

HUMAN RESOURCE INFORMATION SYSTEMS (HRIS): REPLACING OR ENHANCING HRM

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ABSTRACT:

Over the last decade there has been a considerable increase in the number of organisations gathering, storing and analysing information regarding their human resources through the use of Human Resource Information Systems (HRIS) software or other types of software which include HRIS functionality (Ball, 2001; Barron, Chhabra, Hanscome, & Henson, 2004; Hussain, Wallace, & Cornelius, 2007; Ngai & Wat, 2006). The growing adoption of HRIS by organisations combined with the increasing sophistication of this software, presents the Human Resource function with new challenges. On one hand the role of HR can be enhanced through the combination of improved access to metrics and the automation of existing administrative functions thus enabling HR to make a greater contribution at a strategic level. However, the same capabilities also threaten the role of HR specialists as traditional HR work is both automated and distributed to line management. Through analysis of four Australian case study organisations we examine the impact of the HRIS on the HR function and find that the degree to which the system acts as an enabler of increased strategic focus for HR is contingent upon three factors: organisational attention, understanding of the technological responses to human resource management complexity, and the success of change management to support user acceptance

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INTRODUCTION

The last decade has seen a significant increase in the number of organisations gathering, storing and analysing human resources data using Human Resource Information Systems (HRIS) (Ball, 2001; Barron et al., 2004; Hussain et al., 2007; Ngai et al., 2006). In this paper we show that the study of the impact of HRIS is of direct significance to the ongoing debate about the extent to which Human Resources (HR) can play a strategic role in the organisation (Becker, Huselid, & Ulrich, 2001; Hewitt Associates, 2007; Huselid, 1995; Lawler & Mohrman, 2003; Sheehan, Holland, & De Cieri, 2006). Specifically, we examine the argument that through its capacity to deliver accurate and timely metrics, HRIS has the potential to assist the HR function in developing business strategy and thus enhancing organisation performance (Barney & Wright, 1998; Broderick & Boudreau, 1992; Gueutal, 2003; Lawler, Levenson, & Boudreau, 2004; Lengnick-Hall & Moritz, 2003).

Our initial findings from the first phase of interviews with four organisations based in Australia, suggest that the potential of HRIS to deliver the strategic competencies promised remains largely unrealised and that instead HRIS is used to increase administrative efficiency and/or obtain compliance support. Specifically, we find that the implementation and use of HRIS is being hindered by three main challenges: maintaining organisational attention, addressing the complexities associated with people management, and managing user acceptance of the change associated with the system.

LITERATURE REVIEW AND THEORY

The current generation of HRIS automate and devolve routine administrative and compliance functions traditionally performed by corporate HR departments and can facilitate the outsourcing of HR (Barron et al., 2004). In doing so, HRIS not only make it possible for organisations to significantly reduce the costs associated with HR delivery, but also to reassess the need for retaining internal HR capabilities. However, HRIS also provide HR professionals with opportunities to enhance their contribution to the strategic direction of the firm. First, by automating and devolving many routine HR tasks to line management, HRIS provide HR professionals with the time needed to direct their attention towards more business critical and strategic level tasks, such as leadership development and talent management (Lawler et al., 2003). Second HRIS provides an opportunity for HR to play a more strategic role, through their ability to generate metrics which can be used to support strategic decision making (Hendrickson, 2003; Lawler et al., 2004; Lengnick-Hall et al., 2003).

The existing literature on HRIS suggests that they have different impacts on HR across organisations, but provides little explanation for this variation. Early surveys suggested that HRIS were used predominantly to automate routine tasks and “to replace filing cabinets” (Martinsons, 1994). Ball (2001) concluded that HR had missed the strategic opportunity provided by HRIS. More recent research shows greater use of HRIS in support of strategic decision making by HR (Hussain et al., 2007). However, the extent to which HRIS is used in a strategic fashion differs across organisations, with the vast majority of organisations continuing to use HRIS simply to replace manual processing and to reduce costs (Bee & Bee, 2002; Brown, 2002).

Recent debates about technology and organisation have highlighted the importance of social context and sought to develop frameworks which acknowledge both the material and social character of technologies including HRIS (Dery, Hall, & Wailes, 2006). Accordingly, theories which can be considered as ‘social constructivist’ can play an important role in the study of technology as they explicitly recognise that technologies, such as HRIS, can not be evaluated and analysed without having an explicit understanding of the context of individuals and groups which consequently comprehend, interpret, use and engage with the technology (Grint & Woolgar, 1997; Orlikowski & Barley, 2001; Williams & Edge, 1996).

Social constructionist views offer insights into the implementation and use of HRIS in a number of ways. In this study we draw on the social construction of technology and technologies-in-practice literature. The social construction of technology (SCOT) approach challenges the idea that technologies and technological artefacts have a pre-given and fixed meaning and in its place argues that the process, design and selection of technologies are open and can be subjected to contestation (Pinch & Bijker, 1984). Thus a technology is seen to be characterised by ‘interpretative flexibility’ and various ‘relevant social groups’ who articulate and promote particular interpretations of it. This meaning, over time tends to become accepted and the interpretation of the technology stabilised (Dery et al., 2006).

In similar tradition to SCOT approaches, the technologies-in-practice approach endeavours to recognise the inability to separate the technology from surrounding social relations. Orlikowski (2000) conceives of technologies-in-practice as the structure that is enacted by users of a technology as they use the technology in recurrent ways. The important implications of this idea for the purposes of this research is the realisation that it is only when individuals use the HRIS that the associated social practices will frame and determine the value that they attribute to it. Hence the process of using a technology involves users interacting with ‘facilities’ (such as the properties of the technology artefact), ‘norms’ (such as the protocols of using the technology), and ‘interpretative schemes’ (such as the skills, knowledge and the assumptions about the technology as might be positioned by the user) (Dery et al., 2006).

Both of these approaches are important and useful as they recognise that when considering relationships and experiences with technology, it is essential that social factors and previous experiences be considered. Therefore the opinions of respondents can only be understood in the context of individuals and groups comprehending, interpreting, using and engaging with the technologies (Dery et al., 2006).

The study discussed in this paper was initiated after a preliminary survey of the use of HRIS in 138 Australian Listed companies (Grant, Dery, Hall, & Wailes, 2007). The survey found that although 50% (n=69) of the participant organisations were found to have an HRIS, the extent to which they were being used in a strategic manner varied and for the most part the claimed potential of the information systems was not being realised. For example, while 91% of organisations with an HRIS used the systems in order to process and record leave, only 34% used them in relation to staff planning. In order to gain further insights into these results, the present study explores the impact of HRIS on the HR function in detail over a three year period at four large Australian organisations using a multiple case study approach (Yin, 2003). Specifically, the project examines whether HRIS enhances the strategic contribution of HR by exploring the ways in which HR professionals might make more effective use of these systems.

The project is informed by three research questions:

1. Is there evidence to suggest that HR is using opportunities provided by the HRIS to enhance its contribution to firm strategic direction?
2. How do different organisational characteristics affect the ability of HR to use the opportunities provided by HRIS to act as strategic partners?
3. What strategies can HR professionals adopt to ensure that the use of HRIS in their organisations supports the strategic contribution of HR?

METHODOLOGY AND BACKGROUND

The nature of the research questions required that the plans and activities of each case study be studied through the gathering of an array of data (table 1). This enabled the researchers to develop greater levels of understanding about the management of HRIS in each organisation and across organisations (Yin, 2003). Over a 16 month period initiated early 2008, interview data was combined with other empirical evidence gathered through access to secondary sources and during site visits. The interview data comprised semi-structured interviews conducted with executives across a range of roles in the organisations including: HR, IT, and Operations. Each interview was between one to two hours, and was conducted by two investigators, recorded and transcribed. Interviewees were selected on the basis of their involvement in the decision to implement or upgrade the HRIS at their organisation, or their high levels of use of the HRIS.

Case Study	# Interviews	Additional Data	Observation of System in Use
TechOrg	4	Organisational information available in the public domain, press articles	No observation of the system due to interviewee time constraints
BuildOrg	10	Annual reports, Previous organisational presentations.	Observation of HRIS in use within HR area; observation of OHS system in use
ManuOrg	8	OHS staff brochures and posters, Annual reports and promotional material	Observation of HRIS in use with differing users.
GovtOrg	4	Press clippings, web sites, office observations	No observation of the system in use due to the sensitivity of data

Table 1: Data gathering across the case studies

THE CASE STUDIES

Each of the four case studies discussed in this paper have been allocated an assumed name. TechOrg is a private organisation involved in the Information, Communications and Technology industry. Over the last three years, TechOrg has undertaken to upgrade its SAP HRIS module as part of its overall ERP upgrade and system development. BuildOrg is a large construction company which is also privately owned and employs a large workforce of both permanent and contracted employees. Recently they have sought to upgrade an outdated and limited HRIS primarily to manage a range of compliance requirements and to minimize organizational risk. ManuOrg manufactures building products and metals and has a food processing division. The current HRIS was implemented 21 years ago with an increasingly modified CHRIS system that is currently in the process of being replaced with SAP. Lastly, GovtOrg is a public organisation responsible for

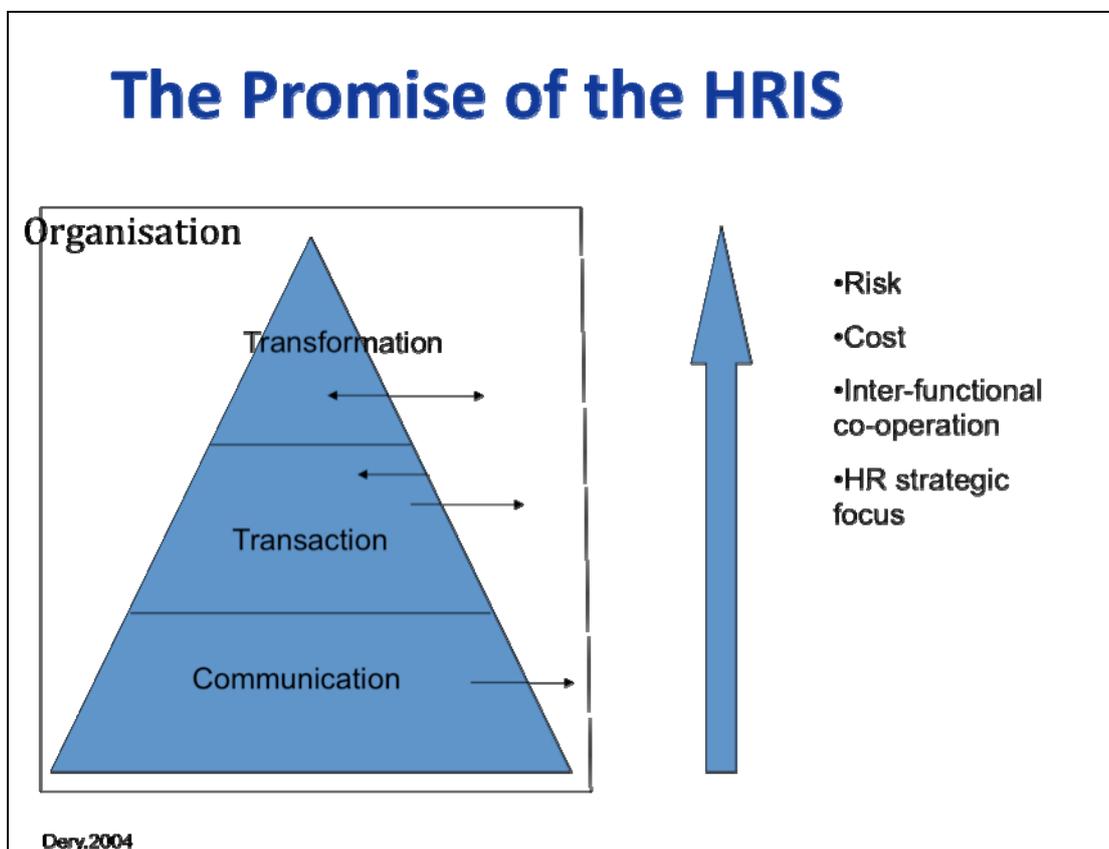
security management. The organisation first implemented a proprietary HRIS in 1998 and had undertaken an upgrade in 2000 before initiating the current move to SAP in 2008.

RESULTS

The initial research findings support the results of studies by those such as Towers Perrin (2008) and Bussler and Davis (2001). Despite all four case studies stating that the implementation or upgrade of their HRIS has been undertaken with the aim of utilising functions that are of a strategic nature thereby enhancing the strategic contribution of the HR function (Beatty, 2001; Lengnick-Hall et al., 2003; Ulrich, 1997; Walker, 2001), the data suggests that progress towards making these changes is being hindered by a range of technological, managerial and organisational challenges. While some of these challenges could be attributed to the management of new technologies in general, our findings demonstrate that several are in fact specific to HR and reflect the complex nature of the management of people, the role of HR in the organisation, the allocation of resources to the HRIS, and technological issues related to the management of HR practice.

Figure 1 illustrates the anticipated challenges for management as organisations enables different levels of the HRIS capability. At a basic level of communication where the HRIS provides access to HR information, white pages, documents and forms the system is designed to automate existing processes and provide alternatives to existing time consuming HR functionality. However, as the system delivers more interactive HR functionality (eg: executive self service, rostering, superannuation management) then the complexity of the system increases costs, involves higher degrees of organisational interaction and thus higher risk. As the functionality is developed into organisational analytics and the modelling of data to support more strategic decision making and predictive qualities then the increase in both risk and costs further escalates as the process of informing (Zuboff, 1988) has the capability to transform processes. The results from this research support this framework and also adds further insights into understanding how management practices might impact the ability for the HRIS to support a more strategic contribution from HR.

Figure 1: The Promise of the HRIS



The data across all the cases indicated the following three challenges for the organisations and each of these is discussed in the following section using cross-case analysis (Yin, 2003; Youndt, Snell, Dean, & Lepak, 1996).

The challenges were:

- An inconsistency in the importance attributed to HRIS resulting in difficulties in sustaining management commitment to the project and in obtaining the resources necessary to fully develop the new or upgraded HRIS.
- A tendency to underestimate the complexity of the HRIS and its impact on the behaviour and processes of the organisation.
- The barriers to user acceptance of the HRIS and the consequent underestimation of the importance of change management.

(i) Difficulties In Sustaining Management Attention.

The case study organisations have variously experienced significant changes in structure, size, ownership and government. This has resulted in a shift of senior management attention away from development of the HRIS to more immediately pressing organisational issues and functional priorities. One consequence of this is the allocation of insufficient resources to the HRIS and, in some cases, the increased delegation of responsibilities to vendors and consultants.

TechOrg, a company based in the ICT sector that was recently acquired by a new parent organisation, has struggled to engage management in the upgrade of the HRIS. Financial and engineering management systems upgrades have been the main focus of management. The HRIS project, run and owned by the Human Resource department, is internally recognised as having low organisational priority: *“However the core will always be financial management systems and the things that allow our engineers and our program managers to run the calls, take the customer complaints, send them to the technician. We will certainly come a distant third to that...”* (Director of People and Culture, TechOrg). TechOrg’s experience demonstrates that despite the best of intentions of HR, projects such as this, which are deemed as HR centric, can lose momentum as a result of factors beyond HR’s control.

BuildOrg started to investigate HRIS more than 10 years ago and has chosen a very cautious, staged approach which has been largely inhibited by budget considerations and priorities. Thus the system has been largely devoted to automating administrative processes and communication applications. Finally in 2007 the latest attempt at a more strategically driven system gained traction with senior management and the approval was given for an upgrade. *“Because there’s been an awful lot of water under the bridge to get to this point. We’ve had – this is the third go at actually having a crack at getting Preceda as the HR system and getting the organisational structure in. Now there was one completely failed attempt. One almost got there but then failed and now this is the (final) go at it”* (Applications Services Manager, IT).

ManuOrg also has a long history of HRIS’s contained as a stand-alone system managed by the HRIS team within the HR department. Progressive changes and add-ons to the legacy system, has developed an HRIS that is complex and proprietary. Although the HRIS has been accorded salience and sufficient resources over the past 30 years, the HR manager acknowledged that the rationale for change and selection of the replacement HRIS has tended to emphasise financial, rather than strategic human resource issues. The retirement of the HR Director, who has been central to developing the current HRIS, together with the need to standardise IT systems across all the operating divisions has resulted in a call for migration to SAP and the re-positioning of HRIS management under the IT department. GovtOrg has had a similar experience in upgrading from PeopleSoft to SAP. Despite resounding confidence in the HRIS project, it is widely acknowledged that consideration for financial capabilities drove the current move to a SAP platform and as a result, the role of HR was compliance focused.

The experiences of the four case study organisations suggests that their HRIS projects tend to face a number of challenges in the allocation of resources and the securing of ongoing support from senior management. Often finance, marketing and other operational functions are being given

greater priority. In sum, based on the empirical research to date, it could be argued that all of the organisations, and specifically the HR function within them, have faced challenges regarding their ability to maintain momentum towards the selection and implementation of a new or upgraded HRIS.

(ii) The Complexity of HRIS Underestimated

The complexity of HRIS and its associated functionality appears to have been underestimated at the four case studies (Hannon, Jelf, & Brandes, 1996) and can be attributed to both technological and managerial factors. The challenge for HR management is how to manage the tension between the need to adapt practice to meet the needs of the HRIS versus customizing the technology to fit existing practices and the unpredictability involved in the management of people. Associated with this challenge is the decision of where to locate the management of the HRIS i.e. within Information Technology or as an HR technology group within HR. Our case organisations have varied responses to this dilemma, but all suggest that management of the system has significant implications for knowledge transfer between IT and HR and thus the ability to realise value from the HRIS.

ManuOrg has maintained a number of legacy add-ons and proprietary upgrades to their CHRIS system. The current project is attempting to simplify and standardise systems into a standard IT platform that can be more easily supported but is finding it difficult to align the needs associated with its range of operating companies within one HRIS. The organisation realises that with its selection of a new and alternative HRIS vendor (SAP), there will be considerable compatibility issues with data migration. Accordingly, the transactional and menial activities for HR will increase prior to implementation, as existing data and codes are modified, and therefore the time required for data migration is expected to be significant. The complexity associated with the new system has compelled the organisation to implement it in a 'big bang' manner. *"There are too many interdependent processes and that we really have to make the entire change of payroll for Australia and New Zealand at the one time"* (Manager HR and Payroll Services).

The project based nature of BuildOrg's work means that the organisational structure is based more on projects and individuals rather than positions (typical of most organisations) thus requiring significant deviances away from the vanilla HRIS model. In addition, similar to ManuOrg, this organisation is faced with the difficulty of trying to establish one central system which can be considered as a single source of truth from legacy systems which currently do not interface well. This has resulted in significant challenges around the compatibility and integration of data. BuildOrg has also experienced challenges with some of the functionality within the new system, particularly in relation to online leave applications *"which is probably why we've decided to not go forward with the (leave submissions) online; that's a little bit in the too hard basket at the moment as to how it's going to work"* (Corporate HR Advisor).

Both GovtOrg and TechOrg have faced challenges with the management of rosters, schedules and allowances. Both organisations have complex systems of allocating people to tasks and projects resulting in complexity leading to demands for additional functionality from the HRIS. In addition both companies have relationships with vendors that are viewed as potentially risky due to the degree of dependence for delivery of critical HR functionality. Such potential risks and possible delays are believed to stem from concerns that the vendor may be unable to address the added demands for additional functionality that GovtOrg (in particular) has put forward under present contractual arrangements. These contractual concerns along with workforce planning issues, have added to the complexity of the selection, implementation and use of the HRIS's.

(iii) Barriers to Acceptance of HRIS and the Importance of Change Management

The third challenge which has hindered the ability of our case study organisations to realise the potential of their HRIS arises from barriers associated with the acceptance of the new or upgraded HRIS among key end-users of the system and the importance attached to managing the change processes associated with its implementation and introduction. Further, obtaining organisational

'buy-in' regarding the strategic contribution of the HRIS has, in some cases, been hindered by scepticism, a lack of understanding, insufficient management commitment, and fears that existing modes of work will be changed and result in, for example, job loss or altered leave entitlements and shift arrangements.

The lack of organisation and management buy-in has been a significant challenge for each of our cases. As a senior executive at ManuOrg suggested: *"The biggest issue I believe is going to be the change management... Most [ManuOrg] employees are going to notice that and more than notice. They're going to see a significant change in the way that they supply information, get information, gain approvals. It's a big challenge for us at the moment to try and get people in the business into this online environment. Some people really love it, other people really hate it. There's (a) lack of understanding of the change needed but also an explicit concern for the need to manage change."*

The challenges for GovtOrg in managing change are centred on the need to re-focus expectations. With the explicit desire to establish a single source of truth, the organisation has commissioned the HRIS project. The ability for the organisation to achieve this relies on the ability to manage expectations: *"But we've also got to manage the expectation that this is not the silver bullet to everything. This is simply a system. A system, in and of itself, doesn't actually resolve issues or processes or anything else."* (National Director of People and Place). This same manager further believed this process and challenge would greatly impact the overall acceptance of the system and thus was focussed on the implementation process. *"If this process experiences issues and additional complications, or just 'goes wrong' [then] you can almost smell the end of SAP or its user acceptance within customers."*

Acceptance of the HRIS has also presented problems for TechOrg however user resistance has not been as significant as evidenced in the other cases. Employees largely work in distributed teams in a high-tech environment and thus are comfortable with a more virtual relationship with the organisation and the stochastic nature of the industry. However, despite this environment, recent changes around pay cycles generated significant resistance that was unanticipated by management signalling that changes to the HRIS that directly impact employees such as pay may require significant more attention to change management than TechCo has traditionally been used to.

DISCUSSION AND CONCLUSIONS

Initial findings from our four case studies suggest that although new or upgraded HRIS systems are being used to automate and devolve routine administrative and compliance functions traditionally performed by the HR function, the potential for this technology to be used in ways that contribute to the strategic direction of the organisation is not being realised. More specifically, our results suggest that the opportunity to enhance HR's role as strategic partner as a result of the use of HRIS is being hindered by three main challenges. The first challenge relates to the ability to maintain the levels of senior management commitment and resources needed to implement and manage new or upgraded HRIS. The second concerns managing the complexity of the HRIS and its associated functionality. The third challenge stems from barriers associated with the acceptance of HRIS among key managers and employees along with the importance attached to managing the change processes associated with the implementation and introduction of the new or upgraded systems.

These challenges demonstrate that the material, functional characteristics of technologies such as HRIS are complex and make them difficult to introduce and operate. At the same time, and in line with a social constructionist approach to the study of technology each of the challenges illustrates that how and when a technology is used is also determined by the agency of its users and the social context within which it is adopted (Orlikowski et al., 2001). In sum, only through an appreciation of both the material and the social can a more informed understanding of the challenges that surround HRIS implementation and operation be obtained. In this respect, our findings are in contrast to the more technological deterministic view of earlier studies of HRIS that suggest that it is simply the technology itself which has implications for the changing role of HR.

It can be seen then that the social context of HRIS plays an important role in shaping user perceptions and behaviour (Orlikowski, 2000). From a technologies-in-practice perspective (Dery et al, 2006) user interactions with the 'facilities', 'norms', and 'interpretative schemes' associated with HRIS are affected not only by its technological complexity, but also by problems concerning the management of, and commitment to, its implementation. These socio-contextual factors are compounded by the fact that each case study organisation has experienced significant change, for example in ownership and structure.

Underlying the three challenges is the issue of how various social groups, or key actors involved in the implementation and use of HRIS bring to bear their own interests and thus interpretations of the system and what it does. As a result of this process, the design, selection and use of HRIS are shown in this study to be subject to contestation as a range of meanings are attached to the technology that either undermine or highlight its perceived value and significance and which impact on the extent to which it is to be used in a strategic or more administrative fashion. Significantly, the study suggests that interpretations which run counter to HRIS being used in ways that realise its strategic potential are currently winning the day. Overcoming these interpretations of HRIS and replacing them with one that leads to its being used to inform business strategy requires organisations to identify and systematically address the three challenges we have identified. Until this takes place, the potential of HRIS to enhance the strategic role of the HR function is likely to remain unrealised and with increased opportunities for automation and the corresponding opportunities for outsourcing, the organisational role for HR is in danger of being diminished

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