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Developing employee socio-technical flexibility in a multigenerational workforce

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Abstract

This paper identifies how management's intentional use of participatory management practices can heighten knowledge sharing across a multigenerational workforce through the presence of socio-technical flexibility. In this conceptualization, we identify the value of socio-technical flexibility to effective employee knowledge sharing in three steps. First, we define the prominent characteristics of the current multigenerational workforce. Second, we define the behavioral characteristics of socio-technical flexibility. Third, we describe how an intentional use of salient management practices, including reverse mentoring, flexible work roles, and self-managed teams optimizes multigenerational talents to enhance employee socio-technical flexibility, which in turn, leads to multigenerational knowledge sharing. We believe that by embracing the benefits of multigenerational workforce, management can take intentional steps to create a workplace that optimizes effective knowledge sharing behaviors for improved service through salient participatory management practices.

Keywords: knowledge sharing, multigenerational workforce, employee flexibility, HR practices

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INTRODUCTION

Organizational leaders need to consider the widening employee age structure in today's workforce and the influence of this diverse workgroup on collective employee performance. The broadening age structure is due to both the on-going entrance of younger workers and the continued employment of the aging workforce as a result of increased life spans and extensions in retirement ages (Burtless, 2013). Indeed, the number of older employees (45–64 years) is expanding faster than younger employees (15–24 years) (see Figure 1) and the US Bureau of Labor Statistics has recently extended the upper limit of the traditional working-age population from 64 to 74 years (US Bureau of Labor Statistics, 2014). With the workforce's broadening age structure, the frequency of multigenerational interactions naturally increases. In turn, this increased level of interaction intensifies potential generational differences (Ciampa & Chernesky, 2013). The generational differences are notable; both younger workforce entrants and existing workers report gaps between the generational groups' different workplace viewpoints (Finn & Donovan, 2013). For instance, employees from younger generations report heightened preferences for improved work/life balance and adoption of digital technologies

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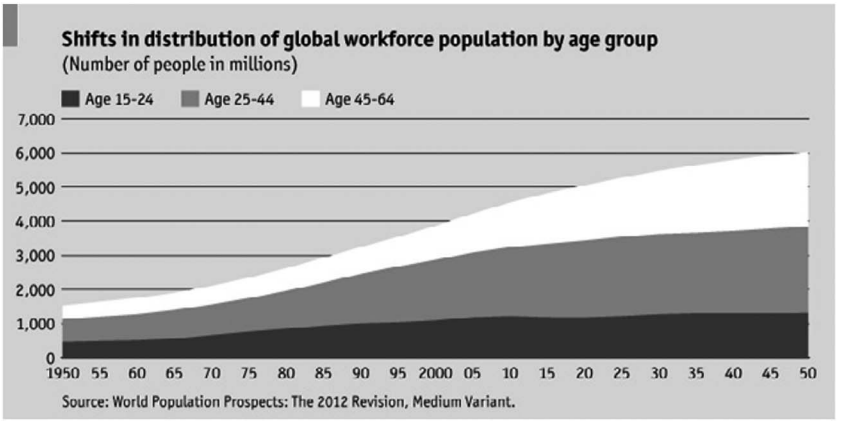

FIGURE 1. THE BROADENING WORKFORCE AGE STRUCTURE. REPRINTED FROM ENGAGING AND INTEGRATING A GLOBAL WORKFORCE, BY THE ECONOMIST INTELLIGENCE UNIT. RETRIEVED JUNE 18, 2016 FROM HTTP://FUTUREHRTRENDS.EIU.COM/REPORT-2015/PROFILE-OF-THE-GLOBAL-WORKFORCE-PRESENT-AND-FUTURE/. COPYRIGHT 2016, THE SHRM FOUNDATION, ALEXANDRIA, VA. REPRINTED WITH PERMISSION

as compared with other generations (Hershatter & Epstein, 2010; Finn & Donovan, 2013). In further support of these different generational perspectives, a recent executive development publication asserts that 'by all accounts (the recent workforce entrants) are unlike preceding generations' (Brack, 2012: 2). This potential divide is also recognized by researchers. Cennamo and Gardner state, 'increasingly human resource specialists, managers and researchers are becoming interested in how to manage and work with people from different generations in the workplace' (2008: 891). Thus, we contend that it behooves management to capitalize on the potential benefits in these generational differences and avoid potential pitfalls in the changing workforce age structure.

The complex nature of a multigenerational workforce emerges concurrently with global growth in knowledge-intensive and professional service sectors (US Bureau of Labor Statistics, 2013). In these sectors, extant research depicts how successful employee performance depends upon reciprocal knowledge sharing (Aryee, Walumbwa, Seidu, & Otaye, 2013), and how knowledge sharing is often heightened between colleagues of similar ages (Ellwart, Bündgens, & Rack, 2013). In contrast, employee age-based differences may prompt interpersonal conflict (Joshi, Dencker, & Franz, 2011), which in turn, may diminish employee performance (e.g., De Dreu & Weingart, 2003; Ellwart, Bündgens, & Rack, 2013). Indeed, Joshi, Dencker, and Franz suggest that 'age-based differences can be a basis for conflict at interpersonal and at work group levels' (2011: 184). Unfortunately, this perceived divide amid generational viewpoints may only widen as the number of younger employees will increase to 46% of the workforce by 2020 (Lynch, 2008), with higher percentages expected in knowledge-intensive industries (cf. Finn & Donovan, 2013, 80% in financial services). Moreover, despite extant research that identifies organizational level avenues to improved knowledge transfer (e.g., Argote, McEvily, & Reagans, 2003; Van Wijk, Jansen & Lyles, 2008) and antecedents toward organizational knowledge sharing (e.g., organizational culture and attitudes, Witherspoon, Bergner, Cockrell, & Stone, 2013), less is known about specific management practices that could concurrently enable effective knowledge sharing and buffer deleterious consequences in a multigenerational workforce.

Thus, it benefits managers to better understand how specific management practices draw upon mutually beneficial multigenerational skillsets in order to increase collective knowledge sharing and avoid knowledge losses. Scholars have demonstrated the general relationship between high involvement

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management practices and service gains (Chuang & Liao, 2010; Batt & Colvin, 2011) across *all* organizational employees (Sun, Aryee, & Law, 2007). However, little attention has been given to understand how age diversity in a multigenerational workforce may affect employee performance differently in the presence of such practices. This gap is meaningful as an increasing number of both academic (Joshi, Dencker, & Franz, 2011; Chaudhuri & Ghosh, 2012) and industry reports (Finn & Donovan, 2013) recognize the need to identify management practices that help engage and retain an effective multigenerational workforce. Addressing this gap, the paper's purpose is to conceptualize how the use of salient management practices, including reverse mentoring, self-managed teams, and job rotation develops effective employee knowledge sharing behavior across the multigenerational workforce. Importantly, we contend that an intentional managerial focus on the unique skills and preferences of the distinct generations can create a complementary patchwork of overlapping, interconnected skills that can facilitate improved knowledge sharing across employees of any age.

In this paper, we draw on social exchange theory (Blau, 1964; Paroutis & Al Saleh, 2009), to extend what is known about the relationship between employee behavior, management practices, and knowledge-based outcomes (Lepak & Snell, 1998; Posthuma, Campion, Masimova, & Campion, 2013). This focus answers a call to understand generational plurality (Storberg-Walker, 2015) by conceptualizing how salient management practices optimize multigenerational employee knowledge-based capabilities. We conceptualize how the development of a unique employee behavioral capability, namely socio-technical flexibility, is the pivotal lynchpin between the use of management practices and effective multigenerational employee knowledge sharing. Wright and Snell (1998) originally described flexibility as the behavioral skill of employees to promptly adapt to dynamic contextual factors. Extending this concept to today's digital technologies, we depict socio-technical flexibility as a means whereby employees from multiple generations with distinct workplace preferences interact and share their capabilities via multiple technologies and management practices in order to boost collective knowledge sharing. To this end, socio-technical flexibility is the enabling capability that transforms generational differences from potential discord into multigenerational knowledge gains.

The development of employee socio-technical flexibility has wide-ranging potential to enhance our understanding as to how diverse multigenerational cohorts can improve performance in today's knowledge economy. We outline our conceptualization of how socio-technical flexibility contributes to improved multigenerational knowledge sharing in three steps (see Figure 1). First, we provide an overview of the distinct workplace characteristics of both the youngest workforce entrants and existing workforce members. Second, we describe how heightened multigenerational interactions and use of digital technologies can optimize knowledge sharing and collective learning gains through socio-technical flexibility. Third, we identify how increased employee interaction via the presence of select participatory management practices increases multigenerational socio-technical flexibility (Figure 2).

DIFFERING WORKPLACE PREFERENCES IN A MULTIGENERATIONAL WORKFORCE

Before we can outline how multigenerational interactions enhance knowledge gains, it is necessary to first identify key workplace preferences of both the youngest and existing generations in the workforce. Our focus on two generational cohorts, namely younger workforce entrants and existing workforce members, instead of all generations (e.g., Baby Boomers, Gen X, etc.) is based on the known differences of pertinent characteristics of age-based generational identities (Joshi, Dencker, & Franz, 2011). Joshi, Dencker, Franz, & Martocchio, (2010) reason that different generation's age-based identity stems from the collective memories of shared historical events and cultural norms of the members' formative years, which in turn, influence their current workplace experiences. Drawing on Joshi et al.'s (2010) age-based identity development, we contend that the younger generation's use of different digital technologies in educational and home environments during their formative years serves

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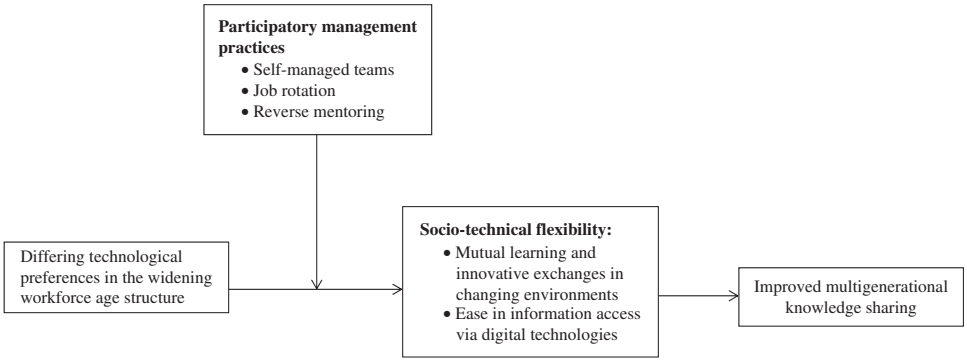

FIGURE 2. THE VALUE OF SOCIO-TECHNICAL FLEXIBILITY TO EFFECTIVE MULTIGENERATIONAL KNOWLEDGE SHARING

to influence their current workplace preferences and experiences. A focus on generational groups naturally assumes generalized group actions (Valtonen, Dillon, Hacklin, & Väisänen, 2011); however, we believe outlining key workplace preferences of the generational cohorts may help management identify practices that facilitate fruitful workplace experiences across a multigenerational workforce.

First, the existing workforce members, including employees in the Traditionalists, Baby Boomers, and Gen X generations, include individuals born during World War II through the late 1970s. The formative experiences of these employees hinge on growing up during times of instability and uncertainty during the Vietnam and Cold Wars (Dries, Pepermans, & De Kerpel, 2008). The unpredictability during their developmental year drives a current preference for heightened levels of stability (McGuire, Todnem By, & Hutchings, 2007) and commitment (Benson & Brown, 2011). For instance, these employees believe achievement stems from tenure and 'paying one's dues' through job experiences and often define themselves through their careers (Dries, Pepermans, & De Kerpel, 2008; Benson & Brown, 2011). With their focus on stability, existing workforce members often have demonstrated a lifetime commitment to a sole employer (McGuire, Todnem By, & Hutchings, 2007) and an individualistic orientation (Egri & Ralston, 2004) in adulthood. In turn, the existing employees possess heightened levels of tacit job knowledge stemming from their personal efforts during long-tenured organizational employment.

On the other hand, distinct developmental experiences have also influenced the age-based identities of the youngest workforce entrants (e.g., Millennials and Gen Z). The primary difference between the youngest and existing workforce members' characteristics hinges on the prevalence of digital technologies throughout the youngest entrants' *formative years* and the emphasis on collective, other-focused learning opportunities driven by these new technologies[1] (Hershatter & Epstein, 2010; Myers & Sadaghiani, 2010; Rosen & Lara-Ruiz, 2015). Through their lifelong use of digital technologies, younger employees have developed competency with new technologies of real-time information gathering and shared communication, such as video sharing, texting, and blogging (Deal, Altman, & Rogelberg, 2010; Palfrey & Gasser, 2013; Wesolowski, 2014). Their knowledge of communication

[1] We acknowledge older generations may not necessarily be less 'technologically competent' than younger generations (Bennett, Maton, & Kervin, 2008). We appreciate an anonymous reviewer's reminder that members of older generations actually developed the internet. Instead, we argue that knowledge and attitudes towards communication technologies and the importance of such technologies during younger generations' formation years bring a unique age-related identity perspective not found in most members of an older generational cohort. For example, recent research does demonstrate generational differences in terms of preferences, usage, and attitudes towards information technologies do exist (e.g., Palfrey & Gasser, 2013; Rosen & Lara-Ruiz, 2015).

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technologies facilitates a desire for dynamic involvement and transparency in sharing and receiving of real-time information about job roles and organizational developments (Finn & Donovan, 2013; Kultalahti & Liisa Viitala, 2014; Culpin, Millar, & Peters, 2015). The use of digital technologies has increased the cohorts' preference for workplace opportunities where they desire on-going knowledge exchange via reciprocal, immediate feedback (Myers & Sadaghiani, 2010). Notably, their experience in team activities leads to a preference for a collectivistic-focused participatory environment where they draw on knowledge and support in team-based tasks (Firfiray & Mayo, 2016).

The aforementioned differences in the formative experiences between the existing workplace members and the youngest generational cohort have created a noticeable, often predominant difference in their workplace communication preferences (Twenge, 2010; Twenge, Campbell, Hoffman, & Lance, 2010; Brack, 2012; Cogin, 2012; Rosen & Lara-Ruiz, 2015)[2]. We purport one prominent difference, namely the existing workers' preference for individual oriented, stable experiences maintained primarily through face-to-face communication (McGuire, Todnem By, & Hutchings, 2007; Proserpio & Gioia, 2007; Benson & Brown, 2011) versus the newer generations' preference for flexible, shared experiences via digital technology (Kultalahti & Liisa Viitala, 2014; Firfiray & Mayo, 2016), could serve as an impasse to effective coworker information exchange. The potential discord in these preferences could be especially damaging in knowledge-based roles where effective performance relies upon the trickle-down effect of tacit information sharing from experienced employees (Chuang & Liao, 2010). Moreover, employees' failure to embrace workplace technologies that incorporate real-time, synchronous job-related exchanges can equally compromise quality performance (Setia, Venkatesh, & Joglekar, 2013). Thus, based on these inconsistent preferences, we propose

Proposition 1: In the workplace, different preferences for use of digital technologies are present between the existing workforce members and the youngest entrants.

DEVELOPMENT OF EMPLOYEE SOCIO-TECHNICAL FLEXIBILITY

The potential for differing workplace preferences in a multigenerational workforce may heighten diminished performance outcomes; however, we conceptualize how the development of a new behavioral capability, namely socio-technical flexibility, instills effective multigenerational performance gains through innovative knowledge exchanges. Conceptualized in social exchange theory (Blau, 1964; Liao, 2008), socio-technical flexibility is the behavioral skillset that may cultivate multigenerational employee knowledge sharing through mutual participation in various digital technologies. Next, we describe the development of socio-technical flexibility and its benefits to a multigenerational workforce.

Socio-technical flexibility

In their seminal article, Wright and Snell (1998) identify how strategic fit and flexibility in management practices garner malleable employee behaviors to meet changing workplace objectives. Their description of behavioral flexibility relies on the variety of behavioral scripts (i.e., routines based on personal experience) and the mechanisms to synthesize these scripts (i.e., teamwork, job design), which in turn, increases firm-level flexibility to organizational changes. We extend this general conceptualization to identify the importance of *socio-technical flexibility* across a diverse age range of

[2] Importantly, the authors acknowledge that generational similarities are also reported. For example, research has shown both younger and older cohorts to share similar extrinsic, intrinsic, and social values (e.g., Cennamo & Gardner, 2008). Multigenerational cohorts may also be similar in certain attitudes towards select work values, such as leader's loyalty, honesty, and fairness/justice (Arsenault, 2004; Ahn, & Ettner, 2014). However, we draw on the notable differences since the paper's purpose is to capitalize on multigenerational differences through salient participatory management practices.

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employees. Socio-technical flexibility extends what we know about behavioral flexibility in two ways. First, socio-technical flexibility encompasses a distinct type of behavioral flexibility consisting of malleable interpersonal social skills that are developable in part by employee experiences in a technology-laden environment. Second, extending research that links successful employee performance to reciprocal knowledge sharing and colleague interaction (Sun, Aryee, & Law, 2007; Wei & Lau, 2010; Aryee et al., 2013), we argue that socio-technical flexibility is enhanced through heightened multigenerational employee interaction. Drawing on these new employee capabilities, the authors propose that socio-technical flexibility is the enabling behavioral capability that mitigates potential conflict and gaps from generational differences with beneficial multigenerational knowledge exchange.

Moreover, socio-technical flexibility may be especially valuable in knowledge-intensive sectors where change is routine and quality service provision depends upon flexible employee exchanges to meet customers' unique needs (Barker & Härtel, 2004). For instance, differing customer communication styles requires employees to listen, reframe, and accurately convey relevant information to customers (Webster & Sundaram, 2009) across different communication mediums (Fu, 2014). In knowledge-intensive roles, successful performance often depends on seasoned employees' ability to share their tacit knowledge from past experiences to newer employees (Hammer & Barbera, 1997). Thus, understanding how employees' knowledge sharing capabilities develop through socio-technical flexibility, regardless of employee age or job tenure, is warranted.

History of socio-technical flexibility

Notably, the study's emphasis on socio-technical behavior originates from early job design literature that examined job roles in a manufacturing context (Cooper & Foster, 1971; Trist, 1981). The earlier scholarly focus was on the effectiveness of the system, in which 'socio' was defined as sequential employee responses to manufacturing system operations. In this study, we extend the original conceptualization beyond strict focus on controlled employee roles in automated manufacturing systems to emphasize the value of employee discretion and interpersonal interaction to increased knowledge sharing behaviors. This focus captures the benefit of malleable employee behavior within the changing digital technologies of the current workplace (Ortiz de Guinea & Webster, 2015). For instance, employees often have discretion over what technologies (i.e., email, text messaging, video conferencing) they use – or don't use – in customer or coworker exchanges. Capturing the nature of today's knowledge sector, socio-technical flexibility portrays how heightened reciprocity in interpersonal exchanges via various technological mediums develops employees' skillsets and capabilities for enhanced knowledge sharing (Rusly, Yih-Tong Sun, & Corner, 2014). Our conceptualization of socio-technical flexibility is characterized by two distinct behavioral characteristics that enhance knowledge sharing: mutual learning and innovative exchanges in changing environments, and ease in information access and fluid communication via multiple technologies.

Behavioral characteristics of socio-technical flexibility

Mutual learning and innovative exchanges in changing environments

We argue that effective employee knowledge sharing through socio-technical flexibility readily develops through two key mechanisms: mutual learning and innovative exchanges. First, through heightened colleague interaction employees accumulate knowledge and develop a mutual understanding of the needs of both colleagues and customers (Farmer, Van Dyne & Kamdar, 2015; Subramony & Pugh, 2015). Increased interaction and involvement between employees are primary sources of employee learning (Doornbos, Bolhuis, & Simons, 2004). For example, learning occurs when a younger employee witnesses how a seasoned colleague deftly responds to a customer complaint. Through these shared experiences and social exchanges, employees recognize relevant details that inform their

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understanding of others' behaviors, which in turn, enhances employee knowledge of the workplace in general (Li, Harris, Boswell, & Xie, 2011). Employees' diminished uncertainties of others' actions – regardless of age differences – allows for new understanding in workplace relationships, across both coworkers and customers (Ferris, Liden, Munyon, Summers, Basik, & Buckley, 2009; Rusly, Yih-Tong Sun, & Corner, 2014). Thus, through socio-technical flexibility, an employee is capable of developing new learning and appropriately modifying one's interpersonal interactions for effective responses to dynamic role obligations.

Second, socio-technical flexibility is also characterized by innovative information exchanges. We contend that employees develop innovative skillsets through mutual knowledge sharing and problem solving during multigenerational interaction. Similar to the ripple effect of learning found in both perspective taking (Grant & Berry, 2011) and contextual awareness (Lee Endres, Endres, Chowdhury, & Alam, 2007), socio-technical flexibility strengthens employees' collective knowledge base as employees perceive significant environmental events, recognize colleague's capabilities and deficiencies, and readily provide appropriate services to assist with the needs at hand. For instance, the combination of existing members' tacit organizational knowledge and younger entrants' knowledge of communication technologies may lead to creative problem solving, where employees are capable of re-conceptualizing issues in order to find practical and novel service solutions to both colleagues and customers. To this end, socio-technical flexibility may provide employees with the capability to both generate timely and creative solutions that are useful across different organizational areas (Fu, 2014) and meet unique customer needs (Kimberley & Härtel, 2008).

Ease in information access via multiple technologies

Socio-technical flexibility also develops as digital communication mediums ease colleague knowledge sharing across both shared and dispersed locations. Technological advances continue to facilitate real-time employee access to organizational information through digital systems, such as human resources information systems, Open Source networks, and mobile computing (Lee Endres et al., 2007; Marler & Fisher, 2013). Social media tools designed for the workplace (e.g., Yammer) also provide employees with digital forums for information exchange where colleagues can ask questions, solicit guidance, and share relevant workplace information to large numbers of coworkers in proximal and remote locations (Agarwal & Mital, 2009). In turn, these synchronous digital technologies enhance continuous information exchange (Cramton, 2001).

We argue that the enhanced information exchanges via new digital technologies will develop employees' technological capabilities across both generational groups. The evolution of new technologies directly draws upon the younger generations' competencies with digital technologies (Hershatter & Epstein, 2010) and creates an opportunity for faster communication exchange between all employees through synchronous, real-time information sharing (Lepak & Snell, 1998). For instance, the advent of Web 2.0 mediums (e.g., social networking, mobile computing) and younger generations' tech-savviness has led to their improved performance (Stratton, Julien, & Schaffer, 2014). However, we expect that the routine multigenerational interaction will facilitate new technological learning across all employees. For example, the use of texting facilitates immediate coworker information exchange about customers' questions (Counts & Fisher, 2008). Likewise, video-conferencing via hand-held 'smart' devices provides continued interpersonal exchange in a visual format, which in turn, prompts new learning across all employees in dispersed worksites (Agarwal & Mital, 2009). To this end, we contend that socio-technical flexibility developed through increased employee exchanges through synchronous technology mediums bridges potential multigenerational gaps to elicit shared competence in digital mediums and dynamic information exchange, which in turn, increases multigenerational knowledge sharing. Thus, based on our conceptualization of socio-technical flexibility, we propose

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Proposition 2: Socio-technical flexibility is a behavioral skillset characterized by innovative responses and increased information exchange across both the existing workforce members and the youngest entrants.

Socio-technical flexibility and improved knowledge sharing

We contend that employee socio-technical flexibility, developed in part through the use of digital technologies, is of particular relevance to improved multigenerational knowledge sharing in knowledge-intensive jobs. Knowledge-intensive service industries (e.g., health care, financial services, sales, R&D) often demand employee responsiveness to around-the-clock services and require employee use of digital mediums for synchronous information sharing. In turn, immediate virtual access to sharing and receiving information provides employees with increased competencies and is developable through remote colleague interaction. In addition, the pervasiveness of digital technologies allows for employee discovery of relevant information beyond the scope of their organization. For instance, employee comments on online forums (e.g., computer coder forums on Reddit.com) provide freely accessible, novel suggestions to workplace challenges. As such, enhanced multigenerational colleague interaction in reciprocal information exchange, through both collocated and dispersed contexts facilitates employee capabilities to address workplace challenges. Based on this logic, we propose

Proposition 3: The presence of socio-technical flexibility in both the existing workforce members and the youngest entrants leads to improved multigenerational knowledge sharing in knowledge intensive service industries.

ENHANCED SOCIO-TECHNICAL FLEXIBILITY VIA PARTICIPATORY MANAGEMENT PRACTICES

We contend that employees' socio-technical flexibility not only leads to improved knowledge sharing, but is also developable via managements' use of select participatory management practices. These management practices address multigenerational workforce preferences and draw on complementary multigenerational skillsets. Recognizing that knowledge development readily occurs through workplace diversity (Fiol & Lyles, 1985), we propose that the management practices provide on-the-job learning situations where learning is seen as a collegial activity (Berings, Poell, & Simons, 2005) that fosters employee cooperation and communication (Espedal, 2005). Extending the known value of these management practices in other employee groups (Batt, 2000), we outline how participatory management practices, including reverse mentoring, self-managed teams, and job rotation, explicitly benefit the widening workforce age structure by developing heightened socio-technical flexibility.

Reverse mentoring

Mentoring is best described as a personal relationship in which an experienced organizational member (usually older) serves as a role model for a less experienced organizational member (usually younger) (Harvey, McIntyre, Thompson Heames, & Moeller, 2009). Mentoring serves as both a method of career development and a retention strategy for newer and younger employees (Payne & Huffman, 2005; McNichols, 2010). However, older employees may not only be needed to mentor, but *in need* of mentoring as well (Finkelstein, Allen, & Rhoton, 2003). More recently, due to unique generational characteristics in the workforce and new market demands, 'reverse' mentoring has drawn on the different values and expertise of multigenerational employees to address the demands of

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new technology and global markets (Harvey et al., 2009; Chaudhuri & Ghosh, 2012), and to provide a competitive advantage for both mentor and protégé (Gonzales & Thompson, 1998). In this new mentoring form, a less tenured employee is paired with a more experienced employee with the concurrent goals of helping the older worker adapt to the new technology and providing the younger employee with knowledge gains about organizational processes (Harvey et al., 2009).

Importantly, reverse mentoring provides mutual benefits to both younger and more senior employees. On the one hand, reverse mentoring may help transfer the technological knowledge, energy, and enthusiasm of younger employees to more senior employees (Finkelstein, Allen, & Rhoton, 2003; Harvey et al., 2009). In contrast, reverse mentoring also lowers role ambiguity and benefits younger employees seeking prompt feedback and direction (Lankau & Scandura, 2002). In turn, the mutual benefit from reverse mentoring facilitates complementary multigenerational learning. For instance, a younger employee's technical savviness and need to learn company processes may complement an older employer's limited technical expertise and increased tacit knowledge about such processes. The meaningful multigenerational relationships developed through reverse mentoring harnesses both generational similarities and differences to strengthen employee diversity (Ragins & Verbos, 2007), boost retention (Marcinkus Murphy, 2012), and dismiss potentially deleterious age-related stereotypes (Lawrence, 1988; Joshi, Dencker, & Franz, 2011). In fact, the use of reverse mentoring has led to innovative performance gains across different industries as employees readily share and receive new information about process improvements (cf. Hewlett, Sherbin, & Sumberg, 2009, *Time Warner*; Greengard, 2002, *General Electric*). Thus, reverse mentoring is a functional, cost-effective, innovative collaborative learning practice to facilitate multigenerational relationships (Marcinkus Murphy, 2012) and enhance socio-technical flexibility in the workforce.

Self-managed teams

The use of self-managed teams in the job design literature has long been considered a valuable means to facilitate collective performance through greater discretion and autonomy in the team members' roles (Stewart, Courtright, & Barrick, 2012; Posthuma et al., 2013). Specific to knowledge-intensive organizations, the use of self-managed teams has facilitated novel information sharing (Jong, Ruyter, & Lemmink, 2004), enhanced operations through knowledge creation (Zarraga & Bonache, 2005), and improved employees' timeliness and efficiency in meeting changing customer demands (Batt, 1999). Despite earlier examination of the value of self-managed teams in the service sector (Batt, 2000) and across different employee roles (Bell, 2007), no known study has considered the impact of self-managed teams in a multigenerational workforce.

We believe this is a valuable conceptualization, as the decentralized framework of self-managed teams empowers employees from all generations to collectively share their ideas about team procedures and participate in decision-making processes (De Hauw & De Vos, 2010). The discretionary opportunities present in self-managed teams connects to the younger entrants' desire for increased autonomy and responsibility in daily job roles through active involvement in peer learning and information sharing (Myers & Sadaghiani, 2010). In addition, the success of self-managed teams often depends upon the tacit knowledge, peer-based monitoring, and leadership of the more experienced existing workforce members (Barker, 1993). Incorporating preferences from both generational cohorts, self-managed teams create a performance framework that focuses concurrently on both individual and collective goals (Stewart, Courtright, & Barrick, 2012). Thus, the use of self-managed teams fosters a context where employees' complementary generational skillsets help to avoid knowledge loss and instead enhance performance. Overall, these characteristics may facilitate interaction among multigenerational employees and increase socio-technical flexibility.

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Job rotation

Job rotation is defined as the frequent lateral transfer 'of employees between jobs in an organization' that does not necessarily include upward mobility in the organizational hierarchy (Campion, Cheraskin, & Stevens, 1994: 1518). Earlier research depicts job rotation as a proactive way to improve work experience and career development through role flexibility (Campion, Cheraskin, & Stevens, 1994). Originally implemented in manufacturing systems, employees frequent rotation between repetitive, deskilled work roles was found to reduce boredom, fatigue (Lindbeck & Snower, 2000), and burnout (Maslach & Goldberg, 1999); and instead promote job learning and motivation by providing new experiences through sequential job movements (Morrison & Brantner, 1992). These new experiences and socialization with different colleagues provides employees with better work adjustment, personal development opportunities, and ultimately, opportunities for promotion (Campion, Cheraskin, & Stevens, 1994).

Job rotation also has novel outcomes in the current knowledge-intensive sector. The new technological advances and service roles have created jobs characterized by a wider arrangement of tasks and interpersonal responsibilities to customers and colleagues (Hsieh & Chao, 2004). The diverse set of tasks in technology-laden roles lowers feelings of monotony and exhaustion, and leads to increased opportunities to acquire new work-related skills (Hsieh & Chao, 2004). For example, Facebook embraces short-term work roles where employees are empowered to seek out job roles best matched to employee strengths (Albergotti, 2014). In addition, moving beyond the traditional use of job rotation to develop managers (Campion, Cheraskin, & Stevens, 1994), recent management systems reward creative thinking and encourage criticism from non-managerial employees, which in turn, deemphasizes the vertical hierarchy authority and expands the scope of job rotation (Albergotti, 2014).

Drawing on the expanding range of job rotation, we believe job rotation may also provide new synergies across employees from different generational groups. First, job rotation is especially important for younger employees as they value autonomy and flexibility in the workplace (Southard & Lewis, 2004; Lowe, Levitt, & Wilson, 2008). Younger employees may also be more receptive to job rotation due their higher mobility expectations, desire for self-improvement through professional development opportunities (Myers & Sadaghiani, 2010; Firfiray & Mayo, 2016), and enthusiasm for novel workplace experiences (Finkelstein, Allen, & Rhoton, 2003; Harvey et al., 2009). Older employees may also benefit from job rotation. Experienced employees *also* desire and benefit from new and challenging opportunities (Hewlett, Sherbin, & Sumberg, 2009), such as the new discoveries and benefits in rapidly changing technologies (Dewett & Jones, 2001). Moreover, through coworker interaction in job rotation all employees may experience the contagious effect of coworker enthusiasm (Ragins & Winkel, 2011) and knowledge sharing for enhanced service performance (Chuang & Liao, 2010). Thus, managers should consider the potential linkages between job rotation and heightened socio-technical flexibility in a multigenerational workforce.

To summarize, we believe that the aforementioned participatory management practices contribute to the development of socio-technical flexibility in a multigenerational workforce. The self-managed team design requires task interdependence among group members across functional areas (Humphrey, Nahrgang, & Morgeson, 2007) and the team's self-directed nature requires employee malleability to participate in multiple job roles (Stewart, Courtright, & Barrick, 2012). In turn, self-managed team members often develop increased familiarity with organizational processes, cultural norms, and managerial expectations, all elements of critical learning for younger employees. The aforementioned management practices perhaps most strongly align with younger generations' preferences for flexibility (Southard & Lewis, 2004; Lowe, Levitt, & Wilson, 2008); however, the success of these practices often depends on the tacit knowledge sharing of the existing workforce (Hammer & Barbera, 1997). For example, job rotation as a flexible job role facilitates information gains as multigenerational employees efficiently share their knowledge through

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the development of new relationships in expanded job roles (Zarraga & Bonache, 2005). In this case, younger entrants' success in flexible job roles requires an ability to recognize how experienced employees draw on tacit knowledge to successfully navigate various roles. In these practices, we believe employees from multigenerational cohorts will experience heightened levels of interaction and new learning, and in turn, develop socio-technical flexibility. Thus, we offer

Proposition 4: The existing workplace members and the youngest entrants involvement in the participatory management techniques leads to improved socio-technical flexibility.

IMPLICATIONS FOR PRACTICE AND RESEARCH

By embracing multigenerational differences, we conceptualize how management's intentional use of select participatory management practices can lead to increased knowledge sharing from enhanced employee socio-technical flexibility. Our conceptual framework provides management with various means to meld differing generational perspectives, preferences, and skills into enhanced knowledge sharing across a multigenerational workforce. This extends our understanding of how management can be purposeful in improving employee learning within a widening age structure by facilitating employees' shared experiences via participatory management practices. In turn, the shared knowledge across all generational cohorts draws on the tacit knowledge of existing employees, improves the contributions of the youngest entrants, and concurrently reduces potential knowledge losses and conflict in the widening workforce age structure (Batt & Colvin, 2011). We believe the participatory management practices will complement other factors known to enhance knowledge sharing, such as employees' intentions and attitudes (e.g., motivation and organizational commitment), organizational culture, and extrinsic incentives (Witherspoon et al., 2013).

In depicting our study's framework, we identify valuable directions for future management research. First, we provide initial support for how management's intentional focus on participatory management practices leads to enhanced socio-technical flexibility and increased knowledge sharing within a multigenerational workforce. We acknowledge that employee skill development also may occur through other means beyond the identified participatory management practices (Cullen & Turnbull, 2005). As such, future research should empirically examine the paper's proposed relationships, consider their effectiveness in service intensive industries, and identify whether other management practices serve to enhance multigenerational effectiveness.

Next, we demonstrate how the emergence of socio-technical flexibility leads to increased knowledge sharing across multigenerational employees. In essence, our depiction of socio-technical flexibility outlines a novel set of behaviors that assists in developing a 'differentiated workforce' (Lepak & Snell, 1998) in the workforce's widening age structure. Indeed, our focus on socio-technical flexibility as a type of employee flexibility extends Wright and Snell's (1998) broad description of flexibility to describe how employees of all ages can develop new knowledge capabilities in the era of digital technologies. Given the continued changes in technology and its resulting influence on employees' performance, one promising area for future research will be to empirically examine the link between employee socio-technical flexibility and multi-level performance gains (e.g., individual, work unit, organizational) across different types of technologies (e.g., synchronous technologies, Web 2.0).

In addition, the multigenerational workforce's increased use of technologies may also provide organizational adeptness in the use of virtual teams in a global economy. The virtual service industry, demonstrating rapid expansion over the last two decades, consists of service delivery using new digital technologies for continuous information exchange to meet customer needs around the globe (Mesmer-Magnus, DeChurch, Jimenez-Rodriguez, Wildman, & Shuffler, 2011). Effective virtual performance and a growing reliance on virtual international project teams (He, Baruch, & Lin, 2014)

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are critical for business survival in face of the growing global competition. Future research should examine whether socio-technical flexibility effectively facilitates employees' use of digital media and delivery of effective virtual support through multiple communication technologies in a global context.

CONCLUSION

The value of socio-technical flexibility depicts how heightened employee knowledge sharing is developed through salient participatory management practices. Connecting the management and workforce diversity literature, we show how an appreciation for a multigenerational workforce can bolster performance gains across all generational cohorts. It is our hope that the enhanced multigenerational employee connectedness via socio-technical flexibility will encourage academics and practitioners alike to embrace the plurality of a multigenerational workforce and develop their research and practice in meaningful new directions.

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This manuscript is an original work that has not been submitted to nor published anywhere else. All authors have read and approved the paper and have met the criteria for authorship listed above. We believe our paper's conceptualization of how select management practices can develop employees' behavioral flexibility, namely socio-technical flexibility, across a multigenerational workforce aligns with the *Journal of Management & Organization's* aims to provide a novel approach to facilitate heightened knowledge sharing in a diverse workforce.

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