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Effectively Implementing Policies That Mandate the Use of Technology—A Grounded Theory Study[1]

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Abstract

A challenge faced by organizations globally is a workforce reluctant to use collaboration tools. Leaders invest large percentages of their budgets in information technology (IT) solutions, but often see little in return (Tirgari, 2012). The purpose of this grounded theory study was to explore how employee perceptions about organizational policies that mandate the use of technology affect the acceptance, use, and perceived productivity thereof. Eighteen participants of a major IT command responded to nine open-ended interview questions. Data analysis involved open, axial, and selective coding of the participants' responses, which produced three major themes and 13 sub-themes. The three major themes were leadership, policy, and mandated tool. The findings from this study offer leaders a theory that proposes numerous ways to more effectively implement organizational policies that mandate the use of technology. By following the recommendations of this study, leaders can expect gains in compliance and worker productivity.

Introduction

In today's global economy, organizations are becoming increasingly geographically dispersed and, therefore, have come to rely on technology for communication and collaboration (Kirkman et al., 2002; Saraswat, 2012). Interest and research have shifted specifically to knowledge management (KM) and collaboration tools for effective information sharing within organizations (Hew & Hara, 2007; Kim & Lee, 2006). Leaders must understand how their policies affect employees' use of these tools and their resultant perceived productivity (Garicano & Heaton, 2010). Although information technology implementations may by themselves increase productivity, if they are not complemented by organizational policies, these productivity gains are less significant (Garicano & Heaton, 2010). Conversely, IT implementations have been shown to hinder productivity if complementing policies are not in place (Thielst, 2007). Therefore, organizational policies play an important role in how productive employees will be when using technology (Tirgari, 2012).

In the organization that was studied, a large Department of Defense (DoD) IT service provider pseudo-named ITCOM (IT Command), leaders established formal policies that require employees to use the collaboration tool Microsoft SharePoint for specific tasks such as routing documents, sharing intellectual property within the community, daily check-ins, and posting announcements. This study explored, qualitatively, how these policies affected employee use of technology and the workforce's perceived productivity. Understanding how policies affect their workforce will provide leaders with the necessary insight to implement policies for maximal effectiveness. This knowledge will allow leaders to adapt how they

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[1] This paper is a summary of Dr. Drennan's dissertation.

structure their policies and implement them in a manner that will improve worker receptiveness and, thus, increase worker productivity.

Background of the Problem

To become more efficient, organizations are continually automating tasks that were once accomplished manually, often in a face-to-face fashion (Austerberry, 2011; Reichley, 1997). For example, instead of routing a form through a lengthy approval process by carrying it to each approving individual's desk for signature, workflows can be implemented in SharePoint that automatically route forms electronically in a more efficient matter. Introducing technology into every day work results in a significant change for employees, not just in how they do their work, but also in their organizational culture (Borck, 2001; Malik & Danish, 2010; Nunamaker, Reinig, & Briggs, 2009; Walsh & Maloney, 2007). People have difficulty with accepting change, and changes that involve technology are even more complex to manage (Sun & Zhang, 2005; Yi et al., 2005).

Because of people's inherent resistance to change, employees are not likely to embrace newly automated processes (Long & Spurlock, 2008). To ensure that employees do, in fact, make use of new technologies, some employers are forced to mandate the use of newly implemented tools (Sun & Zhang, 2005). After making significant investments in technology, leaders expect to see a return on their investment, such as increases in efficiency or productivity (Reichley, 1997; Sun & Zhang, 2006). However, employers who mandate the use of technology can expect to be faced with further resistance (Sun & Zhang, 2005). Therefore, leaders may create organizational policies that require employees to use technology for specific job functions (Garicano & Heaton, 2010; Nyström, 2006).

These policies may be distributed via technology, such as e-mail or a notification portal like SharePoint, or be shared face-to-face. The manner in which these policies are implemented can significantly impact employees' use or refusal to use technology (Sun & Zhang, 2005). If employees feel that they were not involved in the change, or do not see the value in automating a process, they will likely resist the implementation (Chin, 1998). However, if policies were implemented in a more effective manner, employees will likely perceive them more positively and will be more likely to comply with them (Tirgari, 2012).

Purpose of the Study

The general problem that created the need for this study was the desire to understand the role that policy plays in technology usage. Organizations worldwide rely on collaboration tools for both knowledge management and knowledge sharing, and although the correct technology may be implemented in an organization, employees do not use these systems effectively, if at all (Germain, 2011; Nyström, 2006; Qureshi, Liu, & Vogel, 2006; Workman, 2007; Zivick, 2012). A number of hindrances contribute to this situation, such as a lack of management commitment, the employees' expectations, reward systems, and training (Kim & Lee, 2006; Nyström, 2006). Although previous studies have thoroughly explored a number of these obstacles, very little research exists on the relationship between organizational policies and IT implementations. To fill the gap in the body of knowledge, this grounded theory study explored how organizational policies that mandate the use of technology impact employees' use of said technology and information sharing and whether employees perceived themselves to be more productive.

Significance of the Study

To achieve the maximum benefit from technology implementations and to be globally competitive, leaders must understand how their policies affect employees' usage of tools

and resultant perceived productivity. Every year organizations spend a large amount of their budgets on IT, but they do not get the expected return on investment (Tirgari, 2012). The results of this study may help in the recovery of some or all of this investment.

Previous studies have examined obstacles to the use of technology (Zawawi et al., 2011), but they have not explored how employees' perceptions of policies can affect their use of technology and resultant productivity. Existing research has identified that employees may be reluctant to use the tool for a variety of reasons. Employees may not have been involved in the implementation, fear losing their job, or lack the skills necessary to interact with the system (Kotter & Schlesinger, 2008; Nyström, 2006). These studies have also identified that management support is essential for employee buy-in, but they have not examined the employees' perceptions of implemented policies or how those perceptions affect productivity (Garicano & Heaton, 2010; Kotter & Schlesinger, 2008; Long & Spurlock, 2008; Malik & Danish, 2010; Nyström, 2006). Previous studies also have not used a grounded theory approach to study this particular phenomenon. The grounded theory (GT) method has become more relevant to IS research in recent times and should be the likely choice when researchers see truths as socially constructed and when representation is depicted as a distributed systems phenomenon (Bryant, 2002; Urquhart, Lehmann, & Myers, 2010).

A literature review revealed that previous studies fail to provide a deeper understanding of the role that organizational policies play in the interaction with and use of technology. Individual perceptions about policies, whether positive or negative, may impact the effective use of tools. Understanding the relationship between perceptions of policies and perceived productivity is critical to better managing employees. Leaders must create policies that effectively encourage the use of technology and, more specifically, collaboration tools (Tirgari, 2012). Thus, this study contributed to the body of knowledge by developing a theory about how leaders can create and implement organizational policies that will achieve a high level of compliance and encourage the productive use of collaboration and knowledge management tools (Tirgari, 2012).

Literature Review

The literature review is divided into the following sections: globalization, information technology, and virtual collaboration; global virtual teams (GVTs); barriers to IT implementations and information-sharing; successfully implementing collaboration tools; and factors for successful policy implementations.

Globalization, Information Technology, and Virtual Collaboration

As organizations have become increasingly globally dispersed, work team structures have changed from being co-located to being virtual and thereby reliant on technology for communication and collaboration (Germain, 2011; Qureshi et al., 2006; Workman, 2007; Zivick, 2012). Instead of traditional face-to-face meetings, colleagues use video teleconferencing to meet virtually, independent of time and space (DeRosa et al., 2004; Lomas, Burke, & Page, 2008). Fifty to 80% of organizations have teams and at least 61% of employees within large organizations have been part of a virtual team (Germain, 2011).

Team members must collaborate to share information and produce quality work (Durugbo et al., 2011). Collaboration changes the structure and behavior of organizations as a result of pooled expertise and standardized work patterns (Durugbo et al., 2011). Instead of solving problems individually, employees must work together to solve a problem or achieve a common goal (Durugbo et al., 2011; McShane & Von Glinow, 2004). For example, to successfully launch global products, prices, associated services, and technical support,

as well as the development of the products themselves, must be coordinated amongst distributed teams (Harvey & Griffith, 2007). The most effective way to do this is through virtual global teams (Harvey & Griffith, 2007). Because these teams consist of culturally diverse, geographically dispersed members, they have a globally diverse perspective (Harvey & Griffith, 2007). However, they have to think in concert to achieve their goals (Harvey & Griffith, 2007). Global virtual teams allow organizations to respond quickly to changes in the marketplace (Beagrie, 2005; Zivick, 2012). Since GVTs are geographically independent, the most skilled workers can be assembled to solve problems (Zivick, 2012). Organizations also save significantly on travel costs by implementing GVTs (DeRosa et al., 2004; Zivick, 2012).

Thus, the way information is shared has also changed significantly. Although e-mail is still a common form of communication, collaboration tools have become widely used for sharing and distributing information (Lomas et al., 2008). Collaboration tools offer a number of benefits to globally dispersed teams. Teams may easily share documents, enforce versioning control, communicate via instant messaging and receive instant feedback, and access their tools from any place at any time (Lomas et al., 2008). Lomas et al. found that collaboration tools, such as instant messaging and video chat, can lead to an increase in sharing personal information amongst students, which can enhance their ability to work together effectively as a team and increase productivity. In virtual business environments, team building can therefore also occur through use of these tools, leading to more effective teams.

Turban, Liang, and Wu (2010) found that social tools, which are composed of wikis, blogs, social networking platforms, and discussion forums, are also used by virtual teams within businesses for decision-making. When using these tools, no team member has to be physically present, and, thus, the decision-making process is expedited, compared to decision-making in traditional settings, where discussions are held in a conference room (Turban et al., 2010). Turban et al. confirmed that collaboration tools do indeed provide numerous benefits for group decision-making, such as expedited information sharing, increased individual input, accelerated decision making, prioritizing and analyzing of solutions, and greater participation.

In a series of in-depth studies of students' perceptions and use of technology, Conole et al. (2008) found that when multiple types of technology are available in learning environments, students will choose the technology most appropriate to their learning needs. Distributed collaborations available from mobile devices, the Internet, and social software changes the way students interact and learn, as well as how they consume and share knowledge (Conole et al., 2008). As these students enter the workforce, they will communicate and collaborate much differently than will their older counterparts (Conole et al., 2008). For these individuals, the time it takes to train on how to use collaboration tools will be significantly shortened; however, they may not be as effective in communicating with their colleagues who are from an older generation (Conole et al., 2008).

Tang and Austin (2009) determined that different types of technologies have varying effects on individuals. In a study of business students, video offered the greatest level of enjoyment, Microsoft PowerPoint improved motivation and learning, and Internet usage was most applicable to future jobs. Further, individual preferences vary by age (Tang & Austin, 2009). Younger generations prefer video, while older generations prefer lectures (Tang & Austin, 2009). By using a mix of technologies, professors can reach the widest audience and increase motivational and learning levels (Tang & Austin, 2009). Although this study was conducted at a university, it is relevant to business leaders. Understanding how different types of technologies affect workers' perceptions can help them address problems

in the use of technology and its effectiveness (Tang & Austin, 2009). For example, if instructional videos are used to train users on technology, managers may find that instruction through PowerPoint might be more effective (Tang & Austin, 2009). Being aware of technology preferences by age groups can also help leaders better understand resistance to technology and address employees' needs in a more meaningful way (Tang & Austin, 2009).

Global Virtual Teams

Challenges for GVTs

GVTs face a number of challenges, from creating trusting relationships (Germain, 2011) to general confusion, employee isolation, cultural differences, language barriers, and technological breakdowns (Holland, Malvey, & Fottler, 2009). Some of the ways that managers can address these challenges are through building team identity with an initial face-to-face meeting; promoting open lines of communication with all team members; being easily accessible during working hours; building individual and team trust; developing a sense of team community by identifying and recognizing cultural differences; becoming familiar with the background and experience of each team member; and offering one-on-one meetings with team members, if necessary (Holland et al., 2009).

Although technology seems to offer numerous benefits to virtual teams, there are more than a few disadvantages. Galleta and Zhang (2006) found that technology can be an impediment to good communication if team members do not understand how to use a tool correctly. Additional studies show that employees may lack the proper training or skills to successfully use technology (Bergiel, Bergiel, & Balsmeier, 2006; Chong, 2005), or their personalities may not be amenable to this type of work environment (Bergiel et al., 2006). They may also be resistant to its use because they consider it a threat to their livelihood or because their buy-in to the technology was never obtained, according to Long and Spurlock (2008).

Borck (2001) discovered that because knowledge management tools significantly change employees' work habits, their implementation may be unwelcome. Further, older business leaders may not understand technology well enough to truly make it useful within their organizations (Bergiel et al., 2006). Lanubile et al. (2010) found that new tools must address concerns for incompatibility, be introduced stepwise, and need to be well-supported to be effective.

According to Bushnell (1999), incorrect implementations or functionality problems can hinder the use of technology. Configurations may be wrong or availability may be limited. Based on a survey of IT engineering managers, only 15% were satisfied with their tool's performance, largely due to incomplete implementations of capabilities (Chin, 1998). Brown et al. (2002) found that ease of use and overall usefulness are the primary reasons for users to adopt technology. However, Brown et al. (2002) determined that the mandated use of technology changes the employee/technology relationship, affecting the underlying reasons for technology acceptance. In voluntary-use environments, technology's perceived usefulness is the primary reason for adoption (Brown et al., 2002; He, Fang, & Wei, 2009). When technology use is mandated, individual feelings are irrelevant (Brown et al., 2002). Johnson and Howell (2005) found that when students were required to use a specific type of technology tool, they had a more favorable attitude towards technology and were more likely to use other types of computer-based applications.

Elmholdt (2004) criticized KM tools because he found them to be incompatible with normal knowledge and learning activities. He believed that tacit knowledge cannot be explicated through the application of IT (Elmholdt, 2004). Elmholdt posited that KM

technology lacks content-rich information that is present in collegial networks. Further, he believed that the control and ownership associated with this type of technology subjectifies employees as replaceable resources (Elmholdt, 2004). Employees will therefore resist the implementation and use of KM technologies (Elmholdt, 2004).

Creating Successful GVTs

Brake (2008) discovered that because collaborating online is very different from collaborating in person, certain rules for procedures and purpose must be established and agreed upon for teams to work as cohesive units. The way people express themselves in writing has different requirements than do in-person interactions. Team members must also be aware of cultural differences to ensure a respectful relationship exists (Brake, 2008). For example, when addressing someone from Germany, a more direct approach is effective. That same approach would be disrespectful if used when communicating with an Arab.

A study by Rahmati, Darouian, and Ahmadinia (2012) showed that the organization's culture, consisting of values, beliefs, practices, and behavior, shape the behavior of team members. The behavioral norm within an organization directly relates to the norm within teams, dictating which types of behaviors are acceptable. Numerous studies have shown that proper management of organizational cultures is critical for teams to succeed (Brake, 2008; Chong, 2005; Nemiro et al., 2008).

Dubé and Paré (2001) found that different cultural backgrounds and communication styles of individuals in global virtual teams often clash with organizational management styles. To address this problem, the researchers recommended that cultural diversity training be a requirement for GVT members and believe that this training is essential for the success of GVTs (Dubé & Paré, 2001). The training should include many basic elements, such as accountability, expected behaviors, normal working hours, level of involvement, and performance requirements (Dubé & Paré, 2001). Further, trainees must learn how decisions are made, how conflicts are resolved, and how work will be reviewed and approved (Dubé & Paré, 2001). Leaders must also address language and IT proficiency, as well as the technology's accessibility, reliability, compatibility, and its appropriate use (Dubé & Paré, 2001). Distributed teams cannot function effectively if they rely on technology and said technology is only available during limited hours (Galleta & Zhang, 2006). Virtual teams need 24/7 availability of tools to function effectively.

Workman (2007) determined that the differences between the culture in virtual teams and the local organizational culture can also challenge team members. While trying to address situations in their local organization, team members have to work on global problems (Workman, 2007). Formalizing their process structure by making it means-focused versus ends-focused increases both the quality and quantity of work performed by virtual teams (Workman, 2007). Political structures only mildly increased quantity but did not affect quality, but teams that sought information/clarification about their roles and responsibilities improved on both quality and quantity (Workman, 2007). Further, when interpersonal relationships were closely linked to the teams, they had higher quality and quantity output (Workman, 2007). Finally, more tightly controlled teams outperformed loosely controlled ones (Workman, 2007).

Zivick (2012) posited that leaders need sufficient resources to fund their teams and all their requirements to include technology, training, and support. Further, leaders must establish a clear linkage from the teams' goals to the organizations' goals and missions (Zivick, 2012). Doing so gives teams legitimacy and lessens confusion amongst team members (Zivick, 2012). Managers must empower their team members, provide regular feedback, and create a positive, trusting, and structured work environment (Zivick, 2012). By

establishing standardized work practices, team socialization norms, and explicit roles and responsibilities, managers can further ensure the success of their teams (Zivick, 2012).

Barriers to IT Implementations and Information Sharing

As with any organizational change, the implementation of collaboration tools will encounter employee resistance. The biggest barriers to IT implementations are not their cost or problems with the technology itself, but rather user resistance, according to Chin (1998). Long and Spurlock (2008) discovered that when implementing IT, leaders face additional challenges. Numerous studies stressed the importance of clear communication and training as being key success factors in managing the acceptance of technology-driven change (Borck, 2001; Chin, 1998; Cogburn & Levinson, 2008; Long & Spurlock, 2008). Long and Spurlock posited that, as with any communication, each worker will interpret any given message differently, based on his or her frame of reference. To effectively communicate, the sender must understand how to best approach the receiver of the message (Long & Spurlock, 2008). According to Long and Spurlock (2008) and Yu (2009), good leaders will learn how to build relationships with their employees, and this relationship must be based on trust. From these relationships, leaders can gain insight into individual preferences, motivations, and resistances to change which they can then address appropriately (Long & Spurlock, 2008).

Hew and Hara (2007) identified that different types of knowledge exist and are shared and that motivators and barriers to information sharing vary amongst career fields. Previous studies have explored online knowledge sharing, but failed to categorize the types of knowledge shared (Hew & Hara, 2007). In their case study, Hew and Hara found that the types of knowledge shared, as well as the barriers and motivators to knowledge sharing, differed by the three professions they studied: Web development, advanced nursing, and literacy education. By observing their study's participants while they were engaged online and by using semi-structured interviews, the researchers found that practical knowledge was most commonly shared (Hew & Hara, 2007). Hew and Hara also identified the most common motivator to knowledge sharing to be reciprocity; the six other motivators were personal gain, collectivism, altruism, respectful environment, personal interest, and technology. The eight barriers were lack of time, a negative attitude, technology, unfamiliarity with the subject, confidentiality concerns, not wanting to cause a fight, and the perceived inability to make use of knowledge (Hew & Hara, 2007). Surprisingly, technology was both a motivator and a barrier to knowledge sharing. By understanding how their employees are affected, what motivates them to share, and what causes them to withhold from sharing, leaders can address these factors so that successful collaboration will occur. Further, as IT matures, user satisfaction and service quality increase and a more positive team-oriented culture results (Hartman et al., 2009). Nevertheless, Mohd and Mohamed (2009) noted that users' resistance to technology does not affect their performance.

Paghaleh, Shafiezadeh, and Mohammadi (2011) identified cultural and political perspectives as impediments to knowledge sharing. They stated that although technology may be readily available in organizations, it may not be used at all (Paghaleh et al., 2011). Therefore, simply implementing it without properly addressing the motives for resistance is a worthless endeavor. Paghaleh et al. found that workers guard knowledge closely because it can be used to gain a competitive advantage. Further, even though technology makes knowledge sharing easier by crossing hierarchical boundaries, informal individual and social networks dictate what is shared and with whom (Paghaleh et al., 2011). By creating an organizational culture that encourages cooperation and sharing and instituting motivational programs that reward team achievements rather than individual efforts, organizations can overcome resistance to information sharing (Paghaleh et al., 2011).

Successfully Implementing Collaboration Tools

As work environments change as a result of IT implementations, organizational cultures must change accordingly. Research shows that organizational cultures must become learning cultures that embrace change (Alcantara, 2009; Malik & Danish, 2010). Workers must be open to new ways of communicating, learn new ways of performing work through the use of technology, continue to develop new skills, and not live in fear of technology. Organizational cultures that support these elements must then be complemented by organizational policies that reflect a changing culture, according to Alcantara (2009) and Garicano and Heaton (2010).

Borck (2001) posited that employees must feed knowledge management solutions to make them useful, and the enterprise KM (EKM) will infuse an organization's culture with knowledge. EKMs control and consolidate data into intellectual assets that bridge the flow of intellectual capital within an organization (Borck, 2001). Yukl (2006) found that transformational leadership inspires followers to act morally and ethically. Transformational leadership also nurtures innovation and makes virtual teams thrive, according to Senge (1998). Cogburn and Levinson (2008) determined that the most effective teams all trust one leader who is culturally sensitive. However, even if a leader is ineffective, virtual teams can still achieve some level of success as long as the teams are cohesive and each member makes contributions (Cogburn & Levinson, 2008). In such instances, work is independent instead of interdependent, and the team's success-level is significantly limited (Cogburn & Levinson, 2008).

According to Bergiel et al. (2006), when leaders implement collaboration tools, they also need to be aware of how both older workers and their younger counterparts will react to and interact with them. The system needs to be accessible and useful to the entire workforce to be effective within an organization (Bergiel et al., 2006). Igbaria and Guimaraes (1994) also found that user involvement during implementation, as well as technology friendliness, led to successful implementation efforts.

Smart and Desouza (2007) discovered numerous ways that managers of small to medium-sized organizations can best address technology resisters and gain their acceptance. For employees who only see how technology affects them on an operational versus a strategic level, managers should create success metrics that apply to the operational level (Smart & Desouza, 2007). This will help employees understand the value of IT from their own perspectives. Managers must, of course, understand the underlying reasons for employee resistance, which varies by employee (Long & Spurlock, 2008). Further, implementations should not be rushed, timing must be appropriate, and leaders must help employees understand the labor-saving value IT brings to the workforce (Smart & Desouza, 2007). Managers can also use social awards and feedback from those employees who embrace technology to make the implementation effort more successful (Smart & Desouza, 2007).

Upon investigating how employed MBA students used collaboration tools, Westerfelt (2010) found that they indeed benefited from using them at work. In her study, Westerfelt had participants use three different online collaboration tools, then gathered feedback about their preferences via questionnaires. Students liked the tools to varying degrees, depending on their practical applications, whiteboard features, document sharing capabilities, and user-friendliness (Westerfelt, 2010). The participants felt that time-savings were the biggest advantage of using collaboration tools, while technological illiteracy, technical issues, and personal comfort level were major impediments (Westerfelt, 2010). Similar to some of the previously discussed studies, Westerfelt also identified user-friendliness as a significant participant concern. When leaders select a collaboration tool, they must remember that

regardless of how many special features a tool may offer, if it is not easy to use, it will not be accepted by the user community. Lomas et al. (2008) also found that tools that are the most user-friendly and natural feeling are more likely to be used. Additionally, if a tool is released before its time or is too radically different from previous tools, it will not be adopted (Lomas et al., 2008).

Factors for Successful Policy Implementations

As organizational cultures evolve and begin to embrace the changes resulting from technological implementations, organizational policies must be updated accordingly to reflect the current culture. Research shows that when leaders develop policies, they should involve employees and seek their input throughout the process (Boer, 2012; Kapsali, 2011). Employees must clearly understand the intent and meaning of policies to accept and comply with them (Boer, 2012; Kotter & Schlesinger, 2008; Long & Spurlock, 2008; Nyström, 2006). Kapsali (2011) also found that managers must be flexible when implementing policies, customizing them to specific systems thinking constructs, user groups, and local realities. Further, by including the workforce in the development of policies, managers can ensure that the policies will achieve their intent (Alcantara, 2009; Tirgari, 2012). For example, policies could prescribe a minimum requirement for training and organizationally-funded continued education (to reflect a learning culture) and for changing which former manual tasks must gradually be performed using technology, according to findings by Malik and Danish (2010) and Witte (2002). This could be a phased approach, where either certain tasks or a specific number of tasks must be accomplished using IT. By having prior knowledge of the technology, employees will be better able to determine which changes can be achieved within a specific time period.

Nyström (2006) found that as organizational policies continue to evolve, managers must ensure that they clearly communicate changes or revisions to policies to their workforce. If possible, managers should continue to involve employees in the development of policies to ensure their acceptance. According to Peckover, Hall, and White (2009), as both culture and policies must stay aligned with each other, managers must ensure that collaboration and knowledge sharing are supported by both entities. The organizational culture must be reflective of the open sharing of ideas, and policies should align with collaboration through electronic means. Managers could offer incentives for those departments that notably reduce their consumption of paper and, instead of printing items, use collaboration tools to share knowledge. Further, departments with well-organized and easily accessible sites could also be rewarded, and the winner's site could become the new standard for the organization. Additional policies could be created that prescribe the development of sites using only a minimal number of components, specifically ones that have shown to be effective and time-saving.

Policymakers must use a process-oriented organizational approach when developing policies and investing resources into training (Alcantara, 2009; Maier & Remus, 2003; Witte, 2002). Policies and implementations must be closely connected, and those using technology must clearly understand organizational policies and be involved in the implementation process (Boer, 2012; Spetz, Keane, & Curry, 2009; Thielst, 2007). Finally, Witte (2002) determined that mandatory training should be addressed as a separate requirement within policies to ensure that end-users can gain maximum benefits and efficiencies from the implementations.

Garicano and Heaton (2010) found that if IT implementations are studied in isolation, they may not reflect productivity gains. To truly increase productivity, both organizational policies and management practices must be aligned with IT implementations (Garicano & Heaton, 2010). Once IT is integrated in an organization, the quality and type of data

available to be studied changes, which has obscured the findings of some studies on productivity (Garicano & Heaton, 2010). Thus, when attempting to study productivity gains, researchers must change the way they measure them in an electronic versus a manual environment (Garicano & Heaton, 2010).

Research Method and Design

This study focused on how individuals use technology, how organizational policies affect that usage, and the resultant perceived productivity. Because this study focused on perceptions, personal experiences, and perceived productivity, a qualitative approach was appropriate (Cheseboro & Borisoff, 2007). Data were gathered from interviews about individual experiences, personal views, and details of situations; data did not consist of generalizations made from standardized questionnaires (Cheseboro & Borisoff, 2007).

Grounded theory designs are popularly used for IT studies because data are systematically gathered and analyzed (Bryant & Charmaz, 2007; Matavire & Brown, 2013; Urquhart et al., 2010). GT studies allow researchers to develop and build theories about phenomena when either none exist or when existing ones are inadequate (Goulding, 2002). The aim of this study was to understand the perceptions of individuals and to generate a theory about how leaders can implement more effective policies that mandate the use of technology. No other qualitative design was suitable for achieving this goal.

Unlike other qualitative studies, grounded theory studies are the only ones in which researchers do not work from existing theoretical frameworks. The collected data guide the research and lead to the development of categories, relationships, attributes, and ultimately, a theory. Because limited research exists on the topic under investigation, a grounded theory approach allowed for the development of a theory about a phenomenon which is currently not well-understood. This theory will help global leaders more effectively manage their organizations.

This study was conducted in the natural setting in which the phenomenon occurred, not in a laboratory or otherwise sterile facility (Pratt, 2007). When asking questions, the interviewer used a semi-structured format of open-ended questions and developed theories as data were collected (Cheseboro & Borisoff, 2007). Data were analyzed and compared as they were collected via constant comparison. As categories began to emerge, they drove theory generation (Bryant & Charmaz, 2007).

Using initial observations and one-on-one interviews of 18 participants, data were collected and analyzed through the constant comparative method. This method revealed emerging themes and conceptual patterns about how organizational policies can be implemented to obtain the desired outcome and achieve maximum effectiveness (through maximal compliance).

Research Questions

Several research questions guided this study; however, one was central: How can leaders more effectively implement organizational policies that mandate the use of technology? Four sub-questions assisted in answering the main research question:

1. How do employees' perceptions of ITCOM's organizational policies affect their use of technology and perceived productivity?

2. How can leaders adapt the manner in which policies are worded to best reach organizational goals; i.e., what policies would be perceived as encouraging to employees in increasing their use of technology to become more productive?

3. How should policies best be implemented to gain maximum receptiveness; for example, should a phased approach be used?
4. What other factors (intrinsic and extrinsic) might affect employees' inclination to use technology/comply with policy?

Population and Sampling Frame

All of the study's participants were of grades GS-12 to GS-14 and non-supervisors. The objective was to address only this category of employees to understand the effects of policies on the workers instead of on the senior leaders who participated in implementing the policy. To be eligible to partake in the research, individuals must also have a requirement to use Microsoft SharePoint at least weekly in performing their jobs. Each candidate was asked about his or her GS civilian grade, weekly usage of SharePoint, and an awareness of the requirement to use SharePoint. Once subjects were identified as meeting the requirements for participation in the study, they were informed about their rights as participants. In addition to the informed consent form, each participant received a detailed explanation of the contents of the form to avoid any potential misunderstanding.

The grounded theory sampling strategies used were snowball and convenience sampling, which both fall under the purview of purposeful sampling. The participants who were interviewed are all employees of ITCOM who used Microsoft SharePoint daily as part of their jobs. Participants responded to nine open-ended questions addressing their reaction to the released organizational policy that required them to use the new enterprise tool, Microsoft SharePoint, to accomplish at least part of their daily work activities.

Because of the organization's military status, each candidate was informed that senior leadership had approved that the study be conducted at ITCOM and that his or her time away from normal duties was authorized. This was important information to share, as some participants were worried about whether they could partake in interviews during the work day.

Grounded theory studies do not have a stated required number for sample sizes or data saturation (Glaser & Strauss, 1967; Corbin & Strauss, 1998). A number of factors drive the required number of samples, such as the sensitivity of the phenomenon, the scope of the study, the experience and skill of the researcher, and the participants' familiarity with the phenomenon (Corbin & Strauss, 1998; Morse, 2000). Because data drive the study and sample size, the study is complete when theoretical saturation has been reached. Researchers cannot know ahead of time when this will occur, but by choosing participants that are very familiar with the phenomenon, they can limit the number of required interviews (Glaser & Strauss, 1967; Corbin & Strauss, 1998). If subject matter experts are interviewed initially, researchers can use these initial interviews as a guide to narrow the focus of the study (Corbin & Strauss, 1998).

When interviews begin producing the same data, theoretical saturation has been reached. Researchers must collect enough data to clearly discern concepts, patterns, categories, and properties (Glaser & Strauss, 1967; Strauss & Corbin, 1998). Researchers will know that they have reached data saturation when no new data emerge on a category, the category is well-developed, and category relationships are established and validated (Corbin & Strauss, 1998).

Data Collection

Data collection began with a pilot study to validate the adequacy and clarity of the interview questions and the value of the observations. Resultantly, a supplemental question (#5) was added to the list for the purpose of eliciting from the participants additional

thoughtfulness and potential solutions, versus only an identification of associated problems. The observation portion of the study entailed watching participants as they used Microsoft SharePoint. After being observed, these individuals were interviewed about their experiences when using the tool and how their perceptions of organizational policies affected their use of the tool and resultant productivity. The observation period of the pilot study identified that observations were far less useful than the interviews themselves, and were, thus, excluded from the study.

After participants were identified, interviews were scheduled and conducted in an empty office space within the departments in which the individuals worked. Some of the participants found the interview to be a welcomed break from their work day and desired to have short, informal discussions either before or after the formal interview. The interviews were recorded using a tape recorder to ensure the accuracy of the notes taken during the sessions. Participants were guaranteed that no one within their chain of command would be able to access the notes or the tapes. Anonymity was maintained by assigning a number at the top of each interview sheet. The numbers corresponded to their sequence amongst the participants; i.e., the third subject received a "#3" at top of his interview questionnaire.

During the interviews, the goal was to understand how organizational policies affected the use of the technology. For example, if in the past individuals were able to submit documents through manual processes, but now policies mandate automated processing via SharePoint, how did this change affect productivity? More importantly, how did the subjects' perceptions of the policies affect their use of the technology, their performance, and their resultant productivity level? During the interviews, the participants were asked a number of questions about how they reacted to the policies (see Appendix A), including how they believed policies could be better implemented to encourage the effective use of technology.

Interviews were conducted until saturation was reached. Saturation occurs when additional data collected does not add anything new to the existing categories (Goulding, 2002). In this study, data saturation appeared evident after 14 interviews, at which point responses duplicated the previously emerged categories; i.e., no new categories emerged as the interviews continued. However, additional interviews had already been scheduled, and to ensure that no new categories would emerge, data collection continued until the 18th interview. Data were reviewed and re-analyzed for meaning and implications until no new categories were discovered, at which point theoretical saturation had been reached (Glaser & Straus, 1967; Rubin & Rubin, 1995).

Besides the interviews relevant to the participants' use of technology, data were also gathered from policy documentation (Fraser, 2008). Participants were asked about the content of these documents and how they perceived their messages. The intent was to capture the participants' views and perceptions about policies and how they affected their willingness to use technology (Fraser, 2008). At the end of the interview sessions, the interviewees had the opportunity to review their responses and modify them to more accurately represent the intended meaning.

Additional data were collected via a thorough review of existing, scholarly literature in the field. For example, peer-reviewed studies about how to best implement policies and technology within organizations and how to manage change effectively were significant in understanding best practices. Using data gathered from existing literature in combination with the observations and interviews provided a more holistic understanding of the problem and aided in the generation of a theory.

Data Analysis

GT researchers use the following methods for data analysis: open coding, axial coding, and selective coding (Goulding, 2002). Open coding involves condensing data into meaningful units (West, 2007). Goulding advocates that open coding involve analyzing transcripts (of interviews, for example) line-by-line to identify all possible codes. This process continues until a pattern emerges across data sets (Goulding, 2002). Once categorized, data sets are examined for specific attributes and subcategories for each category (Goulding, 2002). Axial coding entails making interconnections between categories and subcategories. During axial coding, various aspects of categories are more clearly defined, which refines them and their interconnections. Data collection, open coding, and axial coding are iterative processes in GT research (Goulding, 2002). Selective coding consists of unifying all categories around core categories and adding descriptive detail (Corbin & Strauss, 1990) and usually occurs in the later phases of the study (Corbin & Strauss, 1990). The end result is a theory that is based on the collected data. The theory may be a statement, model, or hypotheses about the phenomenon (Goulding, 2002).

As in any grounded theory study, data collection and analysis occur simultaneously in this study. As data were gathered through interviews, they were analyzed concurrently and concepts began to emerge (Fraser, 2008). As concepts emerged, they drove further data collection (Fraser, 2008). Categories and attributes of categories were defined during the data analysis process (Goulding, 2002). As more data were collected and analyzed, these categories were modified and refined (Cheseboro & Borisoff, 2007).

The notes taken during the interviews were typed in and printed from Microsoft Office. To organize the vast amounts of data collected and analyzed during the initial analysis, the responses to interview questions were aligned under each research question. This approach provided a systematic way to understand the collected data, categorize them, and examine their relationships. Subsequent analysis procedures involved re-organization, review, and re-analysis of the data by themes, corresponding sub-themes, attributes, and interrelationships amongst categories and attributes.

Data were further analyzed through the use of open coding, which involved analyzing text line-by-line to discover key phrases and words (Goulding, 2002). By doing so, concepts, or units of related data, developed. Each transcript from the observation and interview underwent this type of analysis to identify codes, causing patterns and group-related codes to become visible (Goulding, 2002). By linking codes together, categories emerged. Categories are higher order codes that consolidate concepts into a theoretical framework. As data continued to be analyzed until saturation, groupings were also verified and corrected, as necessary (Goulding, 2002).

Further, each interview was compared to the previous one(s), answer by answer. Individual word and line analyses offered a way of providing insight to the meaning behind the participants' responses. Some comments and recollections were examined separately to assess their relevance to the participants' answers, interview questions, and research questions. As text was constantly compared and reviewed via open coding, several patterns, or common themes, began to emerge. The various subcategories that emerged from the data review and comparison were assigned to corresponding themes.

Using axial coding, categories were reviewed and reassembled to identify the relationships amongst them. Related themes were then placed under higher level concepts (Goulding, 2002). Open and axial coding are methods used to condense data into categories, or themes, and to understand the relationships amongst the categories and subcategories (Goulding, 2002).

Subsequent coding phases entailed continuous analysis, refinement, and review as data surfaced from additional interviews. A constant comparison of data ensured that relationships were recognized, as were new themes that developed from the analysis. Selective coding involved using the previously identified categories, defining, developing, and refining them further, then assimilating them to tell a story.

Validity and Reliability

Researchers strive to perform valid and reliable studies, but perfect validity and reliability are impossible goals (Neuman, 2006). Reliability refers to the repeatability and consistency of the study and its findings (Neuman, 2006). In other words, if the study were repeated and the measurement instruments are reliable, the findings should be similar. Validity questions the truthfulness of the measurements—do instruments measure what they were intended to measure (Fraser, 2008)?

In qualitative studies, validity and reliability are addressed in terms of the trustworthiness of the study (Lincoln & Guba, 1985). Trustworthiness is comprised of four criteria: credibility (internal validity), transferability (external validity), dependability (reliability), and confirmability (researcher objectivity; Lincoln & Guba, 1985). To be credible, the study's results must be believable. Credibility was established by testing the measurement instrument, or the interview questions, via the pilot study to ensure that they measured what they were intended to measure. Additionally, participants' responses were verified with the individuals to ensure that their intended meanings were accurately captured. Transferability addresses the degree to which results can be generalized (Lincoln & Guba, 1985). Generalizability is not a goal in qualitative studies, but qualitative studies can be made more transferable if researchers address specific elements of the context, or environment, in which the study occurred, as well as thoroughly describing the limitations and assumptions of the study.

Dependability refers to reliability—if the study were repeated, would the findings be the same (Lincoln & Guba, 1985)? Confirmability relies on the researcher's objectivity (Lincoln & Guba, 1985). Dependability and confirmability were addressed by mitigating potential researcher bias. Researcher bias can be mitigated if one constantly questions oneself and one's objectivity. In this particular case, the researcher was very familiar with the organization and with the subjects, so a sense of self-awareness and self-questioning became especially important in mitigating possible instances of bias. Additionally, by ensuring that only the study's collected data were used during analysis, in lieu of any personal opinions held by the researcher, potential bias was further eliminated. In this study, a significant amount of data were collected. Since a GT design was used, these data drove the study, which helped address both the dependability and confirmability criteria of trustworthiness. Finally, data were checked and rechecked to ensure that analysis was performed correctly, that data were categorized correctly, and that nothing was accidentally omitted or overlooked. By documenting, checking, and re-checking data collection and analysis procedures, researchers can further increase confirmability. Dependability is enhanced if researchers describe changes that occur in the environment and how those changes were addressed.

Researchers constantly attempt to discover new categories of evidence until data saturation is reached (Jones, Kriflik, & Zanko, 2005). Data saturation is what makes GT studies robust—researchers do not stop collecting data until saturation is reached (Jones et al., 2005). Interviews are often complemented by observations to strengthen a study (Goulding, 2002), but, ultimately, data saturation, the constant comparative method, and the diligent data analysis procedures are what make GT studies rigorous.

Results

Three primary categories, or common themes, emerged from the data analysis process and are listed in no order of significance: leadership, policy, and mandated tool (see Appendix B).

Theme 1: Leadership

The leadership theme consisted of five sub-themes, indicative of what leadership responsibilities were most important to the study's participants in regard to gaining their acceptance of the new organizational policy: communications strategy, involvement with and commitment to the policy, policy enforcement, training, and stakeholder involvement.

Communications Strategy

Seventy percent of the participants felt very strongly about senior leadership not having adequately communicated a plan for change, addressed the policy, and distributed the policy. Based on the number of times participants referenced this sub-theme, it can be considered one of the most significant problems faced in regard to employee acceptance of the new organizational policy. One-third of the participants felt that both acceptance of the mandated tool and the policy, in general, would have significantly increased if leadership had just informed them about what was going to happen and why the change was necessary. Twenty-two percent believed that being informed in the very beginning instead of at the end would have also made a difference, while one-third expressed concern about how the policy was published. They felt that the policy should have been easy for anyone to find and that senior leadership had a responsibility for ensuring that the policy was received by all employees, at every level. Because policy distribution was performed inadequately, 22% of the participants said they had never even seen it. One individual mentioned that he knew of the policy's existence, but was unaware of its content, while another felt that the policy should have been shared via all available communication channels, such as town hall meetings, e-mail notifications, and a posting on the portal. Using more than one communication channel would have ensured that individuals who missed e-mail notifications, for instance, would have received the information through another channel, according to the participant. Further, he stated that direct supervisors should have taken responsibility for ensuring the dissemination of the policy to their employees.

Involvement With and Commitment to the Policy

One-third of the participants believed that the changes encompassed by the policy were not supported by senior leadership. Besides keeping everyone informed, senior leaders should have led by example and used the tool first, they stated. Further, senior leaders should have been advocates for the tool that was prescribed for use.

According to 17% of the participants, management commitment and involvement entails changing the organization's culture. In order for the workforce to be receptive to the proposed changes, these participants felt that their organizational culture needed to reflect a more open-minded and flexible attitude. The traditional views that employees held were neither conducive to change nor to accepting and using modern technology. Eleven percent believed that by offering change management courses, leadership could have helped individuals adapt to the new way of doing things.

Policy Enforcement

Twenty-two percent of the participants thought that without enforcement, many individuals would fail to comply with the current policy. Non-compliance would result in redundant processes and numerous inefficiencies, due to either improper usage or simply non-usage of the tool. According to one participant, improper use would not only affect

individual productivity, but also any general productivity gains that he believed leaders were seeking to achieve through the new policy.

Training

Next to communication problems, training was the most heavily cited concern by nearly 80% of the participants. The respondents felt that if leadership did not provide proper training for the new and complicated tool, they could never be truly efficient or effective at using it. Also, without a proper understanding of the functionality and the tool's benefits, tool acceptance would be reduced and resistance would increase, turning it into a time-waster. Nearly half of the participants believed that training via small groups would have been the most effective way to teach employees what they needed to know. They suggested that different levels of training were necessary, based on individual job roles. Some employees were chosen to fill the role of content manager for their team. Participants believed that these individuals should have received specialized training to address the additional responsibilities they would have in managing specific group sites and resolving issues. According to one individual, the absence of specialized training for content managers delayed trouble-ticket resolutions and site management duties that these individuals were required to make daily as part of their assigned role. Further, another participant explained that content managers lost important departmental data because "they didn't know what they were doing." According to the interviewee, training should have occurred before the tool's use was made mandatory via the policy, and training should have been staggered.

Stakeholder Involvement

This sub-theme differs from the communications strategy sub-theme in that it addresses involving employees in the change process from the start, versus communicating changes that they are not involved in making at the end.

Nearly 40% of the participants believed that their involvement in the decision-making process would not have changed their attitude toward the practice, independent of whether they liked or did not like the mandated tool. One individual believed that he would have been more prepared and supportive of the tool and the policy had he been involved from the beginning. Seventeen percent stated that the need to be involved and acceptance of the tool and the policy depended mostly on an individual's familiarity with the technology. For example, if someone already knew SharePoint, then being told to use the tool would not be as challenging as its usage would be for someone who lacked IT skills or familiarity with the tool. Eleven percent of the participants believed that being involved in the policy's development and having an understanding of the change would have increased its acceptance. Finally, one participant would have chosen a different tool, based solely on personal preference, had he been involved in the decision-making process.

Theme 2: Policy

In addition to the distribution problems, those who had seen the policy felt that it was lacking significant elements. The four sub-themes for policy are general content, diction, compliance, and time to comply. The policy theme is comprised of answers provided in response to all of the research questions.

General Content

This sub-theme developed mostly from responses to SRQ3. Seventeen percent of the participants criticized the policy for being unclear and wordy. Another 22% felt that explaining the necessity of the change (i.e., the policy) was extremely important for its acceptance. In doing so, the policy would have also explained the benefits of the tool, which half of the participants believed to be a critical missing element.

The policy should have contained rules and guidelines for structured use, as well as processes and procedures, according to almost 40% of the participants. Further, 17% of the participants believed that downloadable standard operating procedures (SOP) on tool usage and system functionality would have been especially helpful in providing guidance on tasks, such as moving old data to the new system. Roles and responsibilities also needed to be defined, according to several participants; one individual believed that the inclusion of definitions would have led to increased acceptance of the policy. Seventeen percent suggested that including a meaningful measurement of effectiveness, or metrics, would have provided a means for measuring potential efficiencies gained, tangible results for monetary savings, and productivity gains.

More importantly, the policy should have established a training requirement for the workforce, according to more than half of the participants. In doing so, employees would have been guaranteed to receive training that would have helped them learn to use the newly mandated tools. One individual thought that keeping the policy updated was important, as the organization's needs/requirements changed, while another stated that the policy needed to match the readiness or availability of the tool: "Upon the policy's release, SharePoint was far from being operational. Thus, we were forced to use a tool with limited functionality that could not be used to perform our work functions."

Diction

Responses to interview question #7, *How did the wording of the policy affect you? For instance, how would you have reacted differently if the policy had been phrased in a different way, perhaps in a more positive fashion?,* were mostly responsible for producing this sub-theme. Responses to these questions were quite varied. For instance, half of the participants felt that directive wording was very much appropriate for an organizational policy and that word choices themselves were irrelevant. Two individuals stated that they were used to being told what to do. Because they had worked for military organizations as both civilians and soldiers, being directed to comply was a normally occurring event for them. Others (17%) stated that word choices should have been more positive or consensual in nature to improve employee receptiveness to and acceptance of the policy. Another participant added that the policy, "Should sound intelligent," and two others stated that a value-added perspective versus a directive tone would have been more appropriate. Finally, one participant felt that diction was irrelevant, but later added that he would have reacted more favorably if he were given some choices within the policy's requirements.

Compliance

When participants were asked interview question #2, *Why do you think the SharePoint policy was created?*, their responses varied widely. Nearly one-third of the participants believed that policies were a necessary means to achieve compliance. Eleven percent posited that employees would only use new tools if they were forced to do so and that the way to force people to comply is by issuing a policy. One individual added that employees would be reluctant to use SharePoint because they were unfamiliar with the tool. Therefore, leadership had to create a policy to ensure compliance. A different participant believed that the policy was a way to move the organization toward data consolidation, regardless of the tool selected for accomplishing this goal, while a third individual thought that standardization was a goal. A total of 22% of the participants thought the goal was collaboration. Some (11%) felt the policy's intent was to do both.

Reducing storage, administration, and software licensing costs were other management goals that 22% of the participants believed the policy was intended to achieve. One participant also thought that the policy was created purely from a management

perspective, intended to achieve managerial goals. Alternate views were expressed by participants who believed that the policy was created to mandate a new and better tool, which would increase performance and lead to efficiency gains, reduce network bandwidth requirements, provide a greater data storage capacity, and improve accessibility. Eleven percent of interviewees felt that the policy adequately provided guidelines for a more structured use of the new tool.

Time to Comply

When asked interview question #6, At what point in time between the policy release and its enforcement did you comply with the policy? What affected your acceptance of the policy?, responses were much less varied. More than half of the participants stated that they complied immediately because they were mandated to do so. Some stated that their understanding of the value of and familiarity with the tool also affected their compliance. One individual explicated that change is a necessary part of progress, which increased his willingness to comply with the policy, in addition to having been mandated to do so. Other participants faced some intervening forces that slightly delayed their compliance. For example, although one participant complied quickly, he had to research the tool himself, which delayed his ability to use it effectively. Because he had not received training, it was a trial and error exercise. The lack of a customer support forum or published help desk numbers further delayed his usage of the tool. Another participant stated that in the absence of training, his ability to use the tool was significantly limited. Finally, one participant complied as quickly as he could, but competing priorities contributed to a slight delay. He stated, "We have so many competing priorities. Nothing ever falls off the plate. Everything just becomes a number one priority in this command."

According to 17% of the participants, some of the previous tools were disabled immediately, which left them no choice but to use SharePoint. In other words, their compliance was forced. One individual complied after attending training, which gave him a better understanding of the value of the new tool. Twenty-two percent did not comply immediately because of the lack of functionality encountered when using the new tool. Unable to move data from the previous tool due to file type and file size restrictions, one participant felt forced to use both tools to do his job. This created redundant data and workflows, as well as additional work for him. Others continue to avoid using SharePoint because they find the tool difficult to use. However, one participant believed that a better layout and organization of the tool would lead to increased general compliance.

Theme 3: Mandated Tool

This category repeatedly emerged from responses to multiple interview questions related to research questions 1, 3, and 4. The mandated tool theme was referred to more than any other category or subcategory during the study's procession. Four major sub-themes emerged under mandated tool: perceptions of tool functionality, initial reactions to the requirement, phased implementation, and effect on productivity.

Perceptions of Tool Functionality

Numerous participants felt strongly about the limited functionality of SharePoint at the time its use was mandated by the organizational policy. They believed that at least the major problems should have been resolved by the time they were required to use the tool. Nearly one-third of the participants mentioned performance issues that made the tool slow and cumbersome, discouraging their use of SharePoint. These issues also led to redundant sites being used (some on the old system), the creation of unnecessarily complex workflows, permissions issues that prevented them from modifying sites, and accessibility problems. One participant referred to these problems as "pilot pains." He thought that

because ITCOM was the first organization to implement SharePoint at an enterprise-level, the organization's employees were the guinea pigs who were made to suffer through the problems.

The tool should have been easy to use, and sites should have been well-organized—this would have increased tool acceptance, according to 22% of the participants. The tool also should have had greater functionality than the tool it replaced. Having full functionality would have increased the acceptance rate, according to 17%. Conversely, 22% of the participants believed that previous knowledge and understanding of the tool's capabilities is what would have most affected acceptance. They felt that because they had past experiences with SharePoint, they were much more receptive to using the tool than were their peers. One individual commented that the tool should have been more carefully selected, then evaluated later to ensure that it met its intent.

Because the tool was administered at the wrong level and by an external organization, additional problems arose, stated 45% of the participants. As functionality problems were identified, the time to resolve them became extraordinarily long. Further, the way the tool was configured and implemented significantly decreased the number of available features. Seventeen percent of the participants would have been much more receptive to using SharePoint had the tool been installed "straight out-of-the box."

Initial Reactions to the Requirement

When the policy to mandate the use of SharePoint was first released, employee reactions varied notably. Nearly 40% of the participants were happy and excited about receiving a new tool with which to perform their duties. A number of participants commented on the positive features of the tool, such as improved processes, better collaboration, better standardization, better overall functionality than the previous tool, efficiency increases, centralized storage and better security, reduced waste, the ease of finding documents and no longer having to rely on email, and not having to use the old tool anymore. Others felt dread and fear. They were worried about the tool not being user-friendly, losing control, and not having defined processes, procedures, roles, and responsibilities. One participant was also distraught by the bad performance of the tool, while two others complained about bad or limited functionality. Another individual expressed concern about users' readiness to use such a complex tool and the resultant user resistance. Some participants were also displeased about the amount of time they would have to invest in learning to use the new tool. Finally, one participant stated that he did not know about the policy or the requirement to use SharePoint.

Phased Implementation

When asked whether their perception and acceptance of the policy would have improved if the tool had been implemented using a phased approach, 56% of the participants stated, "Yes." They felt that a phased approach would have limited disruptions, while offering many benefits to the workforce, such as more time: to adapt to the change, for administrators to resolve initial problems with the tool and provide better functionality, and for training. Using a phased approach would have encouraged the use of the tool and increased compliance, according to 11% of the participants. One individual stated, "This tool is too big to roll-out all at once." Nearly 40% of the participants felt that a phased approach would have led to greater acceptance. One participant believed that the implementation was phased and that this approach did not help reduce the number of problems the workforce encountered. The remaining ca. 40% of the participants felt that a phased implementation would have led to more problems. They believed that a phased approach would have

decreased user acceptance, tool functionality, compliance, and would have led to duplicate data and confusion.

Effect on Productivity

Interview question #8 addressed perceived productivity gains that resulted from using the new tool. The responses to this question varied—45% of the participants felt that there were definite productivity gains, but 40% believed that gains were limited. Seventeen percent of participants stated that a lack of metrics meant that there was no way to measure actual increases in productivity. For one-third of the participants, documents were easy to find and share, both externally and internally—that alone was a significant efficiency gained through the new tool. Some participants welcomed not having to carry an external storage device to access data, and centrally located data led to better collaboration, according to others. Seventeen percent believed that productivity was further improved through better accessibility and standardization.

Those who believed that productivity gains were limited cited training and functionality problems as the main reasons. The way the sites were organized made information difficult to find. Seventeen percent thought that once the layout improved, productivity gains would rise significantly. One participant noted that too many people are still relying on e-mail to share files and that the resultant limited use of the tool is hampering organization-wide productivity gains. Further, leaders are not using SharePoint or enforcing the use of the tool, which is why the usage problems persist.

Discussion

Theme 1: Leadership

This theme addresses those things that are important for leaders to do when implementing organizational policies. As presented in the Results section, 70% of ITCOM employees desired their leaders to better communicate with them, inform them of upcoming changes early on, and explain why changes are necessary. According to some participants, communication should occur via a number of venues to ensure that everyone receives the message. If possible, leaders should schedule town hall meetings, send e-mails, and post information to collaboration portals. Once a policy is published, leaders should ensure that they distribute it to everyone. Again, leaders should use any means necessary to inform their employees of a policy, according to participant responses. Copies could be printed and distributed during meetings, they could be disseminated electronically, or they could be posted to a centralized location to which everyone has access.

As indicated by one-third of the study's participants, ITCOM's organizational policy was not well-distributed. This is not an uncommon problem for the organization. Although a specific department exists that has the responsibility for distributing policies throughout ITCOM via e-mail, policies often do not reach the entire workforce, as evidenced by participant responses. By using every means of communication available to them, leaders can ensure that their workforce is in receipt of the policy.

In addition to conquering distribution issues, leaders should also enforce what is mandated within a policy. According to some participants, ensuring compliance will work toward the general good of all, as it prevents employees from using previous tools and creating redundant data repositories and workflows.

Training was found to be an important component of tool use not only in this study, but in previous studies conducted by Nyström (2006) and Dubé & Paré (2001). By providing training, leaders give employees the opportunity to understand a new tool and all of its

features. Training also gives employees insight into how a tool could help improve their work processes, thereby increasing acceptance. Demonstrating the functionality of the tool could show how it will create efficiencies and reduce workloads, instead of becoming an impediment.

Theme 2: Policy

This theme addresses those things that make a policy effective. It covers policy content, diction, compliance, and the timeframe within which to comply. In order for employees to perceive a policy with a positive and responsive attitude, the policy must be structured in a specific way, as evidenced by participant responses. Polices should be succinct and clear and explain why a transition to a new tool is necessary. This finding corresponds with studies about policy acceptance conducted by Boer (2012), Kotter and Schlesinger (2008), Long and Spurlock (2008), and Nyström (2006). Some of the participants believed that in addition to explaining the necessity of the change, the policy should be explicit in describing the benefits of the new and mandated tool. They believed that an explanation of user benefits was critical for acceptance.

Further, the policy should contain the following sections: detailed rules and guidelines for structured use of the tool, processes and procedures, roles and responsibilities, and metrics. Participants identified the inclusion of standard operating procedures as a preferred means of explaining how to use the new tool, addressing specific tasks such as how to move data from the old tool to the new tool, as well as general instructions for use. Finally, outlining roles and responsibilities helps clarify who is responsible for which tasks.

The establishment of metrics in the policy provides a way for leaders to assess the effectiveness of a new tool. Several employees felt that being able to provide tangible means of measuring improvements, such as gains in productivity or monetary savings, would help leaders demonstrate the utility of the tool. Finally, the most important item to include in the policy is the establishment of a training requirement. A training requirement ensures employees will learn how to properly use a tool, which would accelerate acceptance and reduce the employees' time to comply with the policy. Conducting training prior to a tool's implementation also ensures familiarity with a tool, which a number of participants felt was paramount to acceptance.

Theme 3: Mandated Tool

Acceptance of both the policy and SharePoint were strongly affected by perceptions of the tool's functionality. Many participants felt that the lack of functionality at the time that SharePoint's use was mandated discouraged employees from using the tool. They faced a number of problems, such as gaining access, permissions issues, broken links, slow response times, and disorganized site layouts. If these initial problems had been resolved prior to employees using the tool, the workforce would have had a much more positive experience and perception of SharePoint, according to many of the participants. The tool should have been easy to use and offer better functionality than the previous one. This finding corresponds with previous studies that addressed the factors behind technology acceptance in voluntary-use environments, but differs from findings when use is mandated (Brown et al., 2002; He et al., 2009). This incongruence might be explained by the differences in organization types and cultures. Unlike the referenced studies, this study took place in a military organization where employees are used to receiving orders. The differences in culture between private industry and military organizations may explain the inconsistent perceptions regarding the mandated use of technology. Finally, SharePoint should have been administered at the right organizational level, either internally or

externally, via outsourcing to an organization capable of quickly resolving technical problems. The number of problems that arose were unnecessarily high because of administration issues, according to 45% of the participants.

Nearly 40% of the participants were excited when they were told that they would get a new and better tool with which to do their jobs. This positive attitude could have been prolonged if SharePoint had functioned correctly. Ensuring proper functionality leads to greater use and acceptance of tools and compliance with policies, according to the study's participants, as well as findings from previous studies (Bushnell, 1999; Chin, 1998).

When implementing new tools, a phased approach was preferred by over 55% of the workforce. This finding also corresponds to discoveries made in previous studies (Malik & Danish, 2010; Witte, 2002). Phased implementations give administrators more time to resolve initial problems, employees more time to attend training, and is less disruptive to the workday. Again, proper adherence to these factors would have led to greater acceptance of the tool, according to approximately 40% of the participants.

Nearly 45% of the study's participants felt that they became more productive by using SharePoint. This finding is supported by previous studies about productivity increases gained from collaboration tools (Lomas et al., 2008), especially when they are complemented by organizational policies (Garicano & Heaton, 2010). Productivity increased as tool functionality problems were resolved and, potentially, could continue to increase as the tool is improved and sites become better organized. Finally, if leaders enforced the use of SharePoint and more people used it, some participants believed that productivity would increase not only for those individuals but for the entire workforce, as redundant processes would be eliminated.

Limitations

Because this study was conducted in a military organization, some of the employees' perceptions may differ from what one would find if the study were conducted in the private sector. For example, ITCOM employees are used to receiving orders. This may not be true for individuals who have not worked for military or government organizations. Some perspectives are unique to this demographic.

Further, private industry may not use formal policies to mandate the use of technology. Although about one-third of the study's participants felt that policies were necessary to ensure compliance, the private sector may not follow the same procedure. Thus, the results from this study may only be applicable to organizations that use policies to mandate technology use.

Finally, this study's participants included non-supervisory employees between the grades of 12 to 14. The intent was to understand how the general workforce at ITCOM perceived the organizational policies, not those who were involved in mandating the policy. Had the latter group been included, the responses likely would have changed notably.

Implications for Leaders

The way that ITCOM currently implements policies is ineffective in achieving compliance, as evidenced by participant responses. Leaders must change how policies are written, distributed, implemented, and communicated. Currently, employees are displaying a high level of resistance to the policies, based on all of these factors. The presence of resistance indicates that policies are ineffective because they are not meeting their intent. Leaders must show that they are committed to their policies and develop measures to enforce compliance. Kim and Lee (2006) and Nyström (2006) found that a lack of leadership

commitment to technology implementations and training hinder the use of and acceptance of tools.

Participants believed that leaders must make appropriate training available to the workforce to ensure that employees understand how to best use newly mandated tools. Previous studies by Bergiel et al. (2006) and Chong (2005) also found that employees often lack the proper training or skills to successfully use technology, which leads to increased resistance (Cogburn & Levinson, 2008; Long & Spurlock, 2008). Zivick (2012) identified how important it is for leaders to have enough funding to properly train their work teams on technology. Alcantara (2009), Maier and Remus (2003), and Witte (2002) corroborated this view, especially in situations where new technologies are linked with organizational policies. Analogous to participant responses, Witte (2002) found that training should be a requirement addressed within the policy itself. Optimally, training will occur prior to the mandated use of the tool.

Another important point to recognize is that organizational cultures must be ones that are adaptive to change. Some of the participants posited that the existing organizational culture is not flexible, which makes the workforce less receptive to proposed changes. Previous studies corroborate that when policies do not align with organizational cultures, they can be counter-productive in their attempt to reach organizational goals (Alcantara, 2009; Boer 2012; Calhoun 2002; Spetz, et al., 2009; Thielst, 2007). According to Alcantara (2009) and Witte (2002) organizational cultures must be learning cultures that support the use of technology. Nemiro et al. (2008) and Rahmati et al. (2012) identified the criticality of cultural management in establishing behavioral norms for successful collaboration. Paghaleh et al. (2011) and Hartman et al. (2009) added that cultures must be ones that encourage teamwork and cooperation to enable employees to overcome their resistance to information sharing via collaboration tools. In light of the findings from this and previous studies, leaders would do well to develop an organizational culture that encourages open-mindedness and flexibility. By doing so, policies that mandate changes will receive less resistance from the workforce, according to participants.

Leaders must also ensure that policies contain the critical elements identified in this study and that they are clear and concise. Again, this finding corresponds with those of previous studies about policies being clear in intent and meaning to be accepted by the workforce (Boer, 2012; Kotter & Schlesinger, 2008; Long & Spurlock, 2008; Nyström, 2006). Kapsali (2011) also found that if leaders are flexible when implementing policies, customizing them to specific user groups, acceptance will increase. Alcantara (2009) and Tirgari (2012) posited that by including the workforce in the policy development process, policies will be more effective. This finding is contradictory, as 40% of ITCOM participants believed that their involvement in the policy's creation would not have changed their reaction to it. An additional 16% of respondents felt that the need to be involved in the policy's creation is directly linked to individual knowledge about the technology that is being implemented. The different type of culture that exists within a military organization may account for the incongruous finding.

Leaders should take measures to ensure that the tools for which they mandate use are fully functional and appropriate for the employees in performing their work. This finding aligns with Bushnell's (1999) study, in which he identified a lack of functionality as a hindrance to technology acceptance. Dubé and Paré (2001) and Galleta and Zhang (2006) would agree, adding that proper functionality is especially important in virtual environments. Further, Brown et al. (2002) and He et al. (2009) attributed usefulness or perceived usefulness as primary reasons for technology acceptance, which also correspond to the findings of this study.

Leaders should consider using a phased implementation approach and creating metrics to measure cost savings and productivity increases. Studies by Malik and Danish (2010) and Witte (2002) also found a phased implementation approach to be more effective. By following all of the aforementioned guidelines, leaders will be able to more effectively implement their policies, according to participants.

Conclusion

The purpose of this grounded theory study was to develop a theory about how leaders can implement organizational policies that mandate the use of technology with maximum effectiveness. This study provided invaluable insight into employees' perceptions about policies and the resultant impact on the use of collaboration tools and perceived productivity, giving leaders the insight and understanding to effectively implement policies to achieve the following organizational goals: encourage the use of technology, increase productivity, and stay competitive in a global economy.

Recommendations for Future Research

The findings and theory of this study created a foundation for future research on the topic of how perceptions of policies affect compliance of the use of mandated technology and perceived productivity. Future researchers could explore the same phenomenon in the private sector, performing an equivalent study and comparing the results. Additionally, a quantitative study could be conducted to test the theory generated in this study, using a larger population. By doing so, researchers could test the strengths and weaknesses of this theory using a different research methodology and potentially increase the generalizability of the theory.

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Appendix A: Interview Questions

1. What was your reaction when you were told that your organization had released a policy that would require you to use SharePoint to do your normal every-day work processes? Why?

2. Why do you think the SharePoint policy was created?

3. How would your reaction have been different if you had been involved in the decision-making process to make the practice mandatory?

4. How would you have reacted differently if the process change had been more gradual/incremental?

5. How would you have done things differently?

6. At what point in time between the policy release and its enforcement did you comply with the policy? What affected your acceptance of the policy?

7. How did the wording of the policy affect you? For instance, how would you have reacted differently if the policy had been phrased in a different way, perhaps in a more positive fashion?

8. What other factors affected your response to the policy?

9. What effect do you feel SharePoint has had on your productivity?

Appendix B: Table 1

Themes and Sub-Themes

Theme Number	Theme	Sub-Theme
1	Leadership	i. Communications Strategy ii. Involvement with and Commitment to the Policy iii. Policy Enforcement iv. Providing Training v. Stakeholder Involvement
2	Policy	i. General Content ii. Diction iii. Compliance iv. Time to Comply
3	Mandated Tool	i. Perceptions of Tool Functionality ii. Initial Reactions to Requirement iii. Phased Implementation iv. Effect on Productivity