The first type refers to the specific aspect of a new job, product, or service in connection with the users' requirements. It can be seen in the transformational functions of E-HRM usage. The second type, exchange value, is defined as the monetary amount realized after the exchange of a new task, service, or product. This type of value may arise from E-HRM mainly through cost reduction.

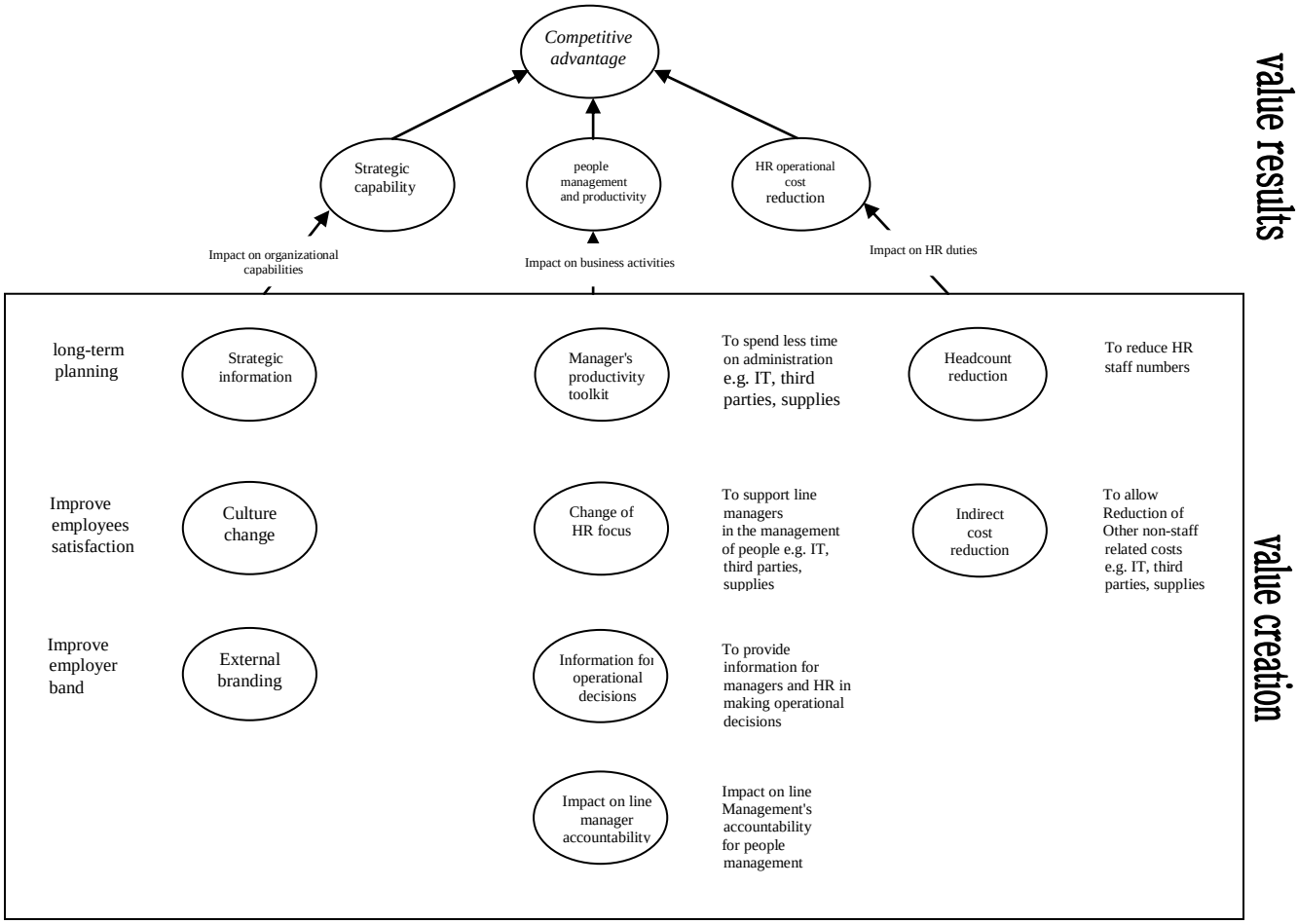

Figure 2: E-HRM value chain model [19]

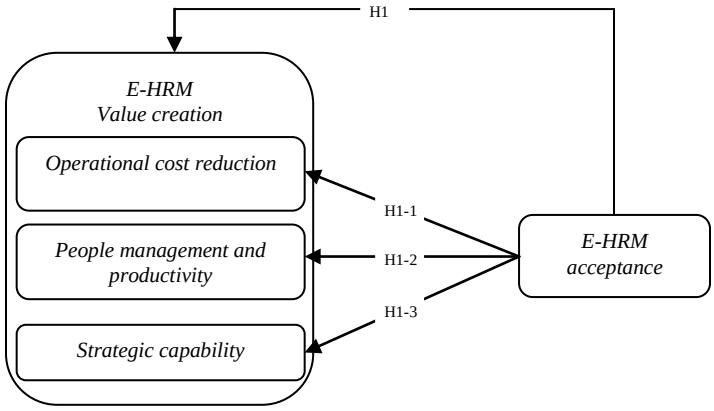

Figure 3: Research model

METHODOLOGY AND RESEARCH POPULATION

Research population was compromised of Shuttle employees who are in contact with human resource department. These employees consist of line and project managers and staffs. Since most of the employees were part of projects in and out of the country, it was impossible to contact with them, so we limit our research population to headquarter in Tehran. There were about 210 employees that by Cochran formula we chose 136 employees and distributed the questionnaires between them.

ANALYSIS

The questionnaires consist of two parts. The first part devoted to analyzing the status of e-HRM acceptance according to Davis model (1983). The second part analyzes the e-HRM value creation in three dimensions - operational, managerial, and strategic- according to foster model (2009). Cronbach's alpha was 0.86 and 0.91, respectively. In this research, Partial least squares were used.

FINDINGS

As discussed before, Partial least squares were used to analyze the hypotheses. The main hypothesis analyzes the effect of E-HRM acceptance on value creation. The results are reported in Table 2.

According to path coefficient 0.868 (Figure 4) and t-value: 71.404 (Figure 5), it can be concluded that E-HRM acceptance has positive effect on value creation (in 99% of certainty). R2 also shows that acceptance can anticipate 0.75% of value creation. So, the first hypothesis was confirmed.

Table 2: 1st hypothesis results

Anticipation variable	Dependent Variable	β	t	R2
IT acceptance	Value creation	0.868	71.404	0.754

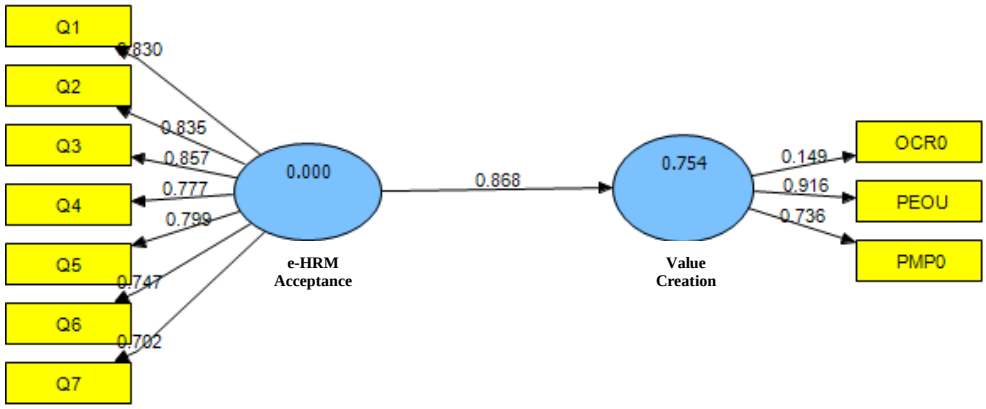

Figure 4: Structural equation modeling in the estimation of path coefficients (main hypothesis)

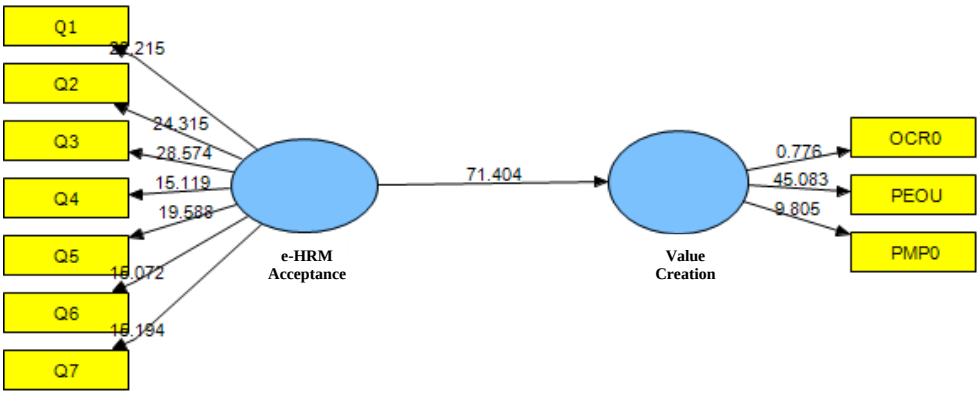

Figure 5: Structural equation modeling in significant coefficient (main hypothesis)

The results of analyzing the sub-hypotheses are demonstrated in Table 3. As can be seen, in the first sub-hypothesis, we suppose that E-HRM acceptance has meaningful effect on operational cost reduction. Since t-value is less that critical value (1.96), it can be concluded that E-HRM acceptance doesn't have effect on operational cost reduction. So this hypothesis wouldn't confirm.

Table 3: Sub-hypotheses results

Dependent variable / Anticipation variable(independent)	Operational cost reduction	People management and productivity	Strategic ability	coefficient
e-HRM acceptance	0.173	0.507	0.488	β
	0.668	7.501	5.879	t
	0.030	0.257	0.238	R2

In second sub-hypothesis, we supposed that E-HRM acceptance has meaningful affect on people management and productivity in organization. Since t-value is measured 7.501 which is more than 1.96, this hypothesis confirms. The third hypothesis supposed that E-HRM has meaningful effect on strategic ability in human resources departments in organization. According to results (t=5.879), we can say that E-HRM has effect on people management and productivity.

RESULTS AND RECOMMENDATIONS

This research was supposed to analyze one main hypothesis and three sub-hypotheses. Since, E-HRM acceptance depends on employees' expectation from E-HRM [42], in the main hypothesis we analyzed influence of E-HRM acceptance and creation value. In Voerman, and Veldhoven [51] research in Philips Company among 99 managers and 257 employees, they showed that there is meaningful relationship between E-HRM acceptance and value creation. As Loijen [30] said by using IT tools in organizations we can promote value creation. In other words, acceptance and using human resources technology can develop human resources duties and promote organizations competitive advantage. Therefore, one of the reasons of using human resources technology is creation of competitive advantage in organization or doing human resources management duties effectively that technology can reach them faster [33]. This research results confirmed previous findings, too. In other words, the effect of E-HRM acceptance on value creation was confirmed. So we recommend organizations to pay

attention to technology acceptance in E-HRM as a new method in human resources activities.

In most of the researches revealed that E-HRM can decline operational cost [11, 35, 4]. Hall and Moritz [27], represented that human resources technology acceptance in organizations can decrease current costs. Because by using technology at workplaces, the need for human resources expertise decrease, the celerity of human resources activities increase, information error decrease and can promote control of human resources activities [33]. Foster [19] believes that if organizations want to use IT tool effectively they have to move toward managerial decisions. In other words, when organizations move toward adaption of technology, they have to have the managerial ability in decisions to decrease the employees and benefit the technology advantages efficiently. In this research, the first hypothesis rejected. In other words, the E-HRM acceptance didn't decline the operational costs. After scrutinizing this, we came up to tendency of using old processes and retention of human resources that there's no need to keep them anymore. So we recommend if organizations tend to use technology they have to provide conditions for managerial decisions, too.

As previous studies demonstrated, human resources technology can increase human resources performance, promote providing services, and change in human resources duties [36]. Yusoff and et al. [52] believe that E-HRM can promote human resources activities quality and can help managers to manage the employees efficiently. We can say that adaption of the mentioned technology can promote managers duties in organizations. Last hypothesis analyzed the effect of E-HRM acceptance on HR strategic ability. We expected that advantages of E-HRM in senior levels can affect organization abilities [19]. In other words, adaption of technology has to eliminate doing ordinary tasks by managers and staffs and instead of that follow the strategic aims of organization. In this research, the effect of E-HRM on HR capability confirmed.

LIMITATIONS AND SUGGESTIONS FOR FUTURE STUDIES

E-HRM allow that adaption of IT tools align with organization aims and strategies. So the main purpose of E-HRM is to create conditions to align HR aims and strategies with organizations aims. Since using E-HRM is still new in Iranian organizations, they don't have enough information about it and try to use technology without knowing its' efficiently. So according to these limitations we suggest some ideas for future studies:

- Conducting the same research in the organizations which have more knowledge about E-HRM and have exemplary record in adaption of technology
- Conducting the same research in project-oriented organizations which employees from different units adapt E-HRM
- Identifying effective factors on E-HRM acceptance in organizations

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