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Recommendations for Preserving Faculty
Autonomy in the 21st Century*

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Technology, Power, and Leadership: Recommendations for Preserving Faculty Autonomy in the 21st Century

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Introduction

Colleges and universities continue moving forward with technology integration by working to keep classrooms and offices outfitted with the latest technological equipment packages, and programs, all in an effort to meet mandates if not to justify the very viability and existence of an institution and its subcomponents (Atkinson, 2011; Giardina & Laurendeau, 2013). I also have felt the pinch and the push to find, use, and become proficient with the latest and greatest technology tools in the profession in the interest of furthering my own knowledge and skills while also developing and extending that of my students. Technology-driven instruction has been on the forefront of instruction for many years now, particularly in the higher education setting (Bruce, 2008; Pourreau, 2011), and my professional and scholarly ambitions have further fueled my interests in the roles that technology plays in higher education settings.

My suspicion is that not everyone espouses, condones, accepts, or even wants to empower technology by recognizing or acknowledging it as a viable component of 21st century social and educational settings. In many institutions, incorporating technology into instructional practices has become a key issue regarding faculty's teaching competencies. While faculty must use technology in order to receive better job performance evaluations, they usually are excluded from institutional decision-making processes regarding which technologies will be used and for what purposes. Selwyn (2003) noted that no single technology has achieved *absolute* permeation within the adult population, not even 'universal' technologies such as the television and telephone. This piqued my curiosity. While technology within the context of higher education potentially could be perceived as a control strategy that limits faculty, I also suspect that cultural viewpoints and personal preferences played an important role in peoples' decisions to accept or reject certain aspects of technology in their lives. What perceptions do higher education faculty have about technology as rooted within the context of their professional lives? To what extent do they condone it and accept it? Where do their limits for its integration and tolerance in their professional lives lie? Where is the line in the sand? Push and pull factors may be at work in different ways on all levels of the institution's organizational chart. Several authors (Fu, 2011; Hou, Chern, Chen, & Chen, 2011; Kumpikaite & Zickute, 2012; Lungu, Zamfir, Mocanu, & Pirciog, 2014) have used the Push-Pull-Mooring Migration Model, which interprets human migration and the consequences of interactions between push effects at a place of origin and pull effects at one's destination, to examine push and pull factors in occupational settings. Fu (2011), together with other authors, noted that the antecedents with the strongest impact on career commitment, defined as "the extent of *unwillingness* to migrate from a professional career to another" (p. 280), include:

- Individual variables such as perceived reward, work values, role clarity, job involvement, organizational commitment, and job satisfaction (Goulet & Singh, 2002; Kidd & Green, 2006; May, Korezynski, Frenkel, & Horn, 2002)
- Situational variables such as fear of losing one's job, job fit, and autonomy (Goulet & Singh; 2002; Kidd & Green, 2006; May et al., 2002)
- Extra work variables such as emotion perception (Poon, 2004).

I believe that understanding more about what drives faculty to use and embrace technology and what drives them to avoid it holds the key to finding solutions for

technology acceptance practices across professional and social domains. My interests lie with finding literature that explores attitudes toward technology in the contexts of higher education, preferably literature that examines the ways in which technology empowers (pulls) and overpowers (pushes) higher education faculty. I believe that an important aspect of investigating career commitment in higher education in the 21st century includes examining the push and pull that faculty experience in terms of their willingness to migrate mentally towards adopting a new skill set. Within the context of this literature review, that means examining technology through the push and pull antecedents mentioned above. In other words, the push and pull that causes on-the-job changes for faculty in higher education are analogous to migration, albeit internal. Faculty physically remain within the same cultural context but, with the introduction of technology as new knowledge and a new way of operating professionally, they travel away from the areas of their career in which they previously resided (Lee, 1966).

Understanding the limits of exception and identifying where tolerance ends helps provides a better understanding of how a person thinks and processes. It also helps know what steps to take in shifting his or her mindset in gaining acceptance of the product you are peddling. It brings to mind the Mel Gibson/Helen Hunt movie “What Women Want”. Gibson’s character acquires the ability to read women’s minds, a skill that proves a real boost and boon when he lands an advertising campaign contract with a major athletic shoe company that wants to target female consumers (Cartsonis, Davey, Matthews, Williams, & Meyers, 2000). Bottom line: if you plan to sell people on an idea, you need to know what makes them tick, as the old saying goes. The same is true for getting buy-in on the job for technology implementations as well as spending tight money on these items. You have to find a way of introducing technologies to people and training them based on how they are wired to respond to their environment in combination with how they understand and function within their professional field. In other words, you need a reconceptualized understanding of what they do in their jobs every day and for whom (Giardina & Laurendeau, 2013). This suggests the need to rethink the rollout model for implementations by taking an approach seated in sociology and qualitative psychology. Such an approach acknowledges the need to link power with knowledge, underscores the performative role of knowledge as a facilitator of social and/or personal change, and allows us to work to address and emphasize epistemological and ontological diversity as a part of our innovation diffusion practices (Gemignani, Brinkmann, Benozzo, & Cisneros Puebla, 2014).

This paper is a review of the literature aimed at examining the impact of technology on higher education faculty autonomy. My concern is that higher education faculty’s perceptions of technology have become synonymous with power and empowerment to the point that they view technology as merely another tool used as necessary to empower them or to exert power over. This literature review examines the meanings of the terms “power”, “empowerment”, and “technology”. It aims to show the impact that the layered meanings of these terms have on higher education faculty autonomy in the 21st century based on social and psychological factors highlighted so far from the Push-Pull-Mooring Migration Model, career satisfaction, and mental migration and how they relate to technology implementation in higher education settings. I hope that the literature will shed light on the importance of addressing power and empowerment as important components driving faculty members’ limits or tolerance points

concerning technology adoption and implementation and target possible solutions for creating a mental pull that will leave them feeling empowered by technology and satisfied with their careers regardless of their technology skill sets.

What is technology?

Efforts to find definitions for the word “technology” that reached consensus yielded instead a spectrum of definitions for terms containing the word. Selwyn (2003) defined technology as a medium of human action that facilitates and sometimes constrains human actions but that nonetheless helps humans to do things. Faulkner and Runde (2013) discussed technology as a technological object within human communities. The authors defined it as “any object that has one or more uses assigned to it by the members of some human community” (2013, p. 806) that ranges from human artifacts (e.g., printers, phones, or e-readers) to naturally occurring objects appropriated for use (e.g., stones as paperweights, tree as parasols, or reeds as drinking straws). Technology can mean material (i.e., a cell phone or a computer) as well as nonmaterial (a cell phone app or an online game) technological objects (Faulkner & Runde, 2013; Fu, 2011; Hou et al., 2011). Singh (2013) referred to technologies as affordances, which Earl and Kimport defined as “actions and uses that technology makes qualitatively easier or possible when compared to prior like technologies” (2011, p. 32). Currall, Moss, and Stuart (2008) turned to philosophical referents for definitions. The authors examined on Aristotle’s notion of technology, *techné*, as an art or technical skill. They then marked the term’s progression to more modern philosophical definitions including Foucault’s argument that technology serves to frame truth and imply a domain of knowledge and truth. This review will examine Foucauldian argument and the word “power” more closely in a later section.

With such vast differences among referents for the word “technology”, it made sense for me to approach it via an examination of what culture and society think they know about it, especially since faculty may react differently to various definitions. When viewed as technology objects or equipment or as tools, technologies themselves seem static, but they are cultural products, whose users provide the dynamic element by implementing them contextually to meet a variety of needs. Mariátegui, Cubitt, and Naharajan (2009) noted that people’s reactions to technology use drive a wide range of effects on diverse groups of people; these reactions provide the catalyst for perceptions that then drive differential access and distribution of technologies according to the users unique to a particular context. The authors stated:

A user utilises a given technology not only as originally designed, but also by inventing (programming) new uses that were not initially identified by their original designers. This is the case of what also is defined as the ‘localization or ‘tropicalisation’ of a technology... Technology is, then, made out of cultural processes; and since culture is at its heart dynamic and emergent, so too are information and communications technologies that evolve as appropriations in local contexts to suit local people’s imperatives, both cultural and pragmatic. (pp. 218-219)

Power versus empowerment

Earlier it was stated that Foucault’s idea that technology frames truth and implies a domain of knowledge and truth has a link to his ideas on power. For Foucault, this implication results in technology and power becoming inseparable (Currall et al., 2008). According to Foucault, there are two ways of exercising power over men: pure community and a disciplined

society. Foucault (1977) wrote that these two distinct divisions of power work to maintain a constant division between what is considered normal (or acceptable) and abnormal (or unacceptable), something to which every individual is subjected in an effort “to brand him and to alter him” (pp. 199-200). He believed that the Panopticon was the best mechanism for doing this by means of automatizing and disindividualizing power in favor of a homogeneity of power. The organizational structure of institutions of higher education have commonalities with the Panopticon model as described by Foucault:

Power has in its principle not so much in a person as in a certain concerted distribution of bodies, surfaces, lights, gazes; in an arrangement whose internal mechanisms produce the relation in which individuals are caught up... Whenever one is dealing with a multiplicity of individuals on whom a task or a particular form of behavior must be imposed, the panoptic schema may be used. (1997, pp. 204-205)

For Foucault, power is synonymous with control in terms of a system or body actively and successfully imposing a specific or desired behavior. This parallels observations that limitations prevail in authoritative or hierarchical environments: existing structures impose constraints on existing meanings, or homophily reinforces like-mindedness among people in narrow confines (Rowlands, 1995; Singh, 2013). In either case, there is no room for transformative thought or new meanings to take hold.

Empowerment differs in definition from power, and the two terms are neither equal to nor interchangeable with each other. Kanter (1993) laid the foundation for understanding these differences with her Structural Empowerment Theory. According to Kanter, empowerment is based on the notion of power (the ability to get things done) and the notion that the characteristics of a situation, not individual or personal tendencies and predisposition, were responsible for constraining or fostering optimal job performance (Kanter, 1993; McDermott, Laschinger, & Shaiman, 1996; Laschinger, Wong, Cummings, & Grau, 2014; O’Brien, 2011; Orgambidez-Ramos & Borrego-Alès, 2014; Spreitzer, 1996). Rowlands (1995) examined empowerment within the context of social settings and concluded that it has to do with bringing people outside the decision-making process into it beyond just granting them access to decision-making processes. It involves undoing negative social constructions, and it must involve processes that allow people to view themselves as able and entitled to occupying decision-making positions, such that the notions of ‘power to’ and ‘power from within’ experience overlap (Rowlands, 1995). When people feel that they have the right to act and have influence, they begin to feel what Rowlands identified as the three dimensions of empowerment:

- **Personal:** empowerment is about developing a sense of self and individual confidence and capacity, and undoing the effects of internalized oppression.
- **Close relationships:** empowerment is about developing the ability to negotiate and influence the nature of the relationship and decisions made within it.
- **Collective:** where individuals in a given setting (i.e., professional, municipal, or institutional) work together to achieve a more extensive impact than each could have had alone.

Rowlands stressed that empowerment is an internal process that cannot be imposed or bestowed by outsiders. Any notion of one group giving empowerment to another is a false move aimed at hiding attempts to keep control, even to the point that notions of gradual

empowerment are equally false. The only external factors that come into play with empowerment are external support and intervention facilitated by one group to accelerate or encourage its growth in another (Rowlands, 1995).

What is power in technology?

When I first conceived this question, I thought it simple, unfettered, and easy to answer. When I began reviewing literature on the connections between power and technology, I found myself faced with a varying array of answers and had to recognize that this is not the only question for examining this relationship. When I asked, “What is power in technology?” I found my answer in Singh’s article on transformations in global politics. Singh (2013) referred to the power in technology as the transformational impact of information technologies and their abilities to changes the dominant meanings of the identity and interests of global entities.

I next asked, “What is the source of power in technology?” Hall (2010) and Selwyn (2003) examined the power of technology in terms of a technology’s potential for users. Selwyn stressed that a technology user needs to be able to exert a degree of control (read: power) and choice (read: empowerment) over a technology and its content, while Hall stated that the potential power of a technology to deliver outcomes is inconsequential unless it is used and used well. This gave rise to the question “What power does technology have?” Hanson (2009) explored the power that technology has to act as a catalyst for influencing the balance of power between academic and student knowledge production stemming from technology use. Hanson found evidence of the power of technology in the very ways noted by Hall (2010) and Selwyn (2003). Another perspective from which to understand Hanson’s study is to explore the impact that technology has on the balance of power between academic and student knowledge in this context. This case study examined the effect and impact of instructional technology implementation and e-learning on faculty teaching practices and faculty perceptions about technology at the university level. Hanson found that faculty experienced the power of technology in many ways, varying from power the exerted over them by administrative technology requirements and students’ technology savvy outshining their own, to the faculty themselves exerting power in instances that afforded them choices in how their students and they themselves would use certain technology tools. These findings correlate to Hall’s notions of technology representing power when used and used well and Selwyn’s findings that the source of that power in technology stems from users being allowed to make decisions about control and choice over technology and technology content related to their use and use by their students (Hall, 2010; Selwyn, 2003).

Whether asking, “What is power in technology?”, “What is the source of power in technology?” or “What power does technology have?” the findings presented here indicate that power does not stem from technology itself. Instead, it stems from the values that users place on it or attribute to it, the ways that they implement it by choice and by force, and the degrees of success they experience while using technology and technology tools. This is consistent with different authors noting that technology has the ability to frame social actions (Al Lily, 2013; Briggie & Mitchum, 2009; Faulkner & Runde, 2013; Kezar, 2014; Leonard, 2012; Singh, 2013), even to the extent that technologies appear to hold a power and life of their own (Al Lily, 2013). These ideas will resurface in later sections as a part of examining faculty empowerment and overpowerment through technology.

What empowered faculty traditionally?

The literature revealed that one word sums up what empowered faculty traditionally: autonomy. Seibert, Wang, and Courtright (2011) drew on Kanter's (1993) theory of empowerment and the work of different authors (Hackman & Oldman, 1980; Kraimer, Seibert, & Liden, 1999; Liden, Wayne, & Sparrowe, 2000; Spreitzer 1995; Spreitzer, 2008) to examine autonomy. They theorized that autonomy is an intrinsic need best fulfilled by psychologically empowered work and based on social-political support, work attitudes that promote job satisfaction and commitment, and positive forms of work performance that result in retention. Büschgens, Bausch, and Balkin (2013) used previous studies about the benefits of positive feedback on autonomy (Deci, Koestner, & Ryan, 1999; Gagné & Deci, 2005) to study ways that managers seek to motivate the creation of new ideas and facilitate creativity in individuals when implementing radical innovations. The authors found that managerial encouragement and support of autonomy facilitated an increase in intrinsic motivation, which led to an increase in employee performance and job satisfaction. These findings led Büschgens et al. (2013) to suggest that managers should seek to increase employee autonomy in the interest of increasing the amount of high quality work performed and use this to open the door to allowing employees more choice in their project choices. Employees would benefit twofold: rewarded efforts and respect for their autonomy. Autonomously motivated employees internalize organization goals and values, which in turn reinforces their autonomous motivation and leads them to act in the organization's interest (Büschgens et al., 2013). These findings also lend credence to the Seibert et al. (2011) theory that actions promoting psychological empowerment play a significant role in building and maintaining employee autonomy. Both of these ideas support and reinforce my assertions that you have to know what people want and play to that for them to buy into a new idea.

To narrow the focus, why is autonomy so important for higher education faculty? The answer has its roots in age and experience. In 2006, the time of the last National Study of Postsecondary Faculty by the Education Department, the average age for full professors was 49.6; tenured faculty were slightly older with an average age of 54 (Masterson, 2010). This means that the average postsecondary faculty member was a student in a secondary or postsecondary institution in the 1970s-1980s. They were students both and stewards of the traditional classroom learning environments, which viewed higher education faculty as the subject authorities in their respected fields and therefore the imparters and distributors of knowledge (Hanson, 2009). For these students, professors always occupied space at the front and center of the classroom in the position of knowledge authoritarian. As this was their training by example, they all began their careers the same way: face-to-face with their students (Keengwe, Kidd, & Kyei-Blankson, 2009).

The introduction of technology and technological tools in higher education settings has increased over the last two decades. This has caused some faculty to feeling disassociated from the jobs they were trained to do—some to the point of feeling out of control of their professions—owing to efforts to keep up with required technology implementations (DeMillo, 2012; Hall, 2010; Hanson, 2009; Kardasz, 2013; Keengwe et al., 2009; Serrat & Rubio, 2012). According to Hanson (2009), faculty are experiencing changes in the nature of their academic identity. Some perceive traditional collegiality to be in decline attributed primarily to a sense

of isolation from their colleagues and their institution (Hanson, 2009; Nixon, 1996). A greater emphasis on performance and accountability combined with stressful working conditions is pressuring faculty to construct and align their academic identities with corporate identities, fostering beliefs that academic identity is in crisis (Hanson, 2009; Harris, 2005; Kinman, Jones, & Kinman., 2006) and is eroding academic autonomy and freedom by deprofessionalizing academic staff (Fulton & Holland, 2001).

What drives the perceived or real loss of autonomy? Other professional fields, particularly nursing, have explored this idea, and research abounds citing the importance of autonomy in avoiding job dissatisfaction, work environment stress, and even job burnout (Cassidy & McIntosh, 2014; Laperrière, 2008; Mrayyan, 2005; O'Brien, 2011; Madathil, Heck, & Schulberg, 2014; Salhani & Coulter, 2009; Skår, 2010; Weston, 2010; Zurmehly, 2008). To what degree do feelings of disassociation, faculty perceptions about a decline in collegiality mentioned, and mounting job stress in conjunction with higher education settings mark beginning of a true loss of autonomy in academia? If faculty truly are headed down a career path of guaranteed job dissatisfaction and work environment stress, is faculty burnout on the horizon? Burnout in the nursing profession has been defined as a psychological process characterized by feelings of emotional exhaustion, detachment, and lack of personal accomplishment (Maslach, 2003; Maslach & Leiter, 1997; Maslach, Schaufeli, & Leiter, 2001). If I interpret the feelings of isolation noted by Hanson (2009) and Nixon (1996) as a form of detachment, I could infer that there is a shift occurring in academia with strong ties to a loss in autonomy. This idea, however, would require further examination as the body of literature consulted for this review failed to yield findings confirming this.

What is it about technology that empowers or overpowers faculty?

With workplaces and institutions relying increasingly on information technologies and technology tools, Boudreau, Serrano and Larson (2014) posited that employees will need to reconsider, if not change, their work practices. To examine this notion more closely, the authors conducted a case study on identity creation processes in a group of librarians charged with recreating their library to include a new technology-driven information commons. Their findings showed that technology can have a double-edged effect, posing a threat to identity while also opening up opportunities to explore identity by providing new ways for employees to rethink who they are (Boudreau et al., 2014). Findings also showed that the way an organization's members think of their collective group identity within their work carries with it some critical points. Collective group identity heavily influences how workers interpret their job environment and how they formulate and shape their work practices. It is critical for providing the internal stability and guidance necessary for an organization's sense of legitimacy and survival (Tripsas, 2009).

Themes emerged from the Boudreau et al. (2014) study that resonate with what has been seen so far in exploring power, technology, and autonomy in previous sections: a sense of identity and a sense of belonging coupled with required change on the job and the power technology has as a catalyst of change. Boudreau et al. (2014) cited Tripsas' (2009) observations about disruptive innovations, change, and identity, noting that a group's identity grounds them and serves as their guidepost. When disruptive innovations alter the group's sense of direction and purpose, they trigger confusion, forcing members to consider how to change

their existing identity or create a new one (Boudreau et al., 2014; Tripsas, 2009). For higher education faculty seeking to maintain their identity and their autonomy in the face of change through technology innovations, it makes sense to follow Boudreau et al.'s (2014) advice: approach the change process by uncovering the underlying mechanisms in the process. This will help faculty find ways to avoid negative pitfalls during transition in favor of facilitating their efforts to define [or redefine] their identity.

Before examining how best to support faculty processes for establishing or redefining their identity, I first needed to learn more about the impact that technology has on faculty; specifically, when does technology empower them, and when does it overpower them? Selwyn (2003) noted that technology and technological tool implementation will empower or overpower users based on a combination requisite skills and knowledge for using a particular technology coupled with previous experiences and attitudes toward a particular technology or technology tool. Selwyn also noted that what is viewed as “normal” in terms of technology acceptance and use depends on users’ individual thoughts about whether or not a particular or new technology is worth adopting, i.e., the users’ feelings and attitudes about accepting or resisting adoption and implementation of a technology. Psychologists have noted that a range of cognitive and affective factors including perceived ease of use, self-efficacy, perceived behavioral control and perceived ability are important in determining users’ engagement with technology (Selwyn, 2003). These factors point back to earlier findings in this review about the roles of autonomy, choice, and power in relation to technology adoption and use. The literature has shown that users feel empowered or overpowered based on the degrees to which their technology knowledge and skills, coupled with their technology attitudes and past technological experiences, support or threaten their actual or perceived autonomy, choice and power as professionals.

Which findings in the literature indicate how technology empowers and overpowers or disempowers users? Selwyn (2003) noted that most academics have viewed non-use of technology simply as a problem that needs to be solved. Beaudry and Pinsonneault (2010) argued that solving the problems surrounding technology innovations and adoptions needs begins with addressing users’ emotional concerns about technology. Their case study surveyed user’s feelings about technology adoptions in over 200 bank managers and categorized their emotions by type as challenge, achievement, loss, and deterrent. The authors tested a series of hypotheses to examine the correlation between feelings of excitement, happiness, anger and anxiety regarding technology use, technology task adaptation, and technology instrument support. Findings showed that excitement did not play a role in technology use but tied positively to task adaption and seeking instrumental support. Happiness correlated positively to technology use but negatively to task adaption and seeking instrumental support. Anger, while not related directly to technology use, did correlate positively to social support related to technology use. This suggested that user efforts to seek out support acted as a turnaround mechanism for their anger, working to make them feel better, positively reappraise their situation, and follow up on encouragement to use a new technology (Beaudry & Pinsonneault, 2010). Anxiety, categorized by the authors as a deterrence emotion, yielded results that demonstrated very complex correlations to technology:

- The negative direct effects of anxiety on technology use could serve to deter users by reinforcing urges to distance themselves from technology, which would create an

overall effect.

- The positive effect of seeking social support for technology use appears to be stronger than the negative effect of distancing.

These two sets of results demonstrated that the overall relationship between negative emotions and technology use result from a direct negative link between the two as well as from an indirect negative link through psychological distancing and an indirect positive link through seeking social support. According to Beaudry and Pinsonnault (2010), these results are consistent with psychological research indicating that people need to reestablish emotional stability and reduce emotional stress before being able to work on the problems they are facing. In other words, an intrinsic comfort factor goes along in with working with technology. Comfort with technology will foster empowerment in people, and the more comfortable they are with facing technology tasks, the more empowered they will feel.

Why does technology prove to be unsettling and uncomfortable for people? Much of the discomfort that people feel or perceive when faced with new technology stems from either internal or psychological causes or are brought about by barriers to implementation situated in the work environment. Based on the literature reviewed so far, anxiety caused by technology (Beaudry & Pinsonnault, 2010) and fear of technology (Selwyn, 2003), not the technology itself, seem to be the most significant internal causes based on the potential threats they are perceived to cause to one's identity. Selwyn (2003) reported that social psychologists have studied technology-related fear and apprehension as a phenomenon called 'technophobia' which encompasses the fear and apprehension an individual feels when considering the implications of using technology, even when the technology poses no real or immediate threat. According to Selwyn (2003), technophobia clouds one's perception of the technology in question, leaving the individual with the perception that they need to avoid a particular technology because it is 'not for them' (p. 104).

In short, faculty who are not confident in their ability or confidence to handle technology tools, which makes them reluctant to integrate them in their teaching practices (Hanson, 2009; Keengwe et al., 2009). A lack of confidence, anxiety or even fear are not the only causes for discomfort. There are instances where the barriers to technology adoption and integration are rooted in physical or external causes. Keengwe et al. (2009) conducted a case study involving interviews with higher education faculty to shed light on barriers to technology implementation. The results from this study permitted them to identify four factors that affect technology adoption processes for faculty:

- Ill-defined policies and procedures such as motivation, time, and adequate resources;
- A lack of strong leadership in primary technology implementation combined with a failure to clearly articulate the mission, vision, and goals of technology initiatives;
- Training and development lacking guided practice, examples, and remedial support in using technology tools;
- Availability and quality of resources, including up-to-date hardware, current software, and availability of peripherals, technology support, instructional design support, time, and funding.

What can be done to foster comfort in the interest of fostering empowerment?

According to Siddique, Aslam, Kahn, and Fatima (2011), higher education employees need to feel empowered by satisfiers—intrinsic factors that include work itself but also recognition, responsibility, and professional development. At the same time, effective higher education leaders need to work to eliminate dissatisfiers, the extrinsic factors in the workplace: management policy, salary or wage system, working conditions, and working relationships (Siddique et al., 2011). Siddique et al. (2011) also noted that training is one of the most important motivating factors that can help staff polish their present skills while helping them acquire new ones. Beyond feeling empowered, employees of higher education institutions need autonomy in terms of complete professional freedom to perform their jobs effectively (Siddique et al., 2011). The problem, or challenge, is that higher education institutions have experienced dynamic and complex changes over the years. They have undergone a metamorphosis from mere organizations to organizations with stakeholders. This, in turn, created the need for formal leaders (Siddique et al., 2011) and resulted in institutional changes that, while deemed necessary, essentially have taken autonomy away from higher education employees (Neave, 2002; Siddique et al., 2011).

The literature examined thus far in this review has shown that faculty are experiencing changes in identity (Hanson, 2009; Harris, 2005; Kinman et al., 2006) brought about by required changes in their professional practices that, in some instances, are related to technology (Hanson, 2009). This review also has shown that technology plays a role in identity change within organizational groups and larger societal groups (Boudreau et al., 2014; Selwyn, 2003). Based on the literature, the actions of leaders do enter into the nexus of autonomy, power, and technology for higher education faculty, which paves the way for examining how their actions empower and overpower their employees.

In what ways do the actions of university leaders empower or overpower faculty?

I hesitated to word this question in this fashion because I knew it could imply that the faculty are at the mercy of university leaders, which was not my aim. Faculty, in fact, always have, and still do, possess a great deal of power in their own right, beginning with their autonomy. Hendrickson, Lane, Harris, and Dorman (2013) attested to this by noting that among the five distinct characteristics of colleges and universities as noted by Baldrige, Curtis, Ecker, and Riley (1978)—goal ambiguity, client-focused missions, highly professionalized staff, unclear decision-making processes, and environmental vulnerability—professionalism is the most important. These characteristics harken back to Baldrige et al.'s (1978) research on the four aspects of professionalism that affect the interpersonal dynamics of an academic organization:

- The demand for work autonomy;
- The tendency to have divided loyalties between people's discipline and the organizations for which they work;
- The strong tension between professional values and bureaucratic expectations;
- The expectation of professionals to be evaluated by their peers.

Thus far, autonomy has played an active role in this literature review, specifically the value faculty place on autonomy and how they feel when it hangs in the balance or when they have this perception. My next item for discussion centered on examining how administrative leader actions empower or overpower faculty via the two dichotomous relationships—

discipline loyalty versus organizational loyalty and professional values versus bureaucratic expectations. This review does not address peer evaluation—a fourth factor—as it centers only the treatment of power in hierarchical relationships.

Technology innovation and adaption are a result of decision-making in academic leadership. Hendrickson et al. (2013) wrote about the difficulties inherent in leadership in an academic organization. They stressed the importance of having leaders who possess the ability to work in highly professional environments and who recognize how strongly individual autonomy and creativity driven professionalism when exercising one's unique professional knowledge. The balancing act for academic leaders is maintaining organizational control and direction without imposing unnecessary or inappropriate influence on these professional values (Hendrickson et al., 2013). Depending on the context, decision-making in higher education is extremely fluid and dynamic owing to the different leadership roles held at different levels or tiers within the organization, as the decisions facing department chairs are very different from those facing deans or provosts, whose decisions in turn differ dramatically from those made by an academic institution's president. Decisions made at each of these levels therefore are bound uniquely by circumstances, such that no two decisions are made using the same approach (Hendrickson et al., 2013). At the same time, many decision-making processes in higher education are the result of shared governance, particularly in instances where authority is divided between bureaucratic and academic realms of responsibility. To perform more effectively, leaders in academic institutions must therefore learn to frame situations and consider employee motivation factors when making decisions (Hendrickson et al., 2013). One way to do this when working to introduce innovations is to engage in empowered leadership (also known as transformational leadership): create a culture in which employees feel empowered because they are encouraged to discuss issues, present opposing viewpoints freely and to try new things (Hendrickson et al., 2013; Fernandez & Moldogaziev, 2013; Northouse, 2013). An empowerment approach to leadership also includes leading by example, involving others in decision making, coaching, informing, and showing concern for others and helps to foster autonomy (Ahearne, Mathieu, & Rapp, 2005; Arnold, Arad, Rhoades, & Drasgow, 2000; Fernandez & Moldogaziev, 2013). Several authors have conducted studies on the use of empowerment in public organizations and in the nursing field (Fernandez & Moldogaziev, 2013; Orgambidez-Ramos & Borrego-Alès, 2014; Skår, 2010; Weston, 2010; Zurmehly, 2008). Part of the results from each of these studies showed that employee empowerment was one of the strongest predictors of job satisfaction. This aligns with Seibert et al.'s (2011) finding that empowerment coupled with job satisfaction helps fulfill an employee's intrinsic need for autonomy; in turn, this highlights the importance of autonomy and lends support to my argument that protecting autonomy is an extremely important part of any technology implementation process.

The literature examined thus far has shown that there is a fine line between empowering and overpowering faculty in terms of protecting their autonomy. This leads to my next question: what must academic leaders do to safeguard faculty autonomy and simultaneously satisfy academic and bureaucratic decisions to move forward with technology innovation and adaption? A transformational or empowering leader must take steps to create a culture in which employees feel valued, empowered, and free to try new things but, as Keengwe et al. (2009) noted, simply investing in technology or increased technology investments does not assure

appropriate and effective technology implementation. Hall (1974) suggested decades ago that more attention needs to be placed on organizational development when an institution seeks to adopt educational innovations, and authors today still concur with this (Hasanova, Kotova, & Kandrashina, 2016; Yamagata-Lynch & Luetkehans, 2014). Put simply, academic leaders need to take steps to engage in training that develops their employees in ways that give them a sense of identity within the organization and provide them with a sense of self-efficacy (Northouse, 2013). Participant responses in the Keengwe et al. (2009) case study showed that training and development are essential to the success and failure of technological adoptions in higher education. These findings helped Keengwe et al. formulate technology innovation and adaption recommendations that correlate to transformative leadership behaviors in ways that help leaders shape their institutions and protect faculty autonomy when identity changes within the organization:

- Involve all stakeholder, faculty, administration, trainers, information technology personnel, and, in some part, the students.
- Provide a series of professional development and training sessions aimed at assisting key users with uncertainties related to technology innovations and their adoption. Ensure that these sessions provide support, encourage users, and extend resources to the continuous process of training and professional development.
- Ensure that all training and development plans connect to the data collected during the needs assessment stage.
- Introduce users to the technology and the training and professional development plan designated for implementation during the early part of the adoption process.
- Facilitate an environment of effective technology adoption for users that includes technology and instructional training for faculty. Doing so allows faculty to gain familiarity with the technology and its potential uses, learn the technology, and use it effectively.
- Ensure training is relevant and current to faculty needs.
- Remain open to including face-to-face interaction as well as online training to help faculty learn more effectively. (Keengwe et al., 2009)

Conversely, Mishra, Anderson, Angst, and Agarwal (2012) made recommendations for what leaders can do to avoid overpowering faculty was succinct: strive to be conscious of what it means to maintain one's autonomy, and act and interact with faculty in that spirit in the interest of avoiding 'identity deterioration'. Mishra et al. introduced this concept and defined these parameters as a reflection of compromised autonomy and status resulting from their study on IT implementations. The Mishra et al. recommendations for keys to a more successful technology innovation and adaption resonate with the Keengwe et al. (2009) study. Keengwe et al. drew on results from earlier studies and the interview results from their own study to generate advice designed to safeguard against pitfalls in the technology implementation process:

- Recognize that technology familiarity mistakenly can be understood as technology proficiency. (Keengwe et al., 2009)
- Avoid requiring faculty to prepare students to use technology effectively while they themselves still are relatively new to different technology uses; they may lack the personal experience themselves of being learners in technology-driven settings. (Jacobsen, Clifford, & Friesen, 2002)
- Recognize that integrating technology tools, particularly into instruction,

challenges prevailing traditional faculty practices. (Anderson, Varnhagen, & Campbell, 1998; Pope, Hare, & Howard, 2002).

The Keengwe et al. case study (2009) is highly cited in this literature review as it offered the most informative and the most relevant recommendations specific to technology innovation and adaption in the higher education setting. The section that follows will take the findings about power, empowerment, technology, and leadership from all previous sections in this literature review and attempt to align these findings using recommendations from sociology and qualitative psychology to highlight potential gaps in the literature and make recommendations for future studies centered on preserving faculty autonomy in the 21st century.

Power, empowerment, leadership, and technology for 21st century faculty autonomy

Kardasz (2013, p. 43) asked, “What are the best approaches for encouraging the diffusion of a new instructional technology among faculty members in higher education?” I think the question needs to be modified and expanded to read “Taking into consideration factors such as power, empowerment, and leadership, what are the best approaches for encouraging the diffusion of technology among faculty members in higher education while also working to preserve their autonomy?” In my mind, Hall made important and accurate observations about technology innovations and adaptations decades ago that still apply today:

What we are attempting to study and describe is the highly personal, dynamic, interactive process and events that occur when educational institutions adopt complex educational innovations. We do not see adoption as being an event at a point in time; rather, we see adoption as a developmental process that individuals and institutions move through as they select, install and institutionalize use of an innovation. The mechanisms that underlie this process are important to uncover so that practitioners and researchers alike are able to discern ways to avoid the negative pitfalls of such transitions and instead facilitate the group members' journey in defining who they are. (1974, pp. 1-2)

Hall also stressed the importance of uncovering the mechanisms that underlie technology adoption processes. Boudreau et al. (2014) did just that while studying concepts of group identity related to technology implementation processes. Their study found that both internal and external awareness and perceptions of a group's identity during innovation transitions is important. The authors noted that innovations possess the capacity to disrupt a group's sense of direction and purpose, trigger confusion, and force members to consider changing their identity or creating a new one. They labeled this process ‘image conflict’ and described it as the misalignment between identity and image that the group experiences while coping with any positive, neutral or negative image perceptions impacting the provisional and transitional stages of their identity change (Boudreau et al., 2014). The authors found that image conflict helps establish a new provisional identity, which in turn helps generate new external images of a group's identity as a part working to establish a changed or new identity. They also found that that group identity is the result of two dialectical processes—one between provisional identities and image conflict, and one between past and future orientations. Findings by Boudreau et al. (2014) are supported by previous studies on social cognition theory (Gioia & Thomas, 1996; Kezar, 2014; Wenger, 1998) that have described the power of social interactions for creating change and have argued the importance of social cognition models in examining

how mental processes and mental models shape people's ability to engage in a change initiative. Their findings are significant in that this is the only study of its kind that has examined identity and image as underlying forces in creating group identity using a social constructionist perspective (Boudreau et al., 2014). This indicates that there is room for more research in this field using constructionism as the theoretical framework.

Common research observations and findings emerged from this literature review. Many authors (Boudreau et al., 2014; Hanson, 2009; Harris, 2005; Keengwe et al., 2009; Kinman et al., 2006; Neave, 2002; Selwyn, 2003; Siddique et al., 2011; Singh, 2013; Tripsas, 2009) stressed the need to attune to identity and autonomy in any change situation. They noted that people's feelings and perceptions about technology and about themselves, not the technology itself, are the sources of disruption and negative feelings in the face of technology innovations and adaptations. They also noted that change can challenge identity. According to Boudreau et al. (2014), how organizational members perceive themselves is intertwined with their work practices; they need permission to adapt their work practices over time to better cope with the impact of changes on their professional identities. Therefore, organizations need to consider allowing groups to keep certain linkages with their past identities (who they were) while working to foster a future orientation of their desired new identity (who they could be), an approach that could facilitate a group's efforts to establish a new identity (Boudreau et al., 2014).

Stated differently, instead of viewing technology implementation as a responsibility to be carried out using power, leaders in higher education need to approach technology innovations and adaptations with the idea of imparting knowledge to empower faculty. Al Lily (2013) examined the impact of technologies on social fabric and advocated participatory planning and development processes for technology implementation. He argued that different categories of users need to be involved and need to be able to express feelings, articulate needs, and negotiate interests to arrive at a fuller understanding of these groups' needs, thus overcoming what technologically constrains them and therefore ensuring that the technological shaping of society does not oppress them. Based on the findings by Boudreau et al. (2014) and Al Lily (2013), I advocate training for faculty empowerment based on implementing technology in ways that value faculty and their existing skills and knowledge sets and support them in training for growing their technology knowledge. On the surface, training for implementation would need to include opportunities linked to Bandura's (1977) social learning theory of learning through direct observation and modeling in the interest of increasing self-efficacy. On a deeper level, taking this approach to technology implementation training would underscore Rowlands' (1995) idea that precise and deliberate use of empowerment helps to focus thought, planning, and action in development while also highlighting knowledge as a facilitator of change. This approach also would require emphasis on individual faculty training and would need to address diverse learning needs among faculty members. It also holds promise for helping to maintain faculty autonomy in technology diffusion practices. This approach would help faculty perceive new knowledge as a facilitator of change while also demonstrating an external understanding and reaffirmation of their function within their professional field, one that speaks to the importance of recognizing and working with diversity as a part of an innovation diffusion (Gemignani et al., 2014; Giardiana & Laurendeau, 2013).

Conclusions and recommendations

The Boudreau et al. (2014) study emerged as highly significant in this literature review for many reasons. This thirteen-year study was the only longitudinal study that examined the effects of information technology on identity in a higher education setting. While this study focused on the professional setting and experiences of librarian culture, it carried strong support for the idea that technology implementation impacts professionals over time and has the potential to contribute dramatically to the creation of a new identity for individuals within groups as well as for groups at large. To offset the perceived threat of technology as a disempowering force, study participants first had to acknowledge notions of who they were in face-to-face patron interactions prior to the technological infusion, then recognize that technology had helped embody who they had become as their paradigm shifted to a hybrid of face-to-face and virtual interactions with patrons. This does not differ greatly from the challenges faculty face when they feel that required technology implementations pose a threat to their autonomy. Hanson (2009) noted that faculty perceived technology implementations as a threat to their autonomy because they perceived its use as a means of exerting power over them to force change in their teaching approaches. The requirement to shift from face-to-face to online instruction significantly changed the ways they were accustomed to interacting with students and presenting course material— both integral parts of their traditional or past autonomy. Several authors (Al Lily, 2013; Beaudry & Pinsonnault, 2010; Faulkner & Runde, 2013; Briggie & Mitchum, 2009; Keengwe et al., 2009; Kezar, 2014; Leonard, 2012; Selwyn, 2003; Singh, 2013) noted the ability of technology to frame social actions and emphasized the importance of considering users' perceptions of and emotional concerns about technology when implementing change. Based on these works, I drew the following conclusions about power, technology implementation, and leadership situated around faculty autonomy in higher education:

- Change needs to be gradual when possible.
- Change often requires an element of change in one's identity.
- Change requires sensitivity to faculty mindsets and emotional issues that people may feel or express as change occurs.
- Change requires understanding that there will be resistance along the way.
- Change requires support to help faculty feel empowered instead of overpowered.

I used the insight from these conclusions to return to the questions presented for consideration at the beginning of this review:

- To what extent do faculty condone technology and accept it?
- Where do faculty members' limits for technology integration and tolerance in their professional lives lie?

Selwyn (2003) suggested viewing technological innovations and adaptations through what Rogers and Shoemaker (1971) termed 'relative advantage' or the concept of 'sense'. According to Rogers and Shoemaker, 'relative advantage' is an individual's perception of the worth of adopting an innovation (or not) in terms of economic and/or personal cost; 'sense' is the concept whereby things that make sense to the individual do so only in relation how they view their own experience as relevant and useful. I maintain that the terms 'relative advantage' and 'what makes sense' are subjective expressions; what benefits, is relevant to, or makes sense to educational leaders to use in the work environment may not be viewed as such by everyone in their department or organization. Selwyn (2003) cited Chatman (1996) as saying that perceiving

a source as potentially useful is of no good to anyone if it has not been legitimized by contextual others. Selwyn (2003) stated that an important component of this legitimacy is rooted in the degree to which an individual accepts or rejects technology use. This could have very important consequences for the work setting in many ways. Individuals are free to exercise relative advantage when choosing the extent to which they use technology in their personal lives, but they may have little or no choice about its degree of implementation within the context of their professional settings (Selwyn, 2003). Based on the body of literature consulted for this review, it appears that relative advantage, resistance, challenges, and fear of technology all harken back to a trinity of issues involving power and empowerment, leadership structure in terms of structure and agency, and technology in terms of users' perceptions of how it is being used, by whom, and for what purpose. Seibert et al. (2011) found that empowerment is associated with job satisfaction and organizational commitment. This is an important connection, as employees experience job satisfaction when their on-the-job needs are being fulfilled (Seibert et al., 2011). Opportunities to experience competence and control at work will contribute to job satisfaction and to their psychological empowerment, such that they are likely to experience more intrinsic need fulfillment through work and therefore report higher levels of job satisfaction. An employee's feelings of autonomy, competence, and impact are likely to increase their commitment to an organization, as they will further enhance the ability of the individual to express his values and interests through his work (Seibert et al., 2011). Orgambidez-Ramos and Borrego-Alès (2014) found that empowerment becomes important at individual and organizational levels based on the increasing number of organizations are seeking employees who are willing to take the initiative and respond creatively to job challenges. Technological inventions and advancements will continue to bring change to the higher education workplace. Based on this review of the literature, current organizational mental models expect faculty to work to overcome challenges and accept technology willingly for the changes it can bring about in their professional practices.

As literature addressing the connection between empowerment and autonomy in higher education, I deemed it necessary and relevant to include literature from outside the field to suggest avenues for future research in this field. In their review of nursing literature, Orgambidez-Ramos and Borrego-Alès (2014) found that that empowerment as defined by Kanter's (1993) theory relates significantly to nurse autonomy, and they encouraged further investigation to determine whether Kanter's theory is generalizable to the professional experiences of university faculty. I propose that higher education faculty value their autonomy and fear losing it together with their professional selves and identities at some point in technological innovation and adaption processes. This may be less likely to occur if, as noted earlier, they feel empowered for optimal job performance versus constrained or overpowered and unable to act (Kanter, 1993; Laschinger et al., 2014; McDermott et al., 1996; O'Brien, 2011; Orgambidez-Ramos & Borrego-Alès, 2014; Rowlands, 1995; Spreitzer, 1996). Hall (1974) noted that innovations are more likely to take root when users are given a supportive environment, more effective means of communication and the development of norms that support individual effort. Keengwe et al. (2009) made very specific recommendations for technological innovations in higher education settings. The authors stressed the importance of providing faculty with relevant and current technology tools, best practices, and strategies when appropriate. They suggested that administrative leaders need to consider hiring instructional design or technology support personnel dedicated for specific college needs and departmental

needs to provide faculty with instructional design support personnel as well as timely technology support assistance. They also recommended providing grants or other supplemental funding to support faculty adoption of technology tools. Hall (1974) initially suggested that technology adoptions have not been sufficiently examined as a developmental process, one in which the concerns of the individual user and the relationship of his or her concerns to using new technology play a major role. The above recommendations from Keengwe et al. (2009) coupled with earlier discussions surrounding Boudreau et al.'s (2014) findings for success over time seem to substantiate a very real need to examine technological innovation and adoption as longitudinal processes, not just a product rollout.

I conducted this literature review hoping to learn more about higher education faculty perceptions of technology implementations. I hoped to find literature that addressed to what extent they condone and accept technology, to what extent they tolerate it in their professional lives, and at what point they feel it necessary to impose limitations on technology integration in their professional lives. My efforts failed to produce any such findings. Instead, this literature review served to identify potential areas of research for implementing technological innovations and adaptations in higher education settings. I learned that much of the research in this field focuses on processes for rolling out products without addressing the psychological and social constructivist factors at work that stem from the users themselves. Too often it seems that the emphasis placed on technological tools themselves implies that technology is here to supplant what we do instead of enhance what we already know how to do or provide us with another approach for performing tasks in the workplace. Gemignani et al. (2014) noted that a similar phenomenon has been at work for decades in psychology, a discipline “in many ways founded on qualitative studies of human lives and experiences” (p. 112). The authors argued that psychology needs to be studied qualitatively by studying human lives contextually, and I would argue that many aspects of technology implementation need to be studied similarly in ways that examine the phenomena that occur when humans, who are living, breathing, emotional beings, strive to make meaning from chosen or forced interactions with inanimate technological tools. Lowyck (2014), van Merriënboer and de Bruin (2014), and Foshay, Villachica, and Stepich (2014), who represent a large handful of experts in the field of instructional technology design, all stressed the importance of using learning theories, social schema and constructivist perspectives on learning to bridge the gap for learners in technology-enhanced environments. The authors built solid arguments to this end by drawing on seminal instructional theory research by Gagné (1968, 1974), Piaget (1952, 1975) and Vygotsky (1962, 1978) coupled with seminal instructional technology research by Merrill (1984). I recognize that this literature review, while comprehensive, is by no means exhaustive; I failed to find literature attuning specifically to technology implementation based on the social and psychological needs and perceptions of higher education faculty users. Unless I miss my mark, future studies in this field are ripe for exploration using qualitative methodologies grounded in sociology and qualitative psychology coupled with the foundations and methodologies used to lay groundwork in the fields of educational, instructional, and communications technology. I believe that there is much to learn and understand about technology implementation using these frameworks. I also believe that they hold great promise as research tools in discovering how to minimize faculty resistance to technology.

Technology implementations in higher education settings show no signs of slowing

down. This literature review has documented faculty understanding about expectations for adding technology tools to their professional repertoire. It also has documented ways that faculty in the 21st century perceive technology as a very real threat to their professional livelihood. I recommend expanding research in the field of technology implementation to include studies that examine and strive to make meaning of the psychological processes at work that underlie technology implementation processes, particularly those that faculty view as real or perceived threats to their autonomy and their professional identity in the higher education institutions of the 21st century. Doing so may prove seminal in uncovering new steps toward best practices in technology implementation, ones that may help to eliminate feelings of push and pull in the organizational chart or Panopticon-like feelings of disindividualization in an effort to empower faculty, strengthen their sense of identity, and help them retain their autonomy well into the years ahead.

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