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Human Resources Development in a Technology–Infused Workplace

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INTRODUCTION

Human resources development (HRD) focuses on improving employees as they progress in an organization. Traditionally scholars conceptualize HRD as distinct from HRM (Ruona & Gibson, 2004), but with the growth of electronic Human Resource Management (eHRM) systems, HR development and management functions become more intertwined. For example, today HRD can get involved in training employees on social media policies, helping dispersed global teams web conference across time zones, and making sure that the correct talent is recruited.

This chapter focuses on the changing role of HRD now that information and communication technologies (ICTs) are a central part of most organizations. We discuss contemporary issues like social media, cybervetting (evaluating job applicants online), online training, trends in dispersed meeting practices and personal technology use. We frame this discussion by examining how eHRM has influenced traditional human resource functions.

BACKGROUND

According to Swanson (1999), "HRD is a process of developing and/or unleashing human expertise through organization development and personnel training and development for the purpose of improving performance at the organizational, process, and individual/group levels" (p. 2-3). Essentially HRD functions to train, teach, and develop employees (Jeung, Yoon, Park, & Jo, 2011). A recent state of the industry report by the American Society for Training and Development (ASTD) revealed that US organizations spend 150 billion dollars annually on training (Miller, 2012). Furthermore, HRD is not only a US concern, as countries like India established a Ministry of Human Resource Development in 1985 (Rao, 2004), and Poland views its quest for further globalization dependent on the "development of national human resources via training, education, and research" (Szalkowski & Jankowicz, 2004, p. 350).

Organizations now have more ways to provide training content, due in part by the infusion of ICTs in the workplace. We define ICTs broadly—including information technology software and platforms such as intranets, and communication channels like email, webconferencing, and face-to-face communication. As of 2011, 22% of the training delivery is online, as opposed to being instructor-led (Miller, 2012). One of the core reasons for this shift in training delivery is the evolution of eHRM systems that allow human resources professionals to streamline many of their operations. eHRM is a broad term that encompasses how organizations integrate their information technologies and HRM practices to create value for their group (Bondarouk & Ruel, 2009). In other words, eHRM is the "integration of people, process, and technology" (Sareen & Subramanian, 2012, p. 121).

Because of eHRM, the scope and responsibility of human resources has changed and there is now a renewed focus on developing resources. Whereas "HRM's primary role was to add value by aligning its people strategies in support of the organization's business strategies," now, "the continued development of HR technology [has] allowed line managers to actively handle more of the tasks related to recruitment, salary administration, and succession planning (Patel, 2002), thus freeing up HRM's time to assume more strategic roles" (Ruona & Gibson, 2004, p. 55). The growth of

technology has triggered a shift where many HRM functions have shifted to HRD. Furthermore, as technology has become intertwined with all HR functions we see that many HRD tasks previously conducted in person have been shifted to computer mediated contexts. This shift has important implications for HR-related communication in organizations. The objective of this chapter, therefore, is to discuss the core personnel development and management issues resulting from the use of technology in HRD.

THE CHANGING FUNCTIONS OF HRD

ICTs change HRD's role in several ways. Now that technologies allow HRD to send and receive many types of messages to employees, there are new challenges with large-scale message dissemination. To understand these challenges, we begin with a discussion of how eHRM has fundamentally changed how organizations share information with employees. Next we review literature discussing how HRD uses technology to attract and develop new talent, to train employees, and to teach new skills.

Consequences of Large-Scale Message Dissemination on HRD

The rise of technology use in the workplace has altered how organizations share knowledge with employees. Specifically, research in eHRM describes how "recent developments in technology have made it possible to create a real-time, information-based, self-service, interactive work environment" (Lengnick-Hall & Moritz, 2003, p. 365). Through eHRM, managers and employees can access relevant benefit and training information, and HRD professionals can engage in large-scale communication (Ruck & Welch, 2012). Organizations benefit from sharing knowledge electronically, since this approach saves printing costs, enables employees to be immediately notified of changes, and allows HR staff to serve a more strategic, developmental role rather than handle administrative HR issues (Lengnick-Hall & Moritz, 2003).

By helping organizations disseminate information and share knowledge more effectively, technology systems in HR have transformed several functions of HRD. Below, we discuss how technology shapes the development of a) new talent, b) employees through training, and c) skills in the workplace.

Developing New Talent

HRM procedures, such as recruitment and selection, are a subset of HRD (Grieves, 2003), since attracting, selecting, and retaining personnel are key to improving an organization's performance. Yet new technologies have shifted the way that businesses develop new talent.

Recruitment: Organizations often cultivate top talent through technology. Firms rely on ICTs to promote job openings and inform potential employees about work expectations. Whereas organizations used to publicize job openings through newspaper advertisements or employment agencies, ninety-percent of today's Fortune 500 companies use online recruiting tactics (Capelli, 2001). Businesses promote positions and communicate their company's brand to potential employees in at least three ways.

First, companies use recruiting sites, such as Monster or Career Builder to source talent. Monster worldwide, the largest online recruiter, lists more than 80,000 job posts a day (Backhaus, 2004). Job-posting aggregators—search engines that crawl job boards—also help organizations promote open positions (Bradt & Vonnegut, 2009). Second, corporate websites directly inform potential employees about jobs. Third, companies use social networking sites to promote job openings and inform potential employees about work expectations. According to Jobvite's (2012) survey, 52 percent of job seekers use Facebook to look for a job, 38 percent use LinkedIn, and 34 percent use Twitter. Social media sites with company reviews and workplace factor ratings (e.g., Glassdoor) allow organizations to track their company's reputation as an employer. Sites like LinkedIn also offer options to target recruiting to certain candidates.

As these examples show, ICTs allow companies to reach a larger pool of applicants and fill positions quicker through standardized applications and automated search tools to screen applicant resumes (Viswesvaran & Ones, 2010). These changes, however, indicate the growing need for tech savvy professionals who are cognizant of new HR tools. Because these online processes could create overwhelming responses, it is vital for companies to effectively manage their

technology, since failure to control this process could result in the organization not attracting the talent they wish to, losing interested talent along the way, or even damaging its reputation with prospective employees. In addition to changing organizational processes, a greater reliance on ICTs for recruiting also impacts prospective employees, who also use a wide range of new media to find jobs and learn about prospective employers.

ICTs provide prospective employees a window to form impressions of companies (e.g., Thompson, Braddy, & Wuensch, 2008). Not surprisingly, research demonstrates that job seekers who use technology find significantly more jobs than individuals who rely on traditional print methods (Van Rooy, Alonso, & Fairchild, 2003). Individuals form expectations about future employers through online interactions, which might change employee attitudes and behaviors.

Specifically, Slaughter, Zickar, Highhouse, and Mohr (2004) found that job seekers infer certain personality traits about organizations, which influences their decisions to pursue employment. Literature in the field of organizational socialization also suggests that anticipatory employees make assumptions about organizations online including work pace, hours, and load (Stephens, Cho, & Ballard, 2012). Dineen, Ash, and Noe's (2002) study also demonstrated that individuals use information online to assess their compatibility with organizations.

Employees' use of ICTs not only affects their experience during recruiting, but also their employment in the organization. Stephens and Dailey's (2012) research illuminates that prior exposure to organizations influences how quickly new employees feel part of the company. Thus, a firm's online presence can be a pivotal factor in how employees perceive and adapt to businesses.

Selection: Following recruiting efforts, HRD is responsible for hiring and retaining qualified candidates. Most employers vet candidates before offering jobs (or even interviews) or evaluate a candidate's credentials for continued employment (Dipboye, 1982). Changes in technology have greatly altered these processes. For example, Berkelaar's (2013) work on cybervetting explores how employers acquire and evaluate information from search engines, social network sites (e.g., Facebook profiles), blogs, and other digital materials to make hiring and promotion decisions. Employers seek information online to circumvent employee

deception, excessive impression management, and limited references.

The rise of use of technology, and social media in particular, also muddle HRD practices for legal reasons. People have been debating the legality of cybervetting practices and managing social media behavior. Recently, several states passed laws forbidding employers from demanding access to applicants' social networks (Levy, 2012). This debate and subsequent policy development are likely to grow, because technologies allow people access to information that we traditionally consider private.

Developing Employees with Training

ICTs, e-learning systems, and mobile devices are transforming how organizations train personnel. According to Strohmeier's (2007) review of eHRM research, four out of 10 organizations use ICT-based training methods, commonly labeled "e-learning," and as of 2011, almost a third of training provided in the US occurs online (Miller, 2012).

With this growing trend in training methods, HRD professionals have shifted focus from developing interpersonal relationships with trainees to attending to the usability and effectiveness of technology-based e-learning systems; issues traditionally left in the hands of IT. Training is being delivered through online systems, and video and web-conference training is growing (Fallery, Ologeanu-Taddei, & Gerbaix, 2010; Stephens & Mottet, 2008). Thus far, the research on training effectiveness through e-learning is mixed. Some studies report that there are few differences in training effectiveness between web-based and instructor-led sessions (e.g., Coppola & Myre, 2002), whereas other studies have found that the real differences depend on the perceived usefulness of the content delivered (Fallery et al., 2010). Yet in pooling e-learning findings, Byun and Mills (2011) claim that there are serious concerns about learner achievement.

Research indicates several items that seem to consistently affect e-learning effectiveness. Employees who exhibit greater levels of self-regulatory behaviors (e.g., self-evaluation and self-monitoring) are more likely to embrace advanced web-based technologies for work related training (London & Hall, 2011). HR professionals who successfully prompt employee self-regulation—helping employees take responsibility for

their own training progress—are likely to affect employees' learning and performance over time (Sitzmann, Bell, Kraiger, & Kanar 2009). Organizations that help employees use the information they have learned online are more successful with e-learning, so to achieve the greatest benefit from e-learning, HRD should help employees understand how the technology functions and/or how it can be utilized to achieve learning goals (London & Hall, 2011).

Although there is still considerable talk about e-learning, researchers are focusing more on outcomes of e-learning than on the specific technologies used (Byun & Mills, 2011). Thus far, scholars have examined the effect of interactivity on training outcomes and trainer credibility (Stephens & Mottet, 2008). A promising area of research investigates how the social networks of learners impact training transfer—how people apply what they have learned to their work (Bossche & Segers, 2013). Scholars also argue for us to combine the best things about online and instructor-led training and to focus on learner-driven, generative learning (London & Hall, 2011). While HRD has traditionally managed the training of employees, research over the past few decades indicates that training touches many different parts of an organization. By integrating it into the core HRM functions, training can be made even more valuable to organizations today (Aguinis & Kraiger, 2009).

Developing New Skills

Technologies are also shifting how HRD professionals develop employees' skills and knowledge sharing. Here we focus on the digital divide, meetings, and employee communication as areas where HRD is now focusing.

Digital divide: Now that ICTs play a central role in HRD, it is vital that organizations help their employees develop the technology skills needed to interact with these new electronic systems. This is not simply an issue of access to technology. The literature on the digital divide has expanded over the past decade and now offers the term digital inequalities (Hargittai & Hsieh, 2013) to illustrate that many factors—e.g., socioeconomic status, education—can influence how people interact with the Internet. When employees cannot access the Internet or lack the skills to use it effectively, eHRM systems are less successful (Panayotopoulou, Vakola, & Galanaki, 2007). Many organizations assume their employees can access and use eHRM systems, but studies show this is not always the case (e.g., Stephens et al., 2008). Employees with low computer or Internet self-efficacy may not believe they have the capability to access important information (Bandura, 1982; Eastin & LaRose, 2000).

Managing meetings: New technologies have altered how meetings are now being conducted in organizations. Meetings today often involve geographically distributed individuals who meet via audio bridge, instant messaging, or videoconferencing. As a result, HRD must help manage high-tech meetings and create policies around new meeting behaviors. In exploring Intel's meetings, Chudoba and colleagues (2011) found that HRD was actively involved in trying to help workgroups manage high-tech meetings. For example, HRD encouraged groups to use meeting agendas and minutes to increase individual productivity in meetings. Similarly, scholars have touted HRD for helping to "design the technology to realize the potential of virtual workspaces" and for being "the 'connecting tissue' that brings together disparate technologies to enhance employee productivity" (Lengnick-Hall & Moritz, 2003, p. 374-375).

Unexpectedly, the increase in virtual meetings and the ease with which employees bring their personal communication technologies (PCTs) into meetings has created issues with perceived etiquette. Employees can easily use their laptops, iPads, and mobiles for purposes other than the meeting. HRD is being asked to help create policy surrounding the use of ICTs in meetings (Lengnick-Hall & Moritz, 2003). For example, many companies have implemented "laptop-down" policies (e.g., Chudoba et al., 2011) to help people stay on task. HRD, however, should be careful about advocating for such policies. Some scholars advise organizations to evaluate the costs and benefits of using technology in meetings, since "unplugging" during meetings can also mean cutting off access to potentially helpful information (Stephens & Davis, 2009).

Employee communication: HRD has recently assumed the development role of helping employees cope with the changes brought by personal communication technologies, defined as communication technologies that are often mobile and individually, not organizationally, owned (Katz & Aakhus, 2002). Now companies must develop online self-presentation training, provide guidance in conducting effective virtual meetings, and create policies that support these new workplace issues.

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People may post controversial content (e.g., ethically questionable, classified information) about companies or their employees, or they may break organizational policies online. A meteorologist in Shreveport, Louisiana, was fired from her job for responding to negative viewer comments via Facebook (Smith, 2012). In these cases, HRD professionals must intervene and take appropriate actions. Intervening in such matters, however, is complicated. In the context of blogging, Valentine, Fleischman, Spreague and Godkin, (2010) advise HRD professionals that disciplinary measures should correspond with the severity of the controversial content. If employees are fired for harmless online behavior, they may dissent and lash out against the organization (Valentine et al., 2010). Thus, HRD's role in managing employee social media interaction is an emerging area.

Challenges for Organizations Adapting to Technology-Infused HR Practices

All of these expanded functions of HRD do not happen without careful planning and coordination between different parts of organizations. HRD might understand employee development, but without the support of IT to manage the e-training platforms, the training they implement will be unsuccessful. HR professionals are transitioning from a role that was more operational and transactional to one that is more strategic and includes knowledge of a larger organizational environment (Bell, Lee, & Yeung, 2006). These types of organizational changes can be challenging for existing employees and HR professionals.

FUTURE RESEARCH DIRECTIONS

The infusion of technology into HRD practices creates many opportunities for additional research. We highlight two areas here: disseminating large-scale messages to employees and organizational digital divide issues.

The first area ripe for research is the dissemination of large-scale messages to employees. Most of the technology-infused HR literature focuses on Internet-based tools and company web portals. Few studies explore the effects of sending too many messages to employees and the rising need for employees to be active information seekers. Employees mention email overload as their top source of work stress (Barley, Meyerson, & Grodal, 2011), so as HR sends more emails, employees may miss or ignore those messages. Stephens et al. (2008) found that frequent computer-users at work requested fewer emails, whereas occasional computer-users wanted more email on most topics. The information science field has explored overload from many angles (e.g., Edmunds & Morris, 2000; Eppler & Mengis, 2004), and some work considers overload in meetings (Stephens & Davis, 2009), but we still have limited understanding of how overload affects information dissemination.

Additionally, technology-infused HRD poses challenges for employees who use personal technology (e.g., laptops, cell phones) for work-related tasks. This recent trend, often referred to as BYOD or 'bring your own device' to work, challenges IT departments because such devices bring additional security risks (PC Today, 2012). Yet this trend also affects HR departments who send to a variety of employees' devices. For instance, consider organizations' needs to communicate organizational safety and security messages. Stephens, Barrett, and Mahometa (2013) found that when an organization sent multiple emergency communications, most people first received the message as text (often via a personal mobile device). But many organizations do not require employees to provide mobile numbers for emergency notifications. Thus, organizations face the dilemma of asking "permission" to send messages to personal devices (Stephens et al., 2013).

The second area ripe for research is to explore the digital divides that exist *inside organizations*. Extensive research investigates the societal and global impacts of digital inequalities (e.g., Hargittai, & Hsieh, 2013), but very little work focuses on the impact such divides have on employees. This is increasingly important as our HRD and eHRM systems rely on employees being able to access and interact with information. Information science, sociology, and communication researchers must better understand how to provide support and training to employees, particularly when resources can only be found through electronic systems.

CONCLUSION

This summary of human resources and ICTs illustrates how HRD's role has been transformed due to increases

in communication technology use. From recruiting new employees to facilitating high-tech meetings, HR departments face new challenges with developments in technology. Yet at the same time, new ICTs bring additional opportunities and ways to advance HRD and HR practices. Although there is a growing body of research in the area of technology use in the workplace (e.g. multitasking, cybervetting), scholars and professionals have limitless opportunities to further explore HRD's new role in technologically advanced organizations.

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KEY TERMS AND DEFINITIONS

Bring Your Own Device (BYOD): Describes how employees are using their ICTs, often mobile devices, to access information and communicate at work.

Cybervetting: The process of examining prospective employees online information to help make hiring decisions.

Electronic Human Resource Management (eHRM): Is an umbrella term describing the integration of information technologies and human resource services to automate and streamline service delivery.

Electronic Learning (E-Learning): The related term of electronic training (e-training) are general descriptions of training and learning content acquired by employees through computer systems.

Human Resource Development (HRD): Focuses on cultivating employees through training and development.

Human Resources Management (HRM): Is the organizational function that provides services to employees.

Instructor-Led Training: Training that is delivered by a live instructor. Traditionally, this term was used in the context of face-to-face, or in person training, but this term is also used to describe online or web-based training that is conducted by a live instructor.