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**ASSESSING THE DEGREE OF HUMAN RESOURCE INNOVATION –
AN EXPLORATORY ANALYSIS OF IRISH HOTEL CORPORATIONS**

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Innovation, e-HRM, d-HRM, strategic human resource management, hospitality, hotels

Running Head

Human resource innovation in the hospitality sector

STRUCTURED ABSTRACT

Purpose: Although a need for innovative approaches to the strategic management of human resources (HR) has been identified, many firms continue to rely solely on their HR information systems instead of adapting to the digital consumer with innovative tools and digital HR management (d-HRM). This research aims to evaluate critically the degree of digital innovation of HR practices in the Irish hotel industry.

Methodology: For this qualitative study, a total of ten semi-structured interviews were conducted with key personnel at both corporate and property level HR in the two largest Irish hotels groups.

Findings: Findings show an overall lack of technological innovation and most of the principal HR activities are digitalised to a very limited extent. In addition, the perception of the degree of digitalisation varies significantly between the managers in both organisations.

Practical and Social Implications: In order to attract digital natives and to increase their competitiveness within the sector, Irish hotel corporations will need to invest significantly in innovation within their HR departments to capitalise on the strategic and operational advantages of d-HRM. Thus, a more strategic approach towards HR innovation is needed.

Originality: This paper operationalises the concept of HR innovation in the context of the hotel industry; it analyses the key HR activities in hotel operations with regard to the extent to which they are digitalised; and it develops a model of HR digitalisation that can be applied to the hotel and other industries. This research, therefore, contributes to the existing body of knowledge on HR innovation with a specific focus on the hotel industry.

INTRODUCTION

Innovation appears to be a key success factor for multinational corporations (Berry, 2014; Campo, Díaz, & Yagüe, 2014; Chang, Gong, & Shum, 2011; Glasberg & Ouerghemi, 2011). Despite the wide recognition of its importance, many firms seem to lack a robust innovation strategy and failure rates of innovation initiatives appear to be very high (Pisano, 2015). Barrett, Davidson, Prabhu, and Vargo (2015) argue that in the service sector in particular innovations related to information technology (IT) were introduced in order to increase the efficiency or quality of service information. This is due to the growth of the service sector and pressures to stay competitive by anticipating customers' needs and increased demand from customers for higher service quality (Barrett *et al.*, 2015; Zander, Zander, Gaffney, & Olsson, 2010). According to Orlikowski and Scott (2015), the hospitality industry has experienced a substantial degree of innovation in service provision

in recent years. For instance, virtual reality, voice activation, face recognition as well as robotic concierges have become a reality in hotels (Chubb & Eleftheriou-Smith, 2016).

Although innovation has been recognised as a key factor in service provision, few studies have investigated innovation in human resources (HR) departments in hotels (Nieves, Quintana, & Osorio, 2014; Ottenbacher & Gnoth, 2005). This research aims to close this gap by evaluating critically the degree of innovation of HR practices in the Irish hotel industry. Our objectives are to operationalise the concept of HR innovation in the context of the hotel industry, to analyse the key HR activities in hotel operations with regard to the extent to which they are digitalised, and to develop a model of HR digitalisation that can be applied not only to the hotel but also to other industries. This research, therefore, contributes to the existing body of knowledge on HR innovation with a specific focus on the hotel industry.

The theoretical foundation of this study is diffusion of innovation theory first promulgated by Rogers (1962). According to Rogers (1962), innovation diffusion describes the communication of an innovation throughout a social system. Rogers (2003) identifies five characteristics that impact the adoption of innovation. These encompass relative advantage, compatibility, complexity, trialability, and observability. Several organisational studies have used this theory, for example, to explain the implementation of an HR information system (HRIS) (Obeidat, 2012), an enterprise resource planning (ERP) system (Bradford & Florin, 2003; Rajagopal, 2002), information systems (Weigel, Hazen, Cegielski, & Hall, 2014), or an intra-organisational network (Wunderlich, Größler, Zimmermann, & Vennix, 2014). It has also been used to examine the reverse diffusion of HR practices within multinational corporations (Edwards & Tempel, 2010). For this study, we are examining the stage of development of innovative IT practices specifically implemented by HR departments in the hotel industry and attempt to assess the extent of digitalisation of human resource management (HRM) by developing a digital HRM (d-HRM) framework.

LITERATURE REVIEW

Innovation has arguably enhanced the performance of hotels (Griseemann, Plank, & Brunner-Sperdin, 2013; Mattsson & Orfila-Sintes, 2014). Campo *et al.* (2014) argue that while there is no direct positive contribution to short-term performance, a long-term benefit may be achieved by improving economic and marketing results. Nevertheless, in the hospitality industry the level and speed of technological advancement appeared to be slower than in other industries (Bharwani & Butt, 2012; Deloitte, 2010). According to Deloitte (2010), hotel groups ought to engage actively in IT innovation in response to the growing demand of the customer and to improve business processes. Roth and Fishbin (2015) predict that technology use will increase substantially in all areas of a hotel.

In fact, legacy systems need to be replaced by new systems that are compatible with the latest digital media and IT available (Spitzer, 2014). In addition, social media adoption is crucial for hotel operations in an increasingly competitive business environment (El Ouiridi, El Ouiridi, Segers, & Pais, 2016).

Barrett *et al.* (2015) differentiate three types of service innovation: intra-organisational service delivery, inter-organisational service delivery, and client interface. Most service firms seem to have developed intra-organisational systems (knowledge management and processes) and inter-organisational services (supply chain management and global outsourcing). Client interfaces such as web-based services have also been introduced as a result of the increased use of online travel agents and the pressure on hotels to attract customers to book directly on the hotels' websites rather than through online bookings agents (Toh, Raven, & DeKay, 2011). Rubalcaba, Michel, Sundbo, Brown, and Reynoso (2012) developed a multidimensional framework of service innovation. They distinguish between a sectorial dimension (innovation in services in service industries), activity dimension (service-oriented innovation in any business), and agent dimension (service innovation networks among different players). The following sections will expand on the sectorial dimension with a focus on technology in the HR department.

With respect to web innovation, Rudman and Bruwer (2016) distinguish between three web development stages: Web 1.0, Web 2.0, and Web 3.0. The main features of Web 1.0 are static information without any interaction with customers, minimal content creation, and read-only software. This categorisation of innovation can also be applied to HRIS utilisation, which in this study will be defined as a database to track HR activities (Varma & Gopal, 2011). Web 2.0 and electronic HRM (e-HRM) focus on the collaboration between various parties, contribution and re-use of information, social activity, and the use of multiple devices in networks and cloud applications. As opposed to an HRIS, e-HRM integrates not only the HR department but also other people in order to attain improved business results (Ruël, Bondarouk, & Looise, 2004). Strohmeier (2007, p.20) defines e-HRM as the '(planning, implementation and) application of information technology for both networking and supporting at least two individual or collective actors in their shared performing of HR activities.' D-HRM can be seen as the next step in the development of e-HRM with a particular focus on the application of digital platforms to transform traditional HR practices in order to adapt to the new digital generation entering the workforce (Spitzer, 2014). Finally, both Web 3.0 and smart-HRM refer to the Internet of Things, wearables, complete compatibility of all formats and devices, interaction of data, and computer generated data (Rudman & Bruwer, 2016; Strohmeier, Piazza, Majstorovic, & Schreiner, 2016). Smart-HRM, as a concept, is ill-defined and related research is still in its infancy stage. According to Strohmeier *et al.* (2016, p.27) smart-HRM refers to 'HRM that aims at addressing HR requirements of smart work with the explicit use of HR potentials aligned with smart things.'

At the beginning of the twenty-first century, Looise and Van Riemsdijk (2004) purported that many HR functions employed some innovative practices, such as new staffing and rewards methods, yet other practices, such as training and development (T&D), tended to be carried out in a more traditional manner. In recent years, the role of the HR function has metamorphosed and the use of IT seems to be far more prevalent (Beatty, Huselid, & Schneier, 2003; Douthitt & Mondore, 2013; Farndale, Scullion, & Sparrow, 2010; Lin, 2011; Parry, 2011; Sparrow, Farndale, & Scullion, 2013). As such, the successful implementation of IT hinges on the organisational context (Orlikowski & Barley, 2001) as well as social and technical factors (Orlikowski, 2010). As a result of an increased competition for talented staff, the need to attract and retain these knowledgeable workers, and the general shift in how potential employees engage with organisations (Beatty *et al.*, 2003; Okumus, 2013; Vaiman, Scullion, & Collings, 2012), HR department ought to apply new innovative practices for all HR processes (Baum, 2008; Bondarouk & Ruël, 2013; Douthitt & Mondore, 2013; Sparrow *et al.*, 2013).

In the hospitality industry, IT arguably represents a significant factor in daily operations (Davidson, McPhail, & Barry, 2011; Lashley & Rowson, 2005; Spitzer, Vernet, Soderstrom, & Nambiar, 2013). Traditionally, the hospitality industry has focused on low-tech methods, such as simple job postings on websites to attract talent (Dickson & Nusair, 2010). Engaging further in technology may eventually reduce the administrative tasks undertaken by people, attract more talent, and allow HR staff to spend more time on strategic planning (Burbach & Dundon, 2005, 2009; DiPietro & Wang, 2010).

In order to innovate the HR function, many organisations have introduced HRIS as part of a broader organisational system, commonly referred to as ERP (Burbach & Dundon, 2005; Dickson & Nusair, 2010; Varma & Gopal, 2011). This was a major innovative step as all HR processes included information that needed to be systematically processed (Macky, 2015). However, those HRIS are now outdated, no longer sufficient to cooperate with the digital environment, and sometimes even incompatible (Macky, 2015; Olsen, Pollak, Dutta, Gabu, & Edwards, 2012). For instance, Spitzer (2014) purports that many organisations lack the systems needed to support digital processes. In addition, the acceptance of IT systems and the willingness to innovate remain key challenges for organisations (Burbach & Royle, 2014; Campo *et al.*, 2014; Glasberg & Ouerghemi, 2011). Nevertheless, e-HRM has been introduced in some organisations (Bissola & Imperatori, 2014; Bondarouk & Ruël, 2013; Burbach & Royle, 2013; Burbach & Royle, 2014; Lin, 2011; Parry, 2011; Ruël, Bondarouk, & Van der Velde, 2007; Strohmeier, Bondarouk, & Konradt, 2012). In fact, the implementation of e-HRM appears to enable the HR function to add strategic value to an organisation (Bondarouk & Ruël, 2013; Parry, 2011). In other words, many HR practices can be completed more efficiently and effectively by utilising e-HRM, which would allow the HR function to focus on

transformational rather than transactional HR activities (Bondarouk & Ruël, 2009, 2013; Olsen *et al.*, 2012; Parry, 2011). Further advantages include cost-savings, improved quality, faster processes, and more information exchange (Kesen, 2012; Lin, 2011).

According to Goldstein (2014), the next developmental stage is the extensive use of fast-evolving digital technologies, such as an interconnected and automated cloud-based HR platform with analytical tools. While employees are already actively engaging with digital technologies, organisations are lagging behind in their application (Deloitte, 2010; Spitzer, 2014). Digital natives arguably have different expectations to most of the workforce and expect complete transparency and twenty-four seven access to information (Goldstein, 2014; Macky, 2015). These employees connect through social media, particularly LinkedIn, Facebook, and Twitter, via mobile devices, and through gamification in their daily lives. According to Beygelman (2014), valuable information, such as the intention to stay in an organisation, can be garnered from the digital footprint of employees. This represents a major challenge for organisations, as many industries, including the hospitality industry, are entering a digital talent war (GTIL, 2015). Gayeski (2015) puts forward that HR departments today have to emulate the activities of digital marketing departments in order to attract new talent. Spitzer *et al.* (2013) developed a four-step roadmap for the digitalisation of HR including building top-management consensus, upgrading HR IT systems, delivering a seamless multichannel presence, and using data to drive HR decision-making. As a precursor, it is suggested, organisations ought to establish a flexible IT architecture that supports mobile and social media integration (Corsello, 2012; Spitzer *et al.*, 2013).

Few firms, it appears, engage in best practices with regard to the digitalisation of HR (Spitzer, 2014). In the hospitality industry, Marriott, for example, employs a gamification strategy to attract people to the industry. In 2011, they launched a game called *My Marriott Hotel* in which gamers manage a virtual hotel (Marriott, 2011). Starwood, on the other hand, developed a pilot e-mentoring programme in 2006 (Simmonds & Zammit Lupi, 2010).

METHODOLOGY

Hitherto, no endogenous research approach for e-HRM seems to exist (Strohmeier, 2014). We have chosen an exploratory qualitative study to develop a greater understanding of the bigger picture and relationship of innovative tools in HR, such as e-HRM or d-HRM (Stone & Dulebohn, 2013; Strohmeier *et al.*, 2012).

The semi-structured interviews focused on four areas. First, the interviewees' understanding of the concept of innovation was explored (*How would you define innovation? What innovative tools have you introduced to the HR department?*). Second, the most common individual HR practices

(recruitment and selection, T&D, career and performance management, and rewards management) were analysed (*How do you recruit and select employees? How do you train and develop employees? What career management processes do you have in place? How do you assess employees' performance? What reward system do you use? How do you communicate with employees?*). The third area focused on the impact of innovation (*Which changes and effects did you perceive after implementing an innovation?*). Finally, the fourth area examined the challenges experienced when dealing with innovations (*What are the main challenges when using technology? How can you overcome these barriers?*).

This study focused on the hospitality sector in Ireland. A total of ten interviews (nine face-to-face and one via Skype) was conducted in the two largest Irish hotels groups (STR, 2015), referred to as company A and B respectively, at their Irish headquarters (HQ) and at selected Irish and UK properties (see Table 1). The first round of interviews was conducted with HR executives at the HQ followed by a second round of interviews at key properties with cluster HR managers, property HR managers, and HR administrators in order to gain a better understanding of the perceptions of the level of HRM digitalisation in both organisations. Table 1 below provides an overview of the interviews carried out as part of this research.

Table 1: Conducted Interviews

Interviewee	Position	Date	Place	Duration
A1	Group Recruitment Manager	04/05/2016	Dublin	60 min
A2	Cluster HR Manager	23/05/2016	Dublin	40 min
A3	HR Manager	15/06/2016	Dublin	60 min
A4	HR Officer	22/06/2016	Belfast	44 min
A5	Group Talent Manager	15/07/2016	Nottingham	40 min
B1	Group T&D Manager	24/05/2016	Dublin	67 min
B2	Cluster HR Manager	22/06/2016	Belfast	25 min
B3	HR Manager	29/06/2016	Dublin	43 min
B4	HR Manager	05/07/2016	Dublin	48 min
B5	HR Manager	05/07/2016	Dublin	50 min

FINDINGS AND DISCUSSION

Both hotel groups are currently expanding heavily and, therefore, they are also exploring actively innovative tools to improve processes and systems according to the recruitment manager of hotel group A (A1) and the T&D manager of hotel group B (B1). All interviewees concur with

Farndale *et al.* (2010) in that the role of HR has significantly changed in the last few years from an administrative focus to a people focus and from a reactive to a proactive function, which confirms findings from various authors (Frank & Taylor, 2004; Salkey, 2005; Scullion, Collings, & Gunnigle, 2007). Cluster HR manager A2 states that key HR tasks encompass coaching, engaging, and communicating. According to the recruitment manager A1, the HR department manages people and systems as well as people through systems, and thus both parts need to be aligned with each other. The recruitment manager A1 further argues that the key challenges for the HR department are the recruitment and retention of the right people for the new opening of hotels echoing similar findings in the literature, which highlight a chronic talent shortage in the hotel industry (Baum, 1990; Bharwani & Butt, 2012; Jayawardena, McMillan, Pantin, Taller, & Willie, 2013).

Contrary to Pisano (2015), who argues that an innovation strategy is crucial for any organisation, innovation appears to occur in a rather arbitrary fashion in both hotel groups. In other words, no formalised innovation strategy, dedicated position or department seem to exist. Thus, no formal communication system (Rogers, 2003) was established. However, staff are encouraged to develop new ideas and both hotel groups state that there is an extensive level of support from the executive board to continuously look for innovative practices. The T&D manager B1 states that the CEO is:

Very focused on HR and the people, and he knows that people make the difference for this organisation. This is a really big bonus for us as HR professionals, because, generally, a lot of organisations are fighting with the board or the CEO for the support, so we are really lucky for that. [...] In relation to innovation – absolutely; he is constantly pushing us to look at new ways of doing things and new ideas and how we can attract the best people.

While there does not seem to be a company-wide definition of innovation in company A or company B, HR manager A3 comments that innovation takes place:

When one tries to experiment, tries new things, and not being afraid to try new things, [...] and see what other companies may do and try to implement it. It may work or it may not work.

Similarly, the talent manager A5 suggests that innovation is strongly linked to creativity and new ideas, which echoes Glasberg and Ouerghemi's (2011) view on innovation. Some interviewees follow the approach promulgated by Barrett *et al.* (2015) who relate service innovation to the use of IT. For example, HR manager A3 links it to the use of their HRIS, whereas HR officer A4 focuses on their e-learning tool, and HR manager B4 describes it as thinking outside of the box and incorporating new technologies, such as social media and mobile applications. HR manager B4 states:

Something in which I have been quite involved in my previous job and what I possibly introduce here is a set of apps specifically developed for hotels. [...] It gives you access to a couple of apps, for example, customer satisfaction, mystery guest, employee survey, and [...] on-the-job training.

Cluster manager A2 also includes non-technological changes, for example, new practices and techniques such as mindfulness, meditation, and mental health. HR manager B5 refers to a new engagement survey that has been introduced in 2015. HR officer A4 purports that they invest in innovative tools in order to stay ahead of competitors:

We would be ahead of other firms. [...] The company has started its own training programme, and we are very technology based, unlike a lot of other companies.

Hotel group A introduced their principal HRIS, SAP, for HR administration in 2004, and a number of other systems have been added in recent years, such as Amris (a candidate tracking system), Totara (an online performance review system), and Gravitare (an external on-line consultancy focusing on employee relations). In addition, hotel group A has developed five 'super users' that are experts in using the SAP system and help other staff to comprehend the system and reduce the level of complexity, which, according to Rogers (2003), helps to diffuse an innovation more easily. HR manager A3 (one of the five 'super users') explains the requirements to become a 'super user':

You have to be a person who likes systems, because that is not for everybody, and I do like systems, numbers, graphs, and formulas. We have a person who is in charge of this [initiative] in [the] head office. [...] Everytime when you [recruit] a new HR person, they are new to the system, someone needs to teach them, and they make mistakes. [...] So at some stage someone came up with the idea to [have] people who will help them.

According to HR manager A3, it appears that the HQ has not realised the full potential of the SAP system yet, as it is only used for payroll and as an employee database. Thus, the relative advantage of this innovation (Rogers, 2003) is limited. While e-learning has been applied in hotel group A, parts of the T&D activities still seem very basic; for example, training needs are tracked in an Excel sheet. Career and performance management systems have been applied by HQ. However, they are not used at the property level. Moreover, recruitment manager A1 and cluster manager A2 criticise that information is duplicated in a number of systems, for example in SAP and Gravitare, or SAP and Totara, indicating the need for a single integrated system. Furthermore, hotel group A uses LinkedIn, Twitter, Facebook, and YouTube for HR purposes, such as employer branding and job postings (see Table 2). However, hotel group A does not use more recently launched social media

applications such as Instagram or Snapchat. Although previous research (Gibbs, MacDonald, & MacKay, 2015; Micik & Eger, 2015) found that social media can be used for a variety of HR practices, most of the social media activity is related and managed by the marketing department rather than by the HR department (hotel groups A and B). Hotel group A has a public HR Facebook page and HR officer A4 explains that they introduced a closed Facebook group for their employees in order to improve internal communications. Our review of the existing YouTube channel shows that there is a limited amount of activity and interaction. It appears critical to have an active corporate channel in order to ease the diffusion of the various social networks. Positive feedback has been provided by talent manager A5 in regard to the company's intranet which serves as an important communication tool. Nevertheless, HR officer A4 confirms that email continues to be the predominant communication tool.

Hotel group B introduced their main HRIS, Alkimii, in 2015. It is mainly used as a payroll administration tool. However, it is also linked to financial and sales data, and thus allows the organisation to query the link between HR interventions and organisational performance. In addition, hotel group B is currently developing a T&D system that supports their blended learning strategy. The T&D manager B1 explains:

What we are looking for in e-learning is that we do not lose that face-to-face element, so that not everything is on an e-learning portal. So if you join us, you are not just sent off with the login details. [...] We also would like to use it as an information and communication tool. One thing that we find is that it is very hard to keep up with the information that we have. Culture is probably our number one [concern] at the moment and how we can influence this is through e-learning.

In addition, according to the HR manager B4, the organisation does not employ any talent management software at this point. However, the T&D manager B1 reveals that they use analytical tools provided by Thomas International for psychometric testing during the recruitment process. Similar to Pisano (2015) who states that an innovation strategy always involves experimentation, learning, and adaptation, the T&D manager B1 argues that it is vital to adapt systems to the needs of the company. Thus, trialability and observability of the system (Rogers, 2003) become a crucial element.

There might be things from other sectors or maybe other services that we could adapt, but what might work at Microsoft or Google won't work in a hotel. It is very much about adapting what is out there to suit the hotel industry. [...] One strategy won't fit all.

Social media is mostly used for employer branding by hotel group B. For instance, the T&D manager B1 explains that they discarded LinkedIn as a recruitment tool as the spread of candidates

was too wide and it was thus deemed inefficient. Our YouTube review shows that the parent organisation does not have an active account in place, although the companies' brands do have their separate accounts. Furthermore, hotel group B does not use an intranet. An overview of all of the common HR practices and the systems in use for both hotel groups is outlined in Table 2 below.

Table 2: Practices and Systems

HR Practice	Hotel Group A	Hotel Group B
Administration	SAP (main HRIS): Payroll and employee database	Alkimii (main HRIS): Payroll, finance and sales function
Employee Relations	Gravitate: Contracts and policies	Paper based
Recruitment and Selection	Amris: Candidates database; LinkedIn: Job postings	Paper based; face-to-face assessment centres; Thomas International: Personal Profile Analysis (PPA) and DISC analysis; video interviewing
T&D	Totara: E-learning	Timely Interventions: E-learning
Career Management	Totara: Personal development plan and career wheel	Paper based
Performance Management	Totara: Performance reviews for managers; paper based for line employees	Paper based
Compensation	Paper based	Paper based
Communication	Totara: Announcements; LinkedIn, Facebook, and Twitter: Employer branding	LinkedIn, Facebook and Twitter: Employer branding

Having identified the various systems and tools applied by the two hotel groups, we attempt to analyse their level of digitalisation. Table 3 shows the criteria used to categorise each practice with regard to the degree of digitalisation. In order to operationalise the concept of HR innovation we developed a model (see Fig. 1) using four categories including both non-web-based applications and web-based applications: paper based, Web 1.0, 2.0, and 3.0 including the previously identified corresponding HR development stages (Microsoft Office package, HRIS, e-HRM/d-HRM, and smart-HRM), and the different types of e-HRM users examined by Strohmeier and Kabst (2014) based on operational, relational, and transformational uses of e-HRM by organisations.

Table 3: Criteria for Classification of Practices

Classification	Criteria
Paper based	<ul style="list-style-type: none">- Microsoft Office package- Paper files
Web 1.0	<ul style="list-style-type: none">- HRIS- Static information- No interaction with customers- Minimal content creation- Read-only software
Web 2.0	<ul style="list-style-type: none">- Collaboration between various parties- Contribution and re-use of information- Social activity- Use of multiple devices in networks- Cloud-based applications
Web 3.0	<ul style="list-style-type: none">- Internet of Things- Wearables- Complete compatibility of all formats and devices- Interaction of data

While some of the HR practices in both organisations, in particular in the area of T&D, appear to be at an advanced level with e-HRM elements, individual HR practices do not seem to reach the next level of smart-HRM (see Fig. 1). Most practices rely on networked HRIS rather than a cloud system and some practices are even paper based with little evidence of IT applications, for example, rewards management in hotel group A and recruitment and selection as well as performance management in hotel group B. Overall, both organisations can be described as extended operational users. However, it is important in this analysis to differentiate between individual practices, as the extent of digitalisation of some of the practices varies significantly from paper-based practices to e-HRM practices. Talent manager A5 argues that a powerful talent management system that eases succession planning seems to be needed to manage the recruitment for the new openings and to address the challenge of retaining key talent. Based on our findings (see Fig. 1), we recommend that hotel group A shall develop their compensation system while hotel group B may develop its career and performance management practice towards an electronic system and may establish an intranet for more efficient communication and employer branding.

“Take in Figure 1”

Both hotel groups acknowledge the need for improved tools and a more advanced, digitalised HR system which echoes Spitzer *et al.*'s (2013) view. No consensus on whether the hospitality industry is more advanced or less developed than other industries in regards to HR innovation has been achieved. Cluster manager A2 argues that the IT sector is surely more innovative, whereas HR manager B3 emphasises that the HR practices in the hospitality sector shows substantial innovation when compared to, for example, the retail industry. In contrast, HR manager B4 argues that the HR practices in the retail industry are much more developed. Key personnel from both hotel groups concede that the digitalisation process has only been partially completed and that they need to further develop their digital HR landscape. Interviewees have been asked to rate the organisations in respect of the overall digitalisation of their HR activities from zero per cent (completely paper based) to one hundred per cent (highest level of digitalisation and use of latest technologies). A key finding is that the perception of the degree of digitalisation varies significantly between the managers in both organisations which in turn shows a lack of understanding of the concept of digitalisation. A clearer approach towards the concept of innovation within the workforce seems to be needed. While cluster manager A2 and HR manager A3 seem to accept that most HR practices were paper based, HR officer A4, and talent manager A5 submit a relatively high level of digitalisation (see Table 4). Talent manager A5 states:

We do have systems in place. We do not have many paper-based systems. We have a very good e-learning system, a very good revenue system, and a very good payroll system. There are some areas that are still paper based. For example, our performance reviews in our hotels are probably a bit too paper based.

Interviewees at hotel group B seemed to share a similar perception of the company's stage of digitalisation. Although the level of digitalisation has been described as relatively low, all interviewees acknowledge the recent and on-going development of innovative systems in HR. T&D manager B1 illustrates this perception:

We would never say that we are perfect or that we are the market leaders in this side of the business. [...] We have developed so quickly, that it is all about the people and getting the right hotels and the other things will follow. [...] There is innovation and there is innovation for our hotel group and the two of them could be light years apart sometimes.

An overview of the interviewees' understanding of innovation, the challenges involved, and their perception of the degree of digitalisation is provided in Table 4 below.

Table 4: Perception of Digitalisation

Interviewee	Description of Innovation	Challenges	Degree of Digitalisation
A1	Improve services, processes, systems, and people	Integration	Heavy investment in recent years (50%)
A2	Introduce new ideas and improve practices	Time	Mostly paper based (30%)
A3	Experiment and try new practices	Cost	Paper based and HRIS (60%)
A4	Have own initiatives and own programmes	Acceptance	Very technology based (70%)
A5	Do things better and smarter and apply new ideas	Integration, cost	Very developed e-learning tool (70%)
B1	See what is new or not yet applied	Integration, cost	Cut down on administration (50%)
B2	Introduce a new technology and plans	Installation, resistance	Low level; plans are ahead (30%)
B3	Introduce a new idea or a new practice	Language, computer skills	HRIS and e-learning development (60%)
B4	Think outside the box and incorporate IT	Installation, trust in IT	Paper based; plans are ahead (50%)
B5	Be creative and introduce new practices	Computer skills, resistance	HRIS introduction in 2015 (50%)

A variety of benefits of innovative tools has been identified by both hotel groups. According to recruitment manager A1, efficiency of processes, transparency, and better communication comprise the main benefits of using those tools. Cluster manager B3 argues that a virtual filing cabinet which leads to more transparent and efficient administration as well as better employer branding are key advantages. However, Burbach and Dundon (2005) argue that if the systems are only used as a virtual filing cabinet, organisations will not be able to garner any strategic benefits. Although there are significant benefits of the implementation of innovative tools, both T&D manager B1 and recruitment manager A1 prefer to maintain certain non-digitalised elements. Recruitment manager A1 states that people want people and cluster manager A2 points out that they are not dealing with robots, but with people. Furthermore, according to cluster manager A2, distrust in technology has been found in some instances, in particular, when testing culture and values through a system. This echoes Burbach and Royle's (2014) suggestion that the acceptance of IT systems remains a key challenge, even though the

companies espouse a culture that is open towards innovation. In addition, new systems represent a significant investment and T&D manager B1 emphasises that it is sometimes difficult to prove the return on investment of systems. In order to develop the diffusion of innovation in the respective organisations, it appears to be vital to communicate clearly the relative advantage and increase the observability and trialability of innovation (Rogers, 1962). In order to achieve this, a more formal approach towards innovation seems to be needed. Further challenges include the limited time available (cluster manager A2), the lack of computer skills (HR manager B3 and HR manager B5), and the lack of language skills (HR manager B3). Moreover, several participants foresee the integration of existing systems into one system to be a main challenge that needs to be overcome in the future (see Table 4). The implementation of ‘super users’ of the core system (hotel group A) was a successful initiative to reduce the perception of complexity which enabled the diffusion of the innovation (Rogers, 2003).

CONCLUSION

While there is evidence of digitalisation of some HR practices, our findings show an overall lack of technological innovation when the totality of HR activities is considered. Notwithstanding this finding, the firms in this research identified a relative advantage of new tools and systems which significantly enables the diffusion of innovation (Rogers, 2003). The proposed model shows that there appears to be little evidence of d-HRM activities and no affirmation of smart-HRM which confirms Spitzer’s (2014) statement that there seems to be a low degree of digitalisation in HR. In order to operationalise the concept of HR innovation fully, a more profound understanding of the concept of d-HRM and its components including a clearer definition of HR innovation, d-HRM, and smart-HRM is required. One of the key findings of this research is that most of the principal HR activities, such as recruitment and selection, T&D, career management, and performance management, are digitalised to a very limited extent. In both organisations, the HRIS is merely used for operational purposes, which confirms findings from other sectors (Burbach & Dundon, 2005). Without further exploitation of such a system, the companies do not have the opportunity to effectively engage in any relational or transformational e-HRM or d-HRM activities (Martin, Reddington, & Alexander, 2008; Ruël *et al.*, 2004).

While hotel group B recently introduced their HRIS and is currently developing other tools, hotel group A has a clearer strategy towards d-HRM, which focuses on employee tracking, recruitment, and e-learning. In addition, social media appears to be an element that is still under-utilised in both hotel groups. While the current systems generate a large amount of data, their potential has only been realised to some extent which provides many opportunities in the future to

actively seek d-HRM practices. Thus, our findings mirror the evidence by Burbach and Dundon (2009), who purport that despite possessing the necessary IT capabilities, many organisations employ HRIS for administrative rather than strategic purposes. A key challenge for the hospitality organisations in this study seems to be the integration of multiple stand-alone systems into one integrated system that is compatible with the latest digital developments as recommended by Spitzer *et al.* (2013). While the evidence suggests that executive support for HR innovation exists in the case study organisations, clearer communication channels and a more strategic approach that carefully considers the key success factors for innovation diffusion (relative advantage, compatibility, complexity, trialability, and observability) ought to be developed and implemented.

The main limitation of this exploratory study is the small sample size with a focus on the hospitality industry in Ireland, and thus, a replication of this study on a larger scale and in a different sector or country would aid in substantiating findings from this research and add further to the body of knowledge in d-HRM. Furthermore, as this study focused exclusively on HR executives, a stakeholder approach, as recommended by Parry (2014), would be beneficial in analysing the perspectives of various stakeholders linked to the organisation. Finally, a longitudinal study or before-and-after studies would lend further support to our findings.

At a practical level, this research will assist the two participating organisations in evaluating their level of HR innovation and identify potential areas for investment. In order to attract digital natives and to increase their competitiveness within the sector, Irish hotel corporations will need to invest significantly in innovation in general and within the HR department in particular. Moreover, the model and criteria we developed as part of this research advance the understanding and assessment of the levels of digitalisation and can be applied to research in other sectors to assess the degree of digitalisation of HRM within organisations.

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