

Technology and the HR field: The Growth of Human Resource Information Systems

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Abstract

The aim of this paper is to review both the professional and academic development of human resource information systems (HRIS), and to critically evaluate its growth, to recommend methods to move research forward. In this context, the relationship between technology development and the HR field, is examined through four key periods of technology namely, client server, mainframe, cloud-based, ERP and web-based systems. For each period, this paper elaborates on the HR practices and how the need to apply these systems has led to the development of the HR field. Furthermore, the HRIS subfield and its relationship are examined with the technological developments in the HR field. The findings reveal that, the majority of the studies on the application of technology to support HR, has been conducted in the last 20 to 25 years, as a response to the use of the web, as a medium for delivering HRIS. The result is achieved through discussing how researchers from the information systems (IS) and HR fields, coordinate and cooperate with each other to support HRIS development.

Keywords: HR Technology, Electronic Human Resource Management, Human Resource Information Systems (HRIS)

1. Introduction

The earliest HRM computer-based systems were used for systematizing and supporting employees' payroll as well as for other data demanding functions such as, keeping employee records. For instance, in 1943, HRM was fundamental for the improvement of the new payroll systems following the tax legislation, through the use of the enhanced first in-house processor system (Javad Shahreki, Ganesan, Raman, Chin, & Chin, 2020; Voermans & van Veldhoven, 2007). Only from the 1940s, HRM initiated the use of technology, so it has often developed relatively slowly compared to the implementation of new technologies in other practical areas such as, supply chain and accounting management (Goodhue, 1995). Until the 1990s, the benefits and importance of technology was not clear for the HRM field (Javad Shahreki et al., 2020; Venkatesh, Speier, & Morris, 2002), due to relatively limited theories and studies that had been carried out in the field (Stone & Dulebohn, 2013). However, in the last 20 years, technology has had a great impact on HRM practices and processes, which led to the development of a new field proposed as, HRIS. The main objective of HRIS, is to implement new technology to assist and reinforce the HR

function. An HRIS is defined as, a system implemented to analyze, store, acquire, manipulate, distribute and retrieve information based on companies' HR, to support managerial decisions and HRM (Stone, Deadrick, Lukaszewski, & Johnson, 2015). This new field is also referred to as, electronic HRM (eHRM) (Bamberger, Biron, & Meshoulam, 2014). The system that started off as a simple processor to automate payrolls has now evolved into a highly systemized HRIS, used in compensation selection, recruitment, and training (Bondarouk, Parry, & Furtmueller, 2017; Bondarouk, Ruël, & van der Heijden, 2009). This has led to a significant improvement in many HRM sub-functions and has additionally reduced administrative burdens, has empowered the field to improve productively, and has provided improved services for retirees, employees, and job applicants. Additionally, the introduction of the internet and new cloud-based technologies has assisted HRM to reach its objectives, of simplifying the implementing of self-service technologies, streamlining selection processes, attracting talented interviewees, and permitting organizations to provide training in distant locations. The evaluations have revealed that, almost all large organizations have implemented HRIS to help core decisions, processes, and functions in their