Human Resource Information System: Proposing a Maturity Model

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Abstract

The study explores how the use of human resource information in organizations can be optimized. An extensive literature review was conducted to explore how human resource information is used and managed in organizations. The study is qualitative in nature and employed semi-structured interviews. Interviews with 12 human resource practitioners and human capital consultants were analyzed to understand the challenges they experience in managing human resource information. Findings of the study reveal that while organizations expect their human resource information systems to deliver high-level information regarding their people, the approach of organizations to human resource information and the systems used to manage such information may be unstructured. It was also observed that organizations cannot use human resource information at certain complex levels without mastering fundamental level(s). Based on the findings, a four-stage maturity model for the management of human resource information is proposed. The maturity model, when implemented, has the potential to provide organizations with a structured approach to managing and using human resource information, in a manner which will contribute to the optimal use of human resource information systems.

Keywords: human resource management, human resource information, human resource information system, human resource process, human resource technology, maturity model.

INTRODUCTION

The information technology (IT) revolution has caused changes in business and specifically, in the area of human resource management (HRM). New human resource (HR) technology is believed to enable the HRM function to transition from an operational function to a strategic partner to business through reducing administration and facilitating access to HR information. Therefore, many organizations have introduced fully integrated human resource information systems (HRISs) and expect HRISs to deliver useful information. However, organizational leadership still does not view the HRM function as a strategic partner to business. In order for HRM to cause a transformation to occur and to ultimately contribute strategically, organizations and, specifically, the HR function need to investigate how to optimize their HR information. Unless HR processes related to HR information are evaluated, the implementation of technology will not produce desired results.

LITREATURE REVIEW

The information technology (IT) revolution has caused critical changes in the area of business generally and in the area of HRM specifically (Bondarouk & Ruël 2013; Fagan 2014; Haines & Lafleur 2008; Hempel 2004; Marler 2009; Mishra & Akman 2010; Salma & Shaheen 2013). Although the IT revolution is relatively recent and the changes it has brought about in the field of business and HRM have been quick and numerous, systematic investigations as well as expert views and opinions in the subject area of IT in HRM have been published (Salma & Shaheen 2013; Haines & Lafleur 2008; Binuyo & Brevis- Landsberg 2014; Fagan 2014; Pretorius

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2009; Inbamuthiah 2012; Schalk et al. 2013; Poba- Nzaou et al. 2016). These publications focus on the possible impact of technology on the HRM profession, enabling the transition of the profession into a more strategic function in the organization.

Information technology refers to the application of computers for the preparation and analysis of information (Bassellier et al. 2001). Through the use of IT systems, data is captured, stored, retrieved and analyzed to provide useful information that can assist in strategy development in a business (Han et al. 2011; Haines & Lafleur 2008; Kernaghan 2014). Electronic human resource management (e-HRM) has been described as "the planning, implementation and application of IT" for networking and supporting purposes (Strohmeier 2007, p.20). An HRIS acquires, stores, manipulates, retrieves, analyses and distributes information relevant to the human resources, personnel activities and organization unit characteristics of an organization (Ankrah & Sokro, 2012; Jones & Hoell, 2005). The HRIS can serve as a spinal cord to maintain alignment and facilitate communication in an organization (Hannon, Jelf, & Brandes, 1996). In smaller organizations, an HRIS can be as simple as payroll records and time cards (Kovach et al. 2002).

Hempel (2004, p. 163) argues that the effect of technology on the HRM profession is much broader than just the use of e-HRM. The advent of technology has facilitated more knowledge workers and less manual labourers to be employed, causing changes in the management of organization and work-design, including organizational structures, work processes and job design. This has initiated a re-engineering process in HR. Figure 1 illustrates the links between IT and HR, namely

the re-engineering process, changes in both organization and work design and changes in the management of knowledge workers. All three links lead to a need for new HR practices.

Figure 1: Interactions between Technology and HRM
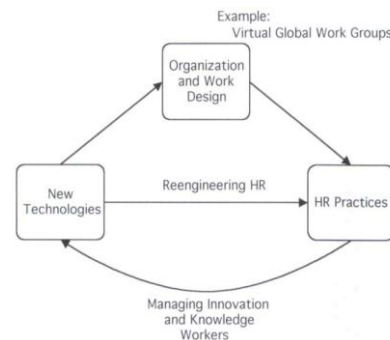
Source: Hempel (2004:165)

Research by Bersin identifies several ways in which technology impacts HRM. The Bersin report indicates that due to technological advancements, the area of performance and other feedback have opened up, leading to quicker and thorough 360 degree feedback opportunities. In the field of HR, data obtained through information systems, once analyzed and examined, can be of strategic use to an organization. HR analytics refers to the treatment of such HR data. HR analytics can be further classified as descriptive analytics, diagnostic analytics, predictive analytics and prescriptive analytics (Banerjee et al. 2013). Predictive analytics enable organizations to find the right people, predict who is likely to leave and advise the path to be followed to develop leaders. Due to availability of technology, employees are demanding more flexibility and autonomy at work. Even when it comes to learning, employees are taking ownership and choosing the path they want to take, irrespective of the instructor-delivered

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models that are designed in organizations.

The use of technology has also changed the way HRM professionals work. Employees and managers are becoming more involved in HR activities with the advent of technology. End users can complete application forms and determine salary levels, among other things, leading to higher degrees of involvement of employees and managers in HR activities (Hempel 2004, p.164). Self-servicing improves the accuracy of information for reporting and reduces the amount of time that HR professionals work on administrative tasks. All these changes have implications for the HR profession. The profession has moved from being administrative to operational and now, there is a demand for it be strategic (Bell et al.2006; Ananthram & Nankervis 2013; Barrett & Oborn 2013). The HR professional therefore needs to be bold, innovative and experimental, willing to take risks and design, test and iterate initiatives. A starting point to such an HR profession would be effective management of technology and HR information. However, HR professionals feel 'overwhelmed' by HR technology and therefore, do not use it effectively. An SABPP study revealed that HR professionals with high ratings on use of technology tend to rate themselves low (SABPP 2014).

In spite of the introduction of fully integrated human HRISs into organizations, organizational leadership still does not view the HRM function as a strategic partner to business (Bondarouk & Ruël 2013; Lawler III & Mohrman 2003). Lawler III & Mohrman (2003, p. 17) state that it is unclear whether the HR function is capable of identifying and implementing changes to the function, that are required to support the changes in business due to the advent of technology. In other words, it is not clear whether the HR function has utilised technology in a systematic manner to enable the function to transition from an operation function to a more strategic function.

Technology can be the platform through which HR becomes a strategic partner to business (Marler & Parry 2016; Henderson & Venkatraman 1999). In fact, technology will, if it has not yet, change the way HR is administered in organizations around the world. By using technology correctly, HR can do much more than just reporting. In order for HRM to contribute strategically and cause a transformation to occur, organizations and specifically the HR function needs to look at three elements. These elements are people, process and technology (Hutcheson 2004; Bassellier et al. 2001). Unless the people and processes aspects are not considered, the implementation of technology will not produce desired results. HR professionals must therefore approach the use of HRISs in a structured and process-orientated manner.

It has therefore been established that although HR information made accessible through HRISs is available to the HRM professionals, HR information is not being used optimally. A reason for the ineffective use of technology may be the unstructured installation of HRISs and the inability of HRM professionals to use the HR information made available through these systems.

METHODOLOGY AND METHOD

In this study, an interpretive research paradigm is adopted. The researcher, for the purposes of this study, adopts the ontological belief that reality is socially constructed. From an epistemological perspective, the

researcher views reality as something that must be interpreted. The research is value bound and the researcher is part of what is being researched. So, the researcher cannot be separated from the research process, from an axiological perspective. Thus, the findings of the study may be subjective.

Through the qualitative methodology of phenomenology, the researcher seeks to attempt to understand people's perceptions and understandings of a situation. Such understanding may enable the researcher to determine the underlying meaning of events and activities, with the ultimate aim of creating a structured solution for the identified problem.

The study was conducted in Bengaluru. The population of the study comprised of HR consultants and HR practitioners and HR technology experts employed at HR technology organizations all over Bengaluru. Non-probability convenient sampling was used. The sample consisted of a total of 12 participants, three of who were senior HR practitioners, four were HR technology experts and five were HR consultants. Data was collected with the use of semi-structured in-depth face-to-face interviews, using an interview guide.

Interviews were recorded using a digital Dictaphone and transcribed after all the interviews were completed. Thematic data analysis was used to analyze the transcriptions. Initial codes were generated, following which these codes were classified in relation to the overall objectives of the study. The systematic process was performed using Atlas TI V7. Following identification of codes and categories, themes were sought out with the purpose of answering the research questions.

FINDING AND DISSCUSSION

From the codes and themes that emerged from the data analysis, the following challenges in managing HR information were identified:

1. Need for increased process orientation in HR
2. Unstructured approach to HR information
3. Integrating processes, data and strategy
4. Weak data and weak data usage
5. Data-related incompetence in HR professionals

The participants felt that an HR professional must use HR information so that it can be applied to make decisions in people-related activities in the organization. Based on the interviews, it was identified that the HR professional can use IT for the following purposes:

1. To reduce administrative load
2. To get and report information quickly and effectively so as to support business
3. To strategically contribute to business through predictions

On analyzing the data obtained from the interviews, it was identified that the three purposes of IT are linked to each other in that they form stages. If IT does not reduce administrative load, then it cannot be used to report accurately. Without accurate reporting, IT cannot be used in the HR function to strategically contribute to business through predictions.

The findings further suggest that there is a need for detailed frameworks, which help to

scope and evaluate the use of information and IT in HR. Such detail can be illustrated in the form of a maturity model as shown in Figure 2. The maturity model implies that an organization cannot achieve level 2 without being successful in achieving level 1, and cannot achieve level 3 without succeeding in achieving level 2, and so on.

As per Figure 2, the first level of maturity is titled Tentative. At this level, various forms of information may be collected through various HR processes. Such HR information, although collected, is not being used for any specific purposes in the organization. HR information is only a by-product of an HR process. There is no purposeful collection of information, although there are opportunities to do so. HRM professionals and senior management are not meticulous and diligent about collecting HR information in this level. Furthermore, not all HR processes have information collected and maintained.

Level 2 is titled Established and Recurring. At this level, HR information is collected from some or all HR processes. There is a purposeful approach to collect and save HR information at this level. Processes are recurring such that information from various cycles of the process is available. HRM professionals are ambassadors of the HR processes and not necessarily of the information collected through these processes. Thus, the HR processes are established and HR information is collected in these processes. Some of the HR information collected may be used to confirm suggestions and ideas, but there is no structured approach to managing and using HR information.

Figure 2. Maturity model of HR information

management in organizations.
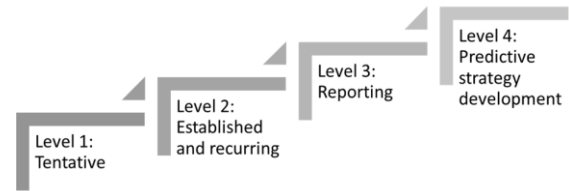
Source: Author's construction.

In Level 3 titled Reporting, HR information is collected systematically and used for various forms of internal and external reporting. HR information is collected systematically and efficiently. Processes and related policies are documented and standardized. Various technological systems may be used to collect HR information. At this level, various HR processes may not be linked to each other. Also, there may be different information management and IT systems to collect information from different HR processes. Thus, there is limited interaction and integration among the various HR processes and the information obtained from the various HR processes. There is a possibility that the same HR information is collected repeatedly through the different systems, leading to data integrity issues and some level of employee and manager frustration.

At Level 4 titled Predictive Strategy Development, detailed HR information is collected through various HR processes. Such information is used not just for reporting purposes, but also to predict various HR metrics and activities. Decision-making heavily relies on HR information. HRM professionals, business managers and employees are assured about the accuracy and integrity of data available to the organization. All stakeholders work together to improve HR

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processes and the data collected through the various processes. There is a continuous feedback loop which enables process owners to continuously improve the process and to pilot innovative ideas, not just from a process perspective, but from an organizational perspective as well. Managers, both in business and in HR, are confident about the integrity and accuracy of HR information that they use it to develop solutions and to build strategies.

Different HR information maturity levels of organizations link to different objectives of the use of IT in HR. For example, at Level 1, an organization may just use IT systems for payroll (administration). At Level 2, HRISs may be used for basic statutory reporting. If not for any other reason, HR technology must be implemented for cost reduction and improved administrative capacity. At level 3, organizations use IT for legal reporting (BEE) and strategic reporting. Proper use of HRISs can ensure compliance especially when HR legislation is quite complex (Schramm 2006, p.7). At this level, technology can be viewed as a way to assist in measuring the effectiveness of human capital interventions (Schramm, 2006). An organization at a maturity level 4 would use predictive analytics and other information in decision-making and developing strategy. In this level, workforce analytics are used to make strategic decisions that enable the business to function effectively. Workforce analytics improve decisions about the workforce leading to improved resource usage (Banerjee et al. 2013). At this level, HR information becomes a driver of employee productivity.

SUMMARY AND CONCLUSION

Articles in the area of HR information management are mostly conceptual, and there are limited articles with empirical evidence.

Therefore, there is a need for empirical data and field work in this area. Also taking into consideration the specific context of South Africa, such empirical evidence will be of benefit.

Organizational context is one of the main considerations when managing HR information (Campion et al. 2011). The contextual factor that must be taken into consideration is the maturity of HR processes in the organization. The study has not taken into consideration organization-specific needs, nature of the industry and other contextual factors. This may be considered a limitation of this study.

When one considers the maturity of technology-enabled people practices in South Africa, a generic maturity model become very useful. Also, taking into consideration the higher education needs, the maturity model would be a good starting point to build curriculum and a structured approach to teaching and learning about HR technology.

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