E-Human Resource Management (E-Hrm) Project: A Systematic Literature Review

Ivan Alexander, Rico Wijaya

Abstract: Information Technology is the golden key in this era and it has changed how the way we live. One of the big impacts is in organizational process especially in Human Resource Management (HRM). With the help of Information Technology, it changed the way of traditional HR into modern HR. One of the most popular technology for HRM is Electronic Human Resource Management (E-HRM). E-HRM is an application of information technology that allows managers, applicants, and employees access to human resource related information and services through the Internet. In this study we focused to discuss the success factor of E-HRM project implementation and the challenge of implementing E-HRM project. The successful E-HRM implementation can be achieved if there are a support from top management and many factors. However, there are still many challenges for implementing E-HRM. With this kind of factor and challenge, organization must know what to do before implementing the E-HRM system.

Index Terms: Electronic Human Resource Management, Information Technology, Human Resource Management, EHRM

1. INTRODUCTION

Information technology has many effects in every aspect in our life. From the invention of the telegraph to the creation of smartphones, it also has changed the way we live, our lives and do our job. For example, technology has altered the way we buy products, communicate, health care services, manage our salary, and educating child [1]. It has also had a good impact in organizational processes, especially in Human Resource Management (HRM) and it's transformed the way that organizations recruit, select, motivate, and retain employees. Interestingly, there are a survey discussed about primary drives that can change HRM, the drive factors are:

- Technology
- Talent Management

With the development of technology, it can change the way HR work is accomplished. In this paper we focus on information technology. Information Technology defined as the application of computers device to collect, store, retrieve, and disseminate data for business purposes. The most popular technology for HRM is Electronic Human Resource Management (E-HRM). E-HRM is an application of information technology that allows managers, applicants and employees access to human resource related information and services through the Internet. Using an E-HRM system is a way of implementing business strategies especially in, HR strategies, policies, and practices. The E-HRM system supports the HR function to satisfy with the HR needs of the organization through web or application-technology based channels.

2 STATE OF THE ART

2.1 Role of information technology in HRM functions

Human resource can perform better with the development of information technology especially in management case. By using technology, Information in each of the practices, identify areas for selection, recruitment, training and deployment of human resources will develop and ultimately improving human resource works [2].

2.2 Evolution in human resource management

There are many application web-based information systems used for human resource management. The application which is well known and understood by employee, is human resource information systems (HRIS), followed by enterprise resource planning (ERP) systems. E-HRM is an extension of the technologies, adding strategic value to the organization, through automation and information [3].

2.2.1 Table 1 below is the evolution in Human Resource Management.

<table>
<thead>
<tr>
<th>Timeframe</th>
<th>Evolution in HRM</th>
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</thead>
<tbody>
<tr>
<td>Prior to 1940</td>
<td>Manual record keeping and payroll</td>
</tr>
<tr>
<td>1940s – 1950s</td>
<td>Federal tax regulations introduced</td>
</tr>
<tr>
<td>1980s – 1990s</td>
<td>Tracking of administrative costs and turnover, increased government regulation (ERISA, OSHA)</td>
</tr>
<tr>
<td>1990s – 2010</td>
<td>Globalization and expansion leads to integration of all systems (accounting, HR, finance, manufacturing)</td>
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<tr>
<td></td>
<td>Employee use analysis &amp; HR planning</td>
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<tr>
<td></td>
<td>Move from internal paper processor to external focused strategic partner</td>
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</tbody>
</table>

2.3 E-HRM goals and outcomes

According to Esen and Erdogmus [5], using information and communication technologies in human resource services has become an important strategy. It can achieve many advantages for organizations goals. Moreover, many literature on E-HRM suggests that overall there are three goals of E-HRM [6] [7] [8].

1. Support the achievement of HRM goals
2. Improving efficiency/administrative process
3. Improving client-service

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[6]
[7]
[8]
4. Improving HR’s strategic role

Besides the goals, there are also outcomes for the E-HRM itself. According to deshwal there are 4 outcomes for E-HRM [9].
1. Commitment
2. Competence
3. Congruence
4. Cost effectiveness

3 RESEARCH METHODOLOGY

Given the Introduction and rapid changes in HRM in the past decades, we believe that it will influence the nature of HR processes in the future. Thus, the primary purposes of this paper are to (a) discuss the success factor of E-HRM project implementation, (b) the challenge of implementing E-HRM project. The keyword derived from the research question is (“ehrm project” | “e-hrm project” | “ehr project” | “e-hrm implementation”). The keyword is executed on the Google Scholar database. The research stage is conducted by three reviewer, which is sequentially delivered in Figure 1 based on Dikert, Paasivaara and Lassenius. [10]. The research stage began with searching all English literatures based on defined keyword between 2009 and 2019, title screening, abstract analysis and full text analysis.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Question</th>
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<tbody>
<tr>
<td>1</td>
<td>Does the study focus on E-HRM?</td>
</tr>
<tr>
<td>2</td>
<td>Does the study mention the success factors in implementing E-HRM Project?</td>
</tr>
<tr>
<td>3</td>
<td>Does the study mention the challenges/problem in E-HRM project implementation?</td>
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</table>

Table 2. presents the study quality assessment criteria. Criterion 1 makes sure that the literature focuses on the E-HRM, and it is enhanced in criterion 2 as it demands the E-HRM is implemented in Projects context. The criteria 3 and 4 focus on filtering the literature to answer the research question. These study assessment criteria are used to filter the literatures in full text analysis.

4 RESULTS AND DISCUSSION

During the 90s, several key technology factors were identified that influenced E-HRM implementations. Data integrity, system usefulness and system integration. At that time, standardization of HRM processes was an important factor when implementing E-HRM [11]. Organizations that had a high level of technology are more likely to adopt E-HRM [12]. In the 70s and 80s computers were booming and seen as a great solution for business process, but there was a problem, because at that time it’s hard to found personnel who are good in computer skills. In the 90s, employees had the possibility to edit their personal data in the computer themselves and this phenomenon was seen as a positive influence, because digitalize data already accepted by user and also in that time organizational culture and communication between HRM and other departments were seen as important determinants of successful implementation. During years 2000-2010, the size of the organization played a more increasing role, a large organization were more likely to implement E-HRM. A close and good collaboration between the HRM department and IT department was considered as a critical factor to implement E-HRM successfully [12]. Communication does not affect the decision in implementing E-HRM but open communication with employee helps the implementation [13]. According to Deshwal et al. [9] and Bondarouk et al [14] support from top management can be success key in implementing E-HRM as ICT tool to achieve sustainable management. In the 70s, there was a lack of top management support and limiting for a successful implementation of E-HRM [15]. At that time, there were more negative factors influencing a positive implementation like:
- Lack of priority
- No synchronization between the needs of IT and HR department
- Bad communication between IT and HR department

According to Sylvester et al [16] and deshwal et al [9] one of the main challenges in implementing E-HRM is the lack of funding to get and maintain the tools and train or educate employee to be able to operate the tools and Banerji said also, cost is an important factor to be taken into consideration before implementing of the E-HRM. The organization must prioritise and take the decisions of acceptance and implementation of E-HRM [17]. The Next is, people do not like changes and changing the way of doing things or work process can be difficult because implementing change in a system is a big challenge that can be more challenging than buying and implementing the tools itself [16]. The next is, it requires maintaining a fully fledge back-up system for E-HRM system. One of disadvantages using E-HRM system is that the data gets free accessible to all employee and can access the strategic information and use it without any authorization [18]. It leads to corruption/hacking/data losses [19]. Some paper has explained the success factors in implementing E-HRM system, but in this paper also informed that there is a
challenge in implementing E-HRM system, with the success factors and challenges it can be a consideration in implementing E-HRM system.

5 CONCLUSION AND FUTURE WORKS
This systematic literature review of implementing E-HRM project. We analysed 15 papers from database since 2009, presenting success factors and challenges. The successful E-HRM implementation can be achieved if there are a support from top management, a good communication between team, a good technological factor, organizational factor and people factor. However, there are still challenges for implementing E-HRM such as lack of funding, work culture and security concern. With this kind of factor and challenge, organization must know what to do before implementing the E-HRM system. For the next research we will try to review what is the uniqueness and the criteria of E-HRM, besides that we also want to review how much the cost for building E-HRM system and what’s interesting is how long it takes for employees to adapt from conventional HRM to E-HRM.

REFERENCES