HOW DIGITAL EQUITY AND WORKPLACE LEARNING INFLUENCE
ACCEPTANCE OF A KNOWLEDGE SHARING TECHNOLOGY IN THE
HIGHER EDUCATION WORKPLACE

BY

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DISSERTATION

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ABSTRACT

How organizations share knowledge is very important. Research has shown that organizations are implementing knowledge sharing technologies, but employees are not using them. This study used an extended Unified Theory of Acceptance and Use of Technology (UTAUT) model to explain to what extent and under what conditions employees accept and use a knowledge sharing technology, Microsoft SharePoint (SharePoint), in the higher education workplace. In an effort to understand the complexities of employee acceptance and use of technology in the higher education workplace two additional moderators were incorporated into the context of UTAUT – digital equity (i.e., individual level) and workplace learning climate (i.e., organizational level) factors.

The rollout of SharePoint as a knowledge sharing technology at the University of Illinois provided the opportunity for this study. Using a mixed-methods approach, data was collected from 390 survey respondents and 18 focus group participants from three campuses at the University of Illinois. Using multiple regression analysis, this data was examined to answer three research questions: To what extent and under what conditions do digital equity factors influence predictors (i.e., performance expectancy, effort expectancy, and social influence) of intent to use a knowledge sharing technology (SharePoint) in the higher education workplace? To what extent and under what conditions does workplace learning climate affect predictors (i.e., performance expectancy, effort expectancy, and social influence) of intent to use a knowledge sharing technology (SharePoint) in the higher education workplace? Which moderator (digital equity factors or workplace learning factors) would better influence the use of a knowledge sharing technology (SharePoint) in the higher education workplace?

The results suggested that gender, job position, and workplace learning climate factors influenced employees' acceptance and use of a knowledge sharing technology in the higher education workplace. Specifically as moderators to effort expectancy and social influence. Focus group participant responses provided a more in-depth understanding of these quantitative data results. These results provided contributions to both research and practice. With digital equity in the workplace being primarily overlooked in the literature, this study attempts to fill in this gap and provide a quantitative as well as contextual analysis of how factors of digital equity impact technology acceptance and use in the workplace. Likewise, the interaction between individual and organizational-level factors and technology acceptance and use provides a framework that researchers can use for future studies.

Employers wanting to implement a knowledge sharing technology in their organization can benefit from the results in this study. Specifically the challenges and benefits noted by focus group participants are invaluable insights into a successful implementation of SharePoint.

Keywords: digital equity, workplace learning climate, UTAUT, SharePoint, knowledge sharing, knowledge management

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CHAPTER 1—INTRODUCTION

Knowledge is the most important asset in organizations today and is critical to achieving a competitive advantage (Chi & Holsapple, 2005; Han & Anantatmula, 2007; Ipe, 2003; Lin & Tseng, 2005; Papadopoulos, Stamati, & Nopparuch, 2013; Paroutis & Saleh, 2009; Rah, Gul, & Wani, 2010; Song, 2002; Tohidinia & Mosakhani, 2010; Van Den Hooff & De Ridder, 2004; Yi, 2009). Organizational knowledge management is a complex and multi-faceted concept. Specifically, knowledge sharing is crucial for organizations to sustain competitiveness (Han & Anantatmula, 2007). In efforts to improve knowledge sharing and increase workplace learning, knowledge sharing technologies are being implemented in the workplace (Alavi & Leidner, 2001; Chi & Holsapple, 2005; Flanagin, 2002). Knowledge management (KM) literature shows the importance of knowledge sharing technologies for facilitating this advantage, prompting many organizations to find tools to increase employees' knowledge sharing skills (Bansler & Havn, 2003; Han & Anantatmula, 2007; Hendriks, 1999; Mladkova, 2007).

While the literature uses KM and knowledge sharing interchangeably, there are differences. Tiwana (2002) classified KM as three separate processes: knowledge acquisition, knowledge sharing, and knowledge utilization where knowledge sharing is defined as "the act of disseminating and making available knowledge that is already known" (Sohail & Daud, 2009, p. 129). Therefore, knowledge sharing is part of the KM process (Sohail & Daud, 2009). This study focused on knowledge sharing as an important component of the KM process.

While many organizations have developed and are continuing to develop knowledge sharing technologies, employees are not using them (Butler, Heavin, & O'Donovan, 2007; Hwang, 2008; Rizzi, Ponte, & Conifacio, 2009; Wang & Noe, 2010; Yang & Wu, 2008). According to Westland and Clark (2000), over 50 percent of organizations expressed employee

resistance when new technologies were implemented. Resistance to change is a universal workplace challenge and many workers are not comfortable with dramatic changes of information technology (IT) tools. Quite often management explains resistance by the cliché that "people resist change" and never looks further into the knowledge sharing technology area. In their studies, Hendriks (1999), Hung, Lai, and Chang (2011), and Mtega, Dulle, and Ronald (2013) indicated that acceptance of KM tools is required for knowledge sharing in which technology also plays a vital role.

In order for new technologies to be effective, an organization must create a knowledge sharing climate where the employees within the workplace are able and willing to use these new systems. Building a knowledge sharing climate will allow individuals to interact willingly between themselves and the knowledge sharing process, as indicated by Mtega et al. (2013). Such organizational climate will facilitate the efficient acceptance of new technologies, which in turn creates a competitive advantage for the organization (Hetland, Skogstad, Hetland, & Mikkelsen, 2011; Jeng, Avery, & Bergsteiner, 2011; Patterson et al., 2005). However, simply using a knowledge sharing technology does *not* mean knowledge sharing is taking place; thus acceptance in this instance refers to the use of a knowledge sharing technology which produces a result apparent to both the knowledge owner and the recipient of knowledge by its reusability (Wang & Wei, 2011).

Many research studies have sought to examine factors that influence technology acceptance in the workplace and to what extent employees accept and use technology systems (Alge, 2001; Venkatesh, Morris, Davis, & Davis, 2003; Westland & Clark, 2000; Zweig & Webster, 2003). These studies showed that the influencing factors affecting the acceptance of new technology are determined by several factors, notably individual, organizational, and

technological characteristics (Hung, Lai, & Chang, 2011). Lin (2007) and Mtega et al. (2013) also agreed on these factors influencing knowledge sharing in the workplace.

The review of the literature revealed several deficiencies that have limited the understanding of individual and organizational level factors impacting knowledge sharing in technologically-enabled organizations, such as a university. The lack of consideration of digital equity and workplace learning is a deficiency in the conceptual framework of the relationships between individual level (i.e., digital equity) and organizational level (i.e., workplace learning) factors and acceptance of a knowledge sharing technology in the higher education workplace (Cooke & Greenwood, 2007; Kyndt, Dochy, Onghena, & Baert, 2013).

Digital Equity

Digital equity is defined by the National Institute for Community Innovations (2001) as ensuring that everyone in society has equal access to technology tools and has the knowledge and skills to use them. Digital equity in the workplace can then be defined as all employees, regardless of race, gender, socioeconomic status (SES), or computer experience, having equal opportunity to use and benefit from technology in the workplace. The benefit from technology means the ability to receive a positive effect from utilizing technology. While there is continued concern for lack of acceptance and use of technology in the workplace, little to no research has been done on the effects of digital equity on technology acceptance and use in the workplace (Moody, Beise, Woszczynski, & Myers, 2003). Little research has examined the role digital equity plays in the acceptance of a knowledge sharing technology in the workplace.

However, ample data has been published about the formal education sector, in particular how students are affected by digital equity factors in schools. Digital equity in formal education, K-12, clearly highlights students as the subject in its definition, "equal access and opportunity to

digital tools, resources, and services to increase digital knowledge, awareness, and skills…a fair

distribution based on student needs" (Davis, Fuller, Jackson, Pittman, & Sweet, 2007, p. 1). This

definition is similar to one by Judge, Puckett, and Bell (2006) as "ensuring that all students have

access to information and communication technologies for learning, regardless of socioeconomic

status (SES), disability, language, race, gender, or any characteristics that have been linked with

unequal treatment" (p. 52).

Traditional factors impacting digital equity in formal education are centered on gender,

race, and SES (Boonaert & Vettenburg, 2011). These individual factors contribute to gender bias

and stereotyping of girls' and boys' abilities using technology in the classroom, leading to a

decline of girls going into technology-related fields (Bhargava, 2002; Cunningham, 2011;

Plumm, 2008; Robertson, 2012; Sheldon, 2004; Shores & Smith, 2011). Issues of race and SES

lead to inequity of resources in low-income schools with schools in inner cities having a shortage

of technology resources in comparison with schools in white suburban neighborhoods utilizing

computers and software more frequently (Banister & Reinhart, 2011; Judge et al., 2006;

Kalyanpur & Kirmani, 2005). The correlation between students' use of technology at home and

their proficiency using technology at school was also noted to be high in a study by Hohlfeld,

Ritzhaupt, Barron, and Kemker (2008) showing that students who did not have computer access

at home were not as competent using computers at school and vice versa. Gorski (2008) posed

the following questions:

> Who has the easiest, most consistent access to resources? How are educators using
>
> technology differently with different populations of students? Who stands to gain the
>
> most—economically, politically, and so on—from the growing urgency to technologize

schools and classrooms? What are the equity and social justice implications of this educational technology craze? (p. 350)

In a study by Facer and Furlong (2001), the diversity of adults was noted as being equally as important as the diversity of students in the following:

Consequently, we would argue that we need to recognize that childhood is socially and culturally situated, and that different children, like different adults, will have diverse experiences of and attitudes towards new technologies, experiences that need to be identified and catered for. (p. 467)

As students go from kindergarten through high school and into the workforce, socially and culturally created contexts result in specific experiences that may become barriers to utilizing technology in both formal and informal education. These experiences become the foundation of attitudes and beliefs which need to be considered when assessing users' acceptance and use of technology in the workplace.

Do these same questions addressing digital equity in formal education also influence acceptance of knowledge sharing technologies in the workplace? Does the effort in promoting digital equity stop at formal education? This study seeks to determine whether the same factors are salient in both formal education and the workplace. These individual factors need to be examined in the context of the workplace so that organizations are better prepared to create strategies to increase knowledge sharing among all employees using a knowledge sharing technology.

Workplace Learning

While many knowledge researchers have explored the relationship between KM and organizational factors, like organizational climate, there is a lack of studies regarding the

influence of workplace learning on acceptance of a knowledge sharing technology in the workplace. Workplace learning refers to all training and development activities related to the workplace, outside of formal education (Li et al., 2009). This type of learning is the opposite of formal education, which is hierarchically delivered and an organized set of activities, and it is more social and cultural in context (Eraut, 2004; Tynjala, Valimaa, & Sarja, 2003). According to O'Donoghue and Maguire (2005), workplace learning is not something that is taught, but develops based on social interaction and workplace culture. This is supported by a further definition of workplace learning as being experience-based learning (Bauer, Festner, Gruber, Harteis, & Heid, 2004) associated with the workplace that changes employees' skills, knowledge, or attitudes (Griffin, 2011). The core aspect of workplace learning is "collective learning by members of the organization" (Hetland et al., 2011, p. 171).

Acceptance of workplace learning delivery methods is critical to successful implementation of technology in the workplace (Greengard, 1998). With the increased use of knowledge sharing technologies for knowledge sharing today, employers are faced with creating strategies to increase employees' knowledge and skills in an effort to increase employee acceptance and use of technology (Ipe, 2003; Kim & Lee, 2006). In an effort to offer training to employees quickly, organizations have implemented e-learning and m-learning systems as delivery methods of training into the workplace (Yoo, Huang, & Lee, 2012). Understanding how organizational factors (i.e., workplace learning) impact employees' intent to accept and use a knowledge sharing technology to share knowledge is an important research area (Bansler & Havn, 2003; Li et al., 2009; Van Den Hooff & De Ridder, 2004).

Do digital equity factors and workplace learning influence the acceptance of a knowledge sharing technology in the higher education workplace? This research study investigated

technology acceptance in the workplace using an extended Unified Theory of Acceptance and Use of Technology (UTAUT) framework, adding digital equity and workplace learning as moderators of technology acceptance to reveal the individual and organizational conditions under which employees are most likely to accept and use a knowledge sharing technology for knowledge sharing in the higher education workplace. By examining digital equity and workplace learning as moderators, the relationship between the predictive and outcome constructs of the UTAUT model (i.e., performance expectancy, effort expectancy, social influence, facilitating conditions, behavioral intent, and use behavior) were addressed.

Context of Study

The similarity between KM in the business environment and the higher education workplace environment is poorly recognized (Tippins, 2003). While differences may exist in organizational business processes (Li et al., 2009), industry and higher education work environments are faced with similar challenges of user acceptance of technology in the workplace (Brewer & Brewer, 2010; Gorry, 2008; Kumaraswamy & Chitale, 2011). Business organizations are constantly upgrading IT to enhance their knowledge management in order to remain competitive; and higher education institutions are doing the same (Brewer & Brewer, 2010; Mohd, Ahmad, Samsudin, & Sudin, 2011). Therefore the popularity of knowledge management has increased in both business and education (Brewer & Brewer, 2010). However, in higher education most studies are focused on students (Chen, Yang, Shiau, & Wang, 2005), with few dealing with the work environment in general (Sohail & Daud, 2009). The synergy between technology acceptance success factors in the business work environment and the higher education work environment is important to recognize as KM can lead to strategic, tactical, and

operational benefits for both contexts (Gorry, 2008; Kumaraswamy & Chitale, 2011; Tippins, 2003).

KM is a business-driven collection of tools required to help a user turn information into organizational knowledge, thus empowering employees and achieving business objectives of the organization. Knowledge sharing technologies include computer hardware and software, with resources like intranets, wikis, blogs, and knowledge repositories (Hedgebeth, 2007; Hendriks, 1999; Hung et al., 2011; Papadopoulos et al., 2013; Sampson & Zervas, 2013). One such technology is Microsoft SharePoint (SharePoint). Through SharePoint, people are able to capture and share ideas (Dahl, 2012; Diffin, Chirombo, Nangle, & DeJong, 2010; Herrera, 2008; Weldon, 2012). This type of enterprise-wide solution is meant to be used by the entire organization.

Conceptual Framework

This study integrated UTAUT with digital equity and workplace learning factors in determining employees' acceptance of a knowledge sharing technology in the workplace. The extended model is comprised of explanatory constructs (i.e., performance expectancy, effort expectancy, social influence, and facilitating conditions), with the addition of external individual (i.e., digital equity) and organizational (i.e., workplace learning climate) moderating factors (Rahman, Jamaludin, Mahmud, 2011). The primary dependent construct for this study is participants' behavioral intention (i.e., acceptance) of a knowledge sharing technology in the higher education workplace. A conceptual framework is proposed below (Figure 1).
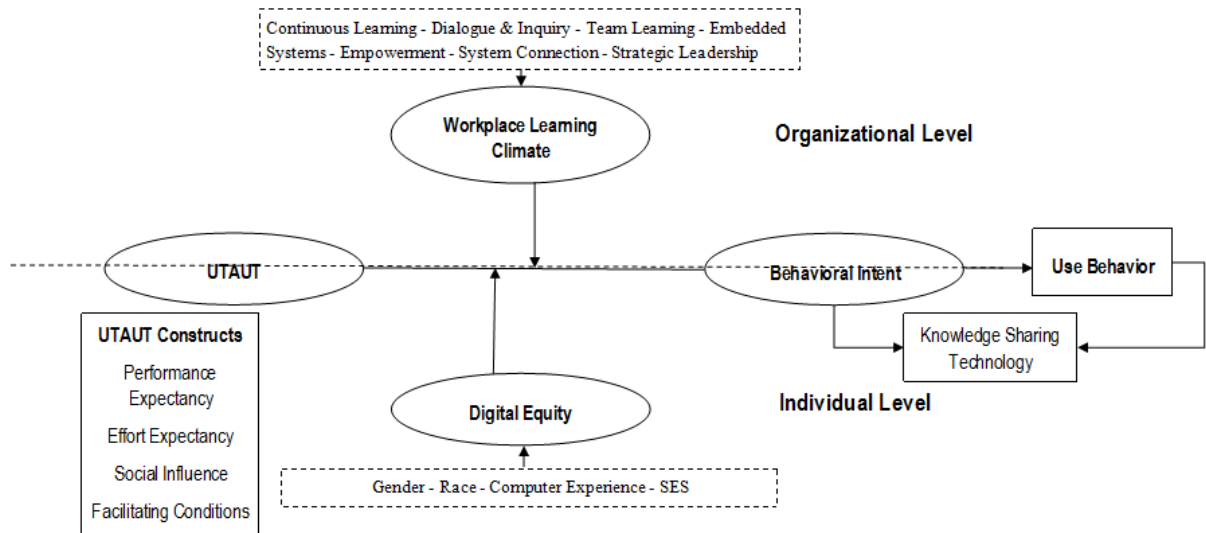
Figure 1. The Conceptual Model. This figure illustrates the conceptual model including the UTAUT constructs that guided the study of the moderating relationships (i.e., digital equity and workplace learning climate factors) influencing the behavioral intention and use of a knowledge sharing technology in the higher education workplace. The dotted line through the middle of the diagram represents the division between individual and organizational level factors.

Statement of the Problem

The purpose of this study was to examine the factors that affect employees' acceptance of a knowledge sharing technology (i.e., SharePoint) in the higher education workplace. This research is based on several research questions focused on the effects of individual factors (i.e., digital equity) and organizational factors (i.e., workplace learning) on predictors of employees' intent to use a knowledge sharing technology in the higher education workplace.

Knowledge is a critical resource for organizations with the goal of getting the right knowledge to the right people at the right time (He & Wei, 2008; Li et al., 2009; Yi, 2009). In a technology-based environment, it logically follows that KM explicitly helps organizations improve organizational performance. However, research showed employee reluctance in using knowledge sharing technologies resulting in these tools not being used in the workplace. Many KM systems have failed to facilitate knowledge sharing based on individual and organizational

factors (Yang & Wu, 2008). Yang and Wu (2008) referred to these factors as social and complex between individuals and organizations. No studies have been conducted assessing the influence of digital equity and workplace learning factors on employees' acceptance of a knowledge sharing technology in the higher education workplace. With the projection that more employers will be faced with using technology in the workplace for knowledge sharing (Hedgebeth, 2007), it is important to investigate these factors.

To understand further the importance of this concept and how it relates directly to the workplace today, this research study examined acceptance and use of a knowledge sharing technology focusing on use of SharePoint at the University of Illinois. SharePoint has commonly been used as a knowledge sharing technology in the workplace. In November 2012, an administrative IT department at the University of Illinois implemented SharePoint as a shared service, which was made available to all departments on three campuses. There were three primary goals of this shared service: (1) to save money on hardware, software, and resources by centralizing services; (2) to use technology to streamline business processes; and (3) to enhance communication and knowledge sharing between employees across all campuses. The University of Illinois has locations in Urbana, Chicago, and Springfield; therefore, it was very important to provide a knowledge sharing technology that could bridge the gap not only within departments, but between geographic locations. However, SharePoint is a fairly new technology to most workgroups at the University of Illinois. Therefore, the attitude of *build it and they will come* cannot be an assumption the project sponsor could make to guarantee use of SharePoint for knowledge sharing and collaboration. Based on the research, many factors need to be considered at the individual, organizational, and technological levels for this knowledge sharing technology to be successful university-wide.

Questions exist about what makes it easier for employees to collaborate and share knowledge and how a knowledge sharing technology can be accepted successfully and used in all departments. The decision to implement SharePoint as a knowledge sharing technology is made on a departmental basis, driven by business needs. By examining employee perceptions of implementation of this knowledge sharing technology at the University of Illinois, the practical value of this research will provide guidance for future departments wanting to implement SharePoint. Additionally, by investigating how individual and organizational level factors may influence the UTAUT model of technology acceptance as moderators, future research may adopt this modified framework to gain a further understanding of technology acceptance in the higher education workplace.

It is crucial to merge individual level (i.e., digital equity) and organizational (i.e., workplace learning) factors that could influence the use of knowledge sharing technologies in the workplace with a technology acceptance model. In doing so, an integration and collaboration of external factors influencing technology acceptance and the technology acceptance process can be obtained. This provided new approaches to knowledge sharing which can be planned to provide improved productivity and efficiency in organizations.

Research Questions

The following research questions will help answer the bigger question for this study, which is, under what conditions will employees accept and use a knowledge sharing technology (SharePoint) in the higher education workplace?

1. To what extent and under what conditions do digital equity factors influence predictors (i.e., performance expectancy, effort expectancy, and social influence) of intent to use a knowledge sharing technology (SharePoint) in the higher education workplace?

2. To what extent and under what conditions does workplace learning climate affect predictors (i.e., performance expectancy, effort expectancy, and social influence) of intent to use a knowledge sharing technology (SharePoint) in the higher education workplace?

3. Which moderator (digital equity factors or workplace learning factors) would better influence the use of a knowledge sharing technology (SharePoint) in the higher education workplace?

Significance of Study

As technology continues to transform the workplace, this study signified the importance to understand further the predictors of acceptance of knowledge sharing technology. Many gaps in the literature are noted, from individual characteristics to an organizational context. In 2010, Wang and Noe performed an extensive literature review on knowledge sharing, noting seventy-six qualitative and quantitative studies published between 1999 and 2008. The areas of focus ranged from environmental factors, individual characteristics, and motivational factors to knowledge sharing perceptions. Twenty percent of these studies reviewed were not grounded in theory (Wang & Noe, 2010). While there is a growing literature on successful IT-mediated knowledge sharing (He & Wei, 2008), most research studies have focused on enterprise-wide knowledge management system (KMS) implementations in organizations as a whole and not on knowledge sharing technologies.

This study contributes to the body of knowledge sharing research and also has practical implications. The focus of this study is somewhat different from prior studies using the UTAUT model in that in addition to evaluating UTAUT constructs and moderators of user behavioral intention and use, digital equity factors and factors of workplace learning are also moderating

variables. The goal was to have a better understanding and make applicable use of under what conditions make it easier for employees to collaborate and share knowledge. The results will benefit organizations wanting to implement knowledge sharing technologies in their organizations. Before an organization invests funding and time into complex KM systems, it is important that it is able to anticipate and account for the factors that influence employees' technology acceptance. Wang and Noe (2010) encouraged more research to understand better how knowledge sharing can be tested to promote and benefit individual employees and the workplace.

CHAPTER 2—REVIEW OF THE LITERATURE

This chapter discusses four key areas related to this study: (1) KM, including knowledge sharing and knowledge sharing technologies; (2) individual level factors (i.e., digital equity); (3) organizational level factors (i.e., workplace learning); and (4) an extended UTAUT model as a theoretical framework. First, KM is introduced as a means to support managing knowledge in an organization. Then followed by knowledge sharing and details on how specific knowledge sharing technologies should be explored for understanding knowledge sharing activities related to employee technology acceptance in the workplace. Specifically, this review examined implementation of SharePoint as a knowledge sharing technology. Second, digital equity difference factors are discussed as an external moderator associated with individual behavioral intent to accept a knowledge sharing technology in the workplace. Third, workplace learning is introduced as an external moderator associated with organizational behavioral intent to accept a knowledge sharing technology in the workplace. Additionally, the concepts of organizational climate and learning organization, which impact workplace learning, are reviewed and discussed. Finally, the UTAUT theory is discussed in detail. The review provides the characteristics of user acceptance and use of technology integration in the context of an extended UTAUT model.

Knowledge Management (KM)

The sharing of knowledge is critical to success in an organization (Ipe, 2003) and was first recognized by Nonaka and Takeuchi (1995) in their work *The Knowledge Creating Company*. Knowledge, however, is an intangible resource (Lin & Tseng, 2005; McDermott, 1999), is intuitive and hard to define (Akhavan, Jafari, & Fathian, 2006), and is based on experience. Knowledge exists at multiple levels in an organization—individual, group, and organizational (DeLong and Fahey, 2000; Dignum, Dignum, & Meyer, 2004)—and is broken

down into two types: tacit and explicit (Adhikari, 2010; Brewer & Brewer, 2010; Gottschalk, 2006; Kuo & Lee, 2009). Tacit knowledge is defined as what a person knows, coming from experience (Flanagin, 2002; Marwick, 2001) and making it difficult to formalize (Lin & Tseng, 2005). While explicit knowledge is represented by an artifact (Marwick, 2001) and is precise and formally articulated (Lin & Tseng, 2005). An example of an artifact is a document that is utilized for collaboration between multiple people (Marwick, 2001). In order to be of most benefit, KM needs to be instituted to manage this organizational knowledge (Alavi & Leidner, 2001).

KM has been defined by some researchers (Alavi & Leidner, 2001; Psarras, 2006; Yang & Wu, 2008) as an information system which manages organizational knowledge and focuses on processes which acquire, create, and share knowledge across all levels of an organization. Dignum, Dignum, and Meyer (2004) further defined KM as a "systematic, holistic approach to the sustainable improvement of the handling of knowledge at all levels of an organization" (p. 148). This definition is supported by Akhavan, Jafari, and Fathian (2006) who defined KM as "an integrated, systematic approach to identify, manage, and share all of the department's information assets, including databases, documents, policies and procedures, as well as previously unarticulated expertise and experience resident in individual officers" (p. 97). Both of these definitions confirm one of the main goals of KM to be increasing knowledge sharing across an organization (Yang & Wu, 2008).

In the 1990s KM became "industry's golden child," according to Seng, Zannes, and Pace (2002, p. 142). Corporations such as Chrysler, Monsanto, Hewlett-Packard, and IBM along with government agencies embraced KM systems in an effort to keep tacit knowledge from leaving their organizations (Seng, Zannes, & Pace, 2002). Additionally, in the last decade there has been an increase in the number of academic publications focusing on the importance of KM. Between

the years 2002-2010 Ergazakis, Metaxiotis, and Askounis (2013) reported fifty-nine different journals publishing KM papers, with the *Journal of Knowledge Management* having the most significant number of papers, followed by the *International Journal of Knowledge-Based Development*.

KM is as vital in higher education as it is in the corporate sector, according to Omerzel, Biloslavo, and Trnavcevic (2011). As we know, higher education institutions are characterized by being knowledge experts (Omerzel, Biloslavo, & Trnavcevic, 2011), however they recognize the need for effective KM and are finding it difficult to achieve (Grossman, 2007; Tippins, 2003). Barriers identified in the literature included cultural and bureaucratic factors, lack of interest, individual skill level differences, time and resource constraints, unwillingness to share, and unawareness of a KM system (Tippins, 2003). These individual, organizational, and technological barriers are a common thread throughout the literature as barriers for knowledge sharing and will be discussed next.

Knowledge Sharing

Knowledge sharing has been defined by many researchers. Riege (2005) referred to knowledge sharing as the cornerstone of organizational KM strategies. Knowledge sharing is defined as the "know-how to help others and to collaborate with others to solve problems, develop new ideas, or implement policies or procedures" (Wang & Noe, 2010, p. 127). Lin (2007) further defined knowledge sharing as using knowledge networks in an organization. Knowledge sharing includes both the ideas and the intersection of users (Wang & Noe, 2010). Knowledge sharing is a complex process that contributes to both individual and workplace learning (Ipe, 2003; Lin, 2007).

Knowledge Sharing Success Factors

The literature showed motivation, transparent organizational structures, and modern technology to be critical success factors of knowledge sharing in an organization (Riege, 2005). Additional success factors included incentives, culture and leadership (Bock & Kim, 2002), flexibility of individual and organizational requirements (Dignum et al., 2004), reputation, reciprocity, and altruism (Hung et al., 2011).

Knowledge sharing plays an important role in the ongoing success of KM. In a study on IT continuance intention and continued behavior, He and Wei (2008) made a distinction between knowledge contribution and knowledge seeking behaviors in knowledge sharing. Their study revealed users' intentions and facilitating organizational conditions predicted knowledge sharing behavior; but continuance intention was determined by users' beliefs and attitudes (He & Wei, 2008). It is within an organizational climate where users are not afraid to share their knowledge and ideas that a safe environment for knowledge sharing exists (Hendriks, 1999). Individual and organizational goals should match for successful knowledge sharing to take place in the workplace (Hendriks, 1999).

Knowledge Sharing Barriers

The literature showed there are three main knowledge sharing barriers: individual, organizational, and technological (Lin, 2007; Riege 2005; Yang & Wu, 2008). Several individual, organizational, and technological barriers were noted in the literature, including inadequate organizational structures, denominational segregation, unfriendly organizational cultures, lack of motivation, and lack of training (Han & Anantatmula, 2007; Hendriks, 1999; Kim & Lee, 2006; Lin, 2007; Riege, 2005; Yang & Wu, 2008). This is further supported in an extensive literature review by Riege (2005) which uncovered dozens of knowledge sharing

barriers. Riege (2005) categorized these barriers into three main areas: individual, organizational, and technological, as shown in Table 1.

Table 1

Summary of Knowledge Sharing Barriers

Categories	Barriers
Individual	• Lack of time to share • Apprehension or fear sharing may reduce job security • Low awareness of knowledge value to others • Dominance in sharing explicit vs. tacit knowledge • Use of power or position-based status • Insufficient communication • Level of experience • Lack of interaction • Poor communication and interpersonal skills • Age differences • Gender differences • Lack of social network • Educational level differences • Lack of trust • Cultural differences
Organizational	• Unclear integration strategy • Lack of leadership • Shortage of formal and informal spaces to share • Corporate culture • Low priority of knowledge retention • Lack of supported infrastructure • Poor resources • External competitiveness • Restricted communication • Physical work environment not conducive to sharing • Internal competitiveness • Organizational structure • Size of business unit
Technological	• Lack of integration of IT systems • Lack of technical support • Unrealistic expectations • Lack of compatibility between IT systems

Table 1 Continued

Categories	Barriers
	• Mismatch between user needs and IT
	• Lack of familiarity and experience with IT
	• Reluctance to use IT
	• Lack of communication and demonstration

Note. Adapted from "Three-Dozen Knowledge-Sharing Barriers Managers Must Consider," by A. Riege, 2005. *Journal of Knowledge Management, 9*(3), pp. 23, 25-26, 29-30.

This list of barriers is meant to be a starting point for researchers, according to Riege (2005). Riege (2005) encouraged more empirical research be done to understand these barriers on different organizations. Therefore, this list provides a foundation for future research examining the individual, organizational, and technological barriers to acceptance of a knowledge sharing technology in the workplace.

Knowledge Sharing Technologies

As information technology has evolved so have organizational needs to keep pace with technology. As we know, KM is a process about creating and maintaining organizational intelligence by improving the way users capture, share, and utilize knowledge. To facilitate this process knowledge sharing technologies are used (Alavi & Leidner, 2001), and often referred to as "knowledge management enablers" (Hedgebeth, 2007, p. 49). In 1966, Kaufman's visionary work identified extra-corporate systems and computer time-sharing when he discussed interorganizational systems. Since that time, the U.S. General Services Administration, U.S. Army Corps of Engineers, and U.S. Navy and Transportation Departments have all implemented knowledge sharing utilizing different types of technology (Kim & Lee, 2006). Many researchers wrote about the use of conventional software in knowledge sharing (Edwards, Shaw, & Collier, 2005), including discussion forums, document management, and workflow management. Some popular knowledge sharing applications are from SalesForce.com, BMC software, DCASoft, and

Atlassian (Hedgebeth, 2007). Since 2006, Shell has used wikis for all operational information and acknowledged them to be a knowledge sharing enabler (Ligdas, 2009). Shell identified success being built on a robust KM strategy addressing corporate culture and behaviors (Ligdas, 2009).

Some other common knowledge sharing technologies include tools such as web-based portals, databases, teleconferencing, and wikis (Flanagin, 2002; Hedgebeth, 2007; Ligdas, 2009; Masrek, Shahriza, Karim, & Hussein, 2007; Ranjan, 2011). Song (2002) also included data warehousing, groupware, and intranets as supported knowledge sharing technologies for companies such as Dell, HP, and GE. Additionally, intranets provided a centralized location for knowledge sharing and retention (Seng et al., 2002). This type of technology provided a single point of access via a web browser allowing employees to collaborate and share information. Masrek, Shahriza, Karim, and Hussein (2007) investigated corporate intranet effectiveness creating a model of predictors for use including individual, organizational, and technological factors. Their findings showed intranets provided the ability to improve internal communications, to distribute information, and to allow access to legacy systems thereby making them a success (Masrek et al., 2007). Seng et al. (2002) expanded on intranet effectiveness by identifying several intranet features aiding in KM initiatives in organizations; these include: consistency in organization and structure, indexing and search capabilities, single point of access, access to relevant links and information quickly, and single sign-on. Masrek et al. (2007) concluded further research is needed to give organizations a clearer understanding of what is needed for intranets to be effective and successful.

Knowledge sharing technology implementation factors. The primary goals of introducing technology into an organization are to: remove barriers, provide access to

information, improve processes, and locate knowledge carriers or seekers (Hendriks, 1999).

However, numerous research studies suggested factors associated with using knowledge sharing

tools prohibit technology use. Factors identified include lack of knowledge of features,

complexity of technology, and time required for training (DeJonge & Rodger, 2006; Riege

2005). A lack of incentives, environmental factors, individual characteristics, and motivation are

also identified factors (Hendriks, 1999; Hwang, 2008; Jahani, Ramayah, & Effendi, 2011;

Kaiser, Kansy, Mueller-Seitz, & Ringlstetter, 2009; Wang & Noe, 2010; Yang & Wu, 2008).

An underlying concept organizations may assume is that when a knowledge sharing

technology is in place, people will automatically use the technology. Unfortunately, this is not

the case, as the research showed there are many factors to consider when implementing a

knowledge sharing technology into the workplace. In a conceptual framework developed by

Stankosky and Baldanza (2000) technology was considered equally as important as organization,

learning, and leadership. These were considered pillars forming the foundation of any KM

system, arguing that without them a KM system could not exist (Mohamed, Stankosky, &

Murray, 2006). Mohamed, Stankosky, and Murray (2006) compared technology and KM as

being two separate paradigms that cannot be forced into the other, further discussing that

technology can accelerate knowledge sharing capabilities only if properly balanced and

integrated with these other components (Mohamed et al., 2006). This is further described as a

"one-size-fits-all" approach that does not work (Mohamed et al., 2006). The importance of

acknowledging external moderating variables in regard to technology acceptance is important to

understand the big picture. Mohamed et al. (2006) referred to "arteries" when speaking about

bridging the gap between KM and IT. By examining digital equity and workplace learning in this

research study, individual and organizational level factors will go outside the boundaries of KM

and IT to explain under what conditions users accept and use a knowledge sharing technology in the higher education workplace.

Knowledge sharing technology success factors. Practitioners must look carefully at knowledge sharing technologies, examining benefits for implementation and measuring knowledge gained. Butler, Heavin, and O'Donovan (2007) listed having a high degree of IT participation and user participation as two key factors for success. Taylor (2004) explored how to motivate people to use KM systems effectively by studying the effects of individual user differences on usage and perceived usefulness by focusing on gender and cognitive style. Taylor (2004) found that these individual differences need to be accounted for when implementing a KM system. To provide a better understanding of conditions of use, Bansler and Havn (2003) focused on use after implementation of a corporate intranet. Through a series of interviews and observation of documentary materials, Bansler and Havn (2003) studied the introduction of a knowledge sharing system through its inception to its abandonment three years later. This methodology was designed in hopes of finding the shortcomings of the KM system in facilitating knowledge sharing in the organization.

Although, there is a debate between researchers on whether knowledge sharing initiatives are successful with or without using technology tools (Marwick, 2001; McDermott, 1999; Mohamed et al., 2006). Evans (2012) reinforced the importance of human intervention when she stated, "technology makes things possible; people collaborating makes it happen" (p. 177). Ipe (2003) and Rah, Gul, and Wani (2010), on the other hand, made the claim that knowledge is more complex than the technological systems supporting it. In some organizations information technology leads knowledge sharing, and in others it facilitates knowledge sharing (Xu & Quaddus, 2004). Loermans (2002) and Stewart (1998) believed technology provided a

framework for KM, noting how technology facilitates the knowledge network by providing a means for knowledge transfer among employees.

Knowledge sharing technology barriers. Research has shown that knowledge sharing technologies may not always be adopted (Taylor & Wright, 2004) and may be going unused (Yang & Wu, 2008). This may be due to the problems facing organizations implementing these tools. Several studies have revealed barriers to knowledge sharing technologies in an organization. Butler et al. (2007) identified ease of use as a critical success factor for information technology-related knowledge sharing implementation in the following quote.

> [A] key limitation on the potential effectiveness of any IT-based system is its ease of use…it follows that one reason why analysts may not source knowledge from a repository is that the technology is not sufficiently easy to use—that is, it may be awkward, slow, or difficult enough to use that analysts may believe that the benefits do not outweigh the costs. (p. 184)

Rah et al. (2010) also recognized barriers of knowledge sharing technologies in their study of a web-based KM system implementation at a university library aimed to improve staff professionalism and coordination with other library systems. Barriers noted by staff included ignorance, lack of time, lack of relationship to knowledge, and length of time to implement across departments (Rah et al., 2010). In another study on business schools' use of technology for knowledge sharing, Ranjan (2011) found that technology implementation does not always improve outcomes. Lastly, the use of UTAUT to identify factors of web-based question and answer services was the approach Deng, Liu, and Yuanyuan (2011) took in their study which identified facilitating conditions, performance expectancy, and effort expectancy as driving

factors of technology adoption. These studies highlight the barriers of knowledge sharing technology adoption in the workplace.

Summary

Knowledge is continuously being created, shared, and applied (Choy, Yew, & Lin, 2006) with knowledge sharing being the focus of this research study. A 2008 survey of organizations representing the Henley Knowledge Management Forum noted significant focus on collaboration initiatives in KM and growth in KM teams over a one-year time period (Van Winkelen, 2009). Since 1998 Kumar (2012) noted more than sixty-thousand artifacts with the keyword KM as being indexed in the *Web of Science* database. This data showed a six-fold increase since 1998 (Kumar 2012). What does this information mean for the acceptance and use of knowledge sharing technologies in organizations today?

This research showed that the KM literature is growing and that there is a need for continuous research on new knowledge sharing technologies and the successes and challenges facing user acceptance and use (Choy et al., 2006). Several research studies showed KM system implementation is challenging and that more failed than succeeded (Butler et al., 2007). Akhavan et al. (2006) completed a longitudinal study focusing on the critical success factors of KM implementation in six organizations (i.e., Ernst & Young, HP, BusinessEdge Solutions, Microsoft, Teltech, and Siemens) and found four key success factors: organizational culture, KM strategy, systems and IT infrastructure, and effective and systematic processes and measures. In a study of web-based KM systems from 1997-2000, Bansler and Havn (2003) reported time, incentives, bragging, relevance, and quality as factors of failure. More researchers (Kuo & Lee, 2009; Xu & Quaddus, 2004) identified perceived usefulness and perceived user-friendliness based on the Technology Acceptance Model (TAM) as primary influencing factors

critical to the acceptance and use of a KM system in an organization. In a review of forty-two journals spanning from 1982 through 2009, OuYang, Yeh, and Lee (2010) suggested four key areas of concern with KM system adoption: individual factors, organizational factors, KM capability, and organizational performance. Yang and Wu (2008) broke down individual level barriers as motivation, trust, social capital, self-efficacy, outcome expectation, and absorptive capability. Organizational level barriers were identified as culture, power, technology, organizational capability, organizational climate, and social structure (Yang & Wu, 2008). Kim and Lee (2006) identified accepted IT systems and software as being easy to use and addressing user needs. Other researchers (Liebowitz & Frank, 2011; Nevo & Chan, 2007) identified ease of use, value and quality of the knowledge, system accessibility, user involvement, integration, top management support/commitment, project manager and team skills, incentives, interpersonal trust and respect, reciprocity, shared values, and a convenient knowledge transfer mechanism to be criteria for acceptance.

Numerous studies highlighted the critical success factors of KM implementations, but none of these studies mentioned digital equity or workplace learning. Additionally, few researchers have tested acceptance and use of knowledge sharing technologies on solid theoretical backgrounds (Bock & Kim, 2002).

Microsoft SharePoint

In 2001, SharePoint was created for information technology administrators' use, called SharePoint Team Services. In 2003, commonly called WSS 3.0, SharePoint became a comprehensive solution for knowledge sharing and included an easy-to-use interface, allowing users to add and contribute new data easily for content and document management. Microsoft Office SharePoint Server (MOSS) 2007 improved upon the SharePoint 2003 version and brought

with it additional collaboration and sharing features. SharePoint 2010 has already been updated with the release of SharePoint 2013 in January 2013. Now, the latest version of SharePoint is more robust and scalable than all previous versions, providing a platform for capturing and sharing tacit knowledge and collaboration.

SharePoint as a Knowledge Sharing Platform

The following section of the literature review reveals several library case studies which examined SharePoint implementation focusing on the organization, social factors of adoption, and knowledge sharing. When an organization implements SharePoint, features specific to its needs are activated on the system. Some common knowledge sharing features of SharePoint include wikis, blogs, discussion boards, calendars, and document libraries. Since SharePoint is a platform, features can be utilized in many different ways. For example, by using a sandboxed knowledge base template site hosted on SharePoint, staff could capture and manage tacit knowledge from program directors of a non-profit organization through an automated workflow routing process (Weldon, 2012). Some additional examples of SharePoint feature use follow.

University of Mississippi. In an implementation of SharePoint 2003 at the University of Mississippi library, key points from preparation, setup and training were documented along with benefits, barriers, and the future of SharePoint in the library (Herrera, 2008). The library replaced its outdated intranet and within weeks users from a number of departments were sharing and collaborating with the tool. The quick response rate was due to the ease of use "out-of-the-box" states Herrera (2008, p. 82). Users were given broad permissions and ready-to-use SharePoint sites. This enhanced communication across the libraries by providing a department blog, wiki, and document libraries for full-time employees and projects. Training was provided at the manager level first, followed by departmental training sessions.

Benefits and barriers were noted in the implementation by Herrera (2008). The greatest benefit was the "immediacy of the information with the ability for users to post their own content" (Herrera, 2008, p. 92). While the implementation of SharePoint was a success, Herrera (2008) noted a few negatives including the problem with browsers not working well, specifically the ability to manage documents in a document library in browsers other than Internet Explorer. The 2003 and 2007 versions of SharePoint did not work well with alternative browsers such as Firefox, Opera or Safari. Herrera (2008) also noted problems with wikis and blog entries in alternative browsers. That being said, Herrera (2008) stated the future of SharePoint at the University of Mississippi library was solid. "The collaborative nature of the software combined with the immediacy of the content makes this an effective internal software package that we can build on as we work to strengthen our libraries" (Herrera, 2008, p. 94). This implementation did not reveal individual or organizational variables impacting users' acceptance or use of SharePoint at the library. Since this implementation was replacing an existing intranet infrastructure, the assumption of user buy-in was already there.

University of Maryland University College (UMUC). The Access Services Department at UMUC chose Microsoft's SharePoint product as an internal information sharing solution (Diffin et al., 2010) to combine its intranet with cloud computing. The department was looking for a collaborative space and after reviewing the features and functionality of SharePoint decided to move forward with the implementation. With change-over happening in its staff, the University thought the SharePoint approach would limit knowledge liability and minimize effects of attrition (Diffin et al., 2010). The main features used by the Access Services Department at UMUC were the wiki, document library, and calendar (Diffin et al., 2010).

Diffin, Chirombo, Nangle, and DeJong (2010) reported the implementation had both benefits and barriers. While the average number of site visits to the intranet increased from ten to one hundred forty per day in nine months (Diffin et al., 2010) several barriers were still noted, including lack of IT support, restricted tool functionality, and lack of training and documentation. The potential complexity of SharePoint was also a barrier, as the number of features and customizations available could be a possible deterrent to the user (Diffin et al., 2010).

Towson University. The Albert S. Cook Library at Towson University implemented an intranet using SharePoint Services 3.0 as its platform (Dahl, 2012). The implementation was successful and has been readily adopted. A variable that increased this early acceptance, according to Dahl (2012), was integration of the department's tracking system into SharePoint. By forcing staff to login to the tracking system on a regular basis it encouraged staff to use other features of the tool. Several months after implementation, data were collected from staff to note their comfort levels and satisfaction with the portal (Dahl, 2012).Ten of thirteen staff eligible to take the survey responded indicating SharePoint had potential and was an important tool for the department (Dahl, 2012). A major barrier to using the tool was lack of training. While the tool was noted as being user friendly, users were uncomfortable not knowing whether they could make an irreversible error (Dahl, 2012). "The success of the intranet is dependent on the contributions of its users. If nobody contributes, the information provided…becomes stagnant and outdated" (Dahl, 2012, p. 219).

Summary

SharePoint was used to facilitate knowledge sharing and collaboration by organizations in all industries, according to Perez (2013). Perez (2013) called it the "centerpiece" of many

collaboration strategies. While SharePoint is fast becoming the knowledge sharing technology of choice, Perez (2013) suggested SharePoint faces a challenging future due to the adoption challenges, a poor user experience, and a preference for other knowledge sharing technologies. The case studies in the literature focused on library implementations of SharePoint without any theoretical grounding. Diffin et al. (2010), Herrera (2008), and Dahl (2012) reported barriers in their studies; some of these barriers were redundant, while others were specific to the research setting. An important research area to understand is why these barriers exist by utilizing an information technology theory that analyzes the predictors and moderators to investigate users' acceptance of a knowledge sharing technology in the workplace. This lack of practical and theoretical research creates a gap for practitioners wanting to strategize on best practices for a sustainable technology solution to knowledge sharing and collaboration in their organizations. The literature showed that simply having access does not mean the technology is being accepted and used for knowledge sharing.

Digital Equity

There is an assumption once formal education (K-12) is complete, no further training or skills were needed to achieve digital equity (Ashton, 2004; Duqaine-Watson, 2006). Digital equity in context with education was prevalent in the literature. However, digital equity in the context of the workplace is not. Davis, Fuller, Jackson, Pittman, and Sweet (2007) defined digital equity as "equal access and opportunity to digital goods, resources, and services to increase digital knowledge, awareness, and skills" (p. 1). Cooke and Greenwood (2008) added to this definition stating, "… [all] users need to be able to locate, make sense of, and evaluate appropriate resources, and therefore attention needs to be paid to the development of information literacy skills" (p. 145). This reflected the difference and importance between having access to

technology, which is commonly referred to as the digital divide (Campbell, 2001; Rye, 2008;

Van Dijk & Hacker, 2000), and being able to make use of the technology (Middleton &

Chambers, 2010). The main indicators for identifying and measuring differences in the digital

divide have been owning a computer and having access to the Internet (Rye, 2008). Therefore,

digital divide addressed the disconnect between those with access and those without, impacting

the equality of technology use (Benson, Johnson, & Kuchinke, 2002; Davis et al., 2007).

Research confirmed that access and skills are linked together in a "vicious" circle (Cooke &

Greenwood, 2008). Accordingly, it became clear that computer ownership does not guarantee

usage, making the use results highly variable (Rye, 2008). Without access, users cannot develop

skills, and without skills they cannot benefit from access (Cooke & Greenwood, 2008; Sipior,

Ward, & Connolly, 2011; Rye, 2008). This is supported in Van Dijk's (1999, 2000) claim that

"access problems gradually shift from motivation and material access to skills and use" (Rye,

2008, p. 181).

Technology in the workplace can create barriers, reinforcing existing inequalities present

in society today, including lack of democratic participation and social inclusion (Cooke &

Greenwood, 2008). Previous research suggested demographic variables along with technology

experience are related to the digital divide (Middleton & Chambers, 2010), thus impacting digital

equity. Rye (2008) suggested social features impact digital equity more than the technology

itself. These individual differences can lead to issues impacting employees' acceptance of

technology in the workplace.

Factors Impacting Digital Equity in Formal Education

Digital equity in the context of formal education has been studied for many years where

several barriers have been identified (Cooke & Greenwood, 2008; Pynoo et al., 2011; Ritzhaupt,

Dawson, & Cavanaugh, 2012). Various education studies noted barriers facing students such as gender, race, SES, (Boonaert & Vettenburg, 2011) and barriers facing teachers such as attitudes, resources, and skills (Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur, & Sendurur, 2012).Teachers as well as students face digital equity barriers in formal education. The role teachers' play in formal education is crucial to student achievement. With fast moving technological changes happening in today's world, schools must be prepared to provide equal learning opportunities for all students, and it is the teacher's role that is majorly impacted with an expectation to assume integrating technology in the classroom. In addition to the barriers facing teachers, the traditional factors of individual students, including gender differences, race, and SES status (Boonaert & Vettenburg, 2011), play a role in digital equity in the classroom. We live in a time when students are being required to research information online and type reports on a computer and students are being "constructed as a homogeneous group" (Boonaert & Vettenburg, 2011, p. 61). Students are not all the same and bring diverse experiences with them to the classroom. To understand the factors impacting digital equity in formal education, a review of the technology integration barriers teachers' face will be discussed first followed by the barriers students face.

Teachers' barriers. In 2006, Hew and Brush provided a report on the technology integration barriers teachers faced based on the analysis of forty-eight empirical studies. Six categories of barriers were identified, including resources, institution, subject culture, and assessment (Ertmer et al., 2012; Hew & Brush, 2006; Karaca, 2011). From these six categories, three were cited most frequently—resources, teachers' knowledge and skills, and teachers' attitudes and beliefs (Ertmer et al., 2012). Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur, and Sendurur (2012) categorized resources as first order (external) barriers and teachers' knowledge and skills as well as attitudes and beliefs as second order (internal) barriers. These barriers have

not changed according to studies done in the early 1990s, when computers were just being introduced to the classroom. This is due to the continual change in technology. According to Lu and Overbaugh (2009) the same barriers were identified by Hasselbring (1991) and Scheingold and Hadley (1990) labeling these barriers as "theoretical forerunners of more recent empirical constructs of school environment and context" (p. 90). These early researchers recognized the school environment was changing due to the introduction of computers in the classroom. Like today, teachers in the '90s were faced with new constraints and encountered barriers while trying to integrate computers into their teaching (Lu & Overbaugh, 2009) making this research still relevant today.

Different barriers affect digital equity to different degrees. In general the research seems to follow this pattern with one article specifically reporting specific degrees of impact: 40 percent resources, 23 percent teachers' knowledge and skills, and 13 percent teachers' attitudes and beliefs (Ertmer et al., 2012).

Student barriers. The discussion up to this point has focused on the main barriers impacting digital equity from a teacher's perspective. There are additional factors that impact digital equity in the classroom, which are equally important to examine. These are commonly referred to as traditional factors (Boonaert & Vettenburg, 2011) and are centered on gender, race, and SES of students.

Gender bias. Gender bias has been a subject of research for many years and is noted in the literature as the most important traditional factor impacting digital equity (Plumm, 2008). Gender bias in software programs was reflected in the characters, content, and reward systems (Bhargava, 2002). This can be seen in educational software where there are generally more male than female characters, suggesting that girls are not of as much value as boys. Teachers often

promoted computer use to boys more often than to girls, resulting in stereotyping girls' abilities with digital technologies (Plumm, 2008). Stereotype threat plays a role in gender socialization, especially in math and science where boys are more involved and received more attention than girls from teachers (Neuburger, Jansen, Heil, & Quaiser-Pohl, 2012). Teachers may give students the impression that boys are better at computers than girls, letting boys have priority over girls using computers in the classroom. This lack of access to computers and experience using technology has led to a decline of women going into technology-related fields, specifically math and science (Cunningham, 2011; Plumm, 2008; Shores & Smith, 2011). Female teachers may not be using technology as frequently as male teachers based on their own attitudes and beliefs (Plumm, 2008). This lack of leadership by a female teacher reinforced the stereotype of gender difference, which has a strong influence on the success of females in technology-related fields (Shores & Smith, 2011).

   Race and Socioeconomic Status (SES). Issues of race and SES continue to be a factor impacting digital equity. Access to technology resources is a digital equity issue, which is primarily related to inequity of resources in SES schools. The largest group it affects is students from low-income, minority families (Banister & Reinhart, 2011) as these groups are primarily those who attend low SES schools. Kalyanpur and Kirmani (2005) explained schools in inner cities and rural areas often have a shortage of technology resources. Schools in white suburban neighborhoods are more likely than schools with low-income minority students to utilize application packages and software programs (Kalyanpur & Kirmani, 2005). Judge, Puckett, and Bell (2006) revealed that high poverty schools had an average of one hundred twenty-five computers per school with the low poverty schools having an average of one hundred fourteen computers per school. Differences also existed in home use with high SES children 2.78 times

more likely to have a computer at home than their low SES counterparts (Hohlfeld, Ritzhaupt, Barron, & Kemker, 2008). The lack of digital resources in the home can be attributed to how well a student uses technology in school were the findings of a study investigating low and high SES K-12 schools in Florida (Hohlfeld et al., 2008). The results showed a correlation between a student's use of technology at home and his/her proficiency using technology at school (Hohlfeld et al., 2008).

Digital Equity in the Workplace

In contrast to research on digital equity in formal education, the study of digital equity in the context of the workplace has been largely overlooked (Cooke & Greenwood, 2008; Smith, 2005). Indeed, digital equity in the context of the workplace is a social justice goal (Solomon, 2002). The prospect of digital exclusion of individual learners was behind the move to digital equity and was a source of concern in a knowledge-based society (Resta & Laferriere, 2008). There is a lack of theoretical models, metrics, and empirical research on digital equity in the workplace. There were only a few significant articles in the literature that discussed digital equity factors in the context of the workplace (Middleton & Chambers, 2010). Quazi and Talukder (2011) investigated the impact of demographics on individuals' perceptions and acceptance of technology (Microsoft Outlook) in the workplace in Australia. The specific demographics investigated by Quazi and Talukder (2011) were age, educational background, and training status. Relevant literature presented by Quazi and Talukder (2011) found these variables to have an impact on acceptance of technology in the workplace. Specifically, the review showed people with a higher level of education had a tendency to adopt technology quickly; whereas people with low levels of education had more uncertainty in technology acceptance (Lerouge, Newton, & Blanton, 2006; Porter & Donthu, 2006; Rogers, 2003). To this author's knowledge

no research specifically investigated the impact of digital equity factors as a whole on users'
acceptance and use of a knowledge sharing technology in the workplace.

Factors impacting digital equity in the workplace. The same digital equity factors
identified in formal education were factors identified in employee and organizational
performance in the digital workplace (Benson et al., 2002). These included attitude, knowledge
and skills (Hacker, Mason, & Morgan, 2009), gender differences (Middleton & Chambers, 2010;
Smith, 2005), race, and SES (Middleton & Chambers, 2010; Moody et al., 2003). Some of these
factors were referred to as demographic variables (i.e., ethnicity and age) by Coleman (2005) and
demographic and situation variables (i.e., gender, ethnicity, age, education, and experience) by
Middleton and Chambers (2010). Some examples of studies examining relationships between
these variables and technology acceptance are noted below.

Knowledge and skills. With the digital workplace being built around employees and
technology, the need to have skilled workers becomes more prevalent, creating challenges for
organizations. Internet skill has been noted in several studies as a factor to technology
acceptance in the workplace. Sipior, Ward, and Connolly (2011) identified Internet skill and
competence as individual variables of acceptance of technology in electronic-government (e-
government). Four key challenges identified by Benson, Johnson, and Kuchinke (2002) were
access, skills, abilities and attitudes, and training. First, variables determining technical access
were identified as availability of hardware and software, cost, connectivity speed, technical
support, and availability of time to learn and upgrade (Benson et al., 2002). Second, without
efficient skills, both in hardware and software as well as cognitive abilities, an opportunity to
exclude and marginalize people was created (Benson et al., 2002). Third, the ability to discern

information was critical (Benson et al., 2002). Thus, education remained a significant factor in computer literacy and technical skills (Middleton & Chambers, 2010).

Gender differences. In their literature review on gender and the digital divide, Middleton and Chambers (2010) noted gender to be a predictor of individual technology adoption and usage in the workplace. They noted men in the workplace were more likely to say they were technically oriented than women in the workplace (Middleton & Chambers, 2010). However, current research according to Middleton and Chambers (2010) suggested this may be changing, with a higher percentage of women using the Internet than men. Quazi and Talukder (2011) suggested further research is needed using gender as a demographic variable in technology acceptance.

Race and SES. Middleton and Chambers (2010) found conflicting views of ethnic digital divide in the literature, with few studies addressing it as a significant predictor of technology adoption and use.

Summary

While digital equity in the context of formal education has been studied for many years, studies of digital equity in the workplace have been largely missing. Teachers in formal education have been assigned the role of providing students with the tools needed to be successful in today's digital society (Pynoo et al., 2011; Ritzhaupt et al., 2012). Knowledge and skills, gender differences, and race and SES are noted in the literature as commonalities between digital equity in formal education and digital equity in the workplace. This responsibility of teachers is met with several barriers, just as using technology in the workplace is met with barriers by organizations. Because technology is constantly emerging, people are continually being left behind, even if they were once digitally included (Gripenberg, 2011).There are two

things that seem to be a theme in digital equity that must be present, and those would be the fact that there is digital utilization and that there are equal opportunities for gain among the users. While digital equity factors have been studied in various contexts in the past, the lack of models, metrics, and empirical research in the context of users' acceptance and use of a knowledge sharing technology in the workplace creates a gap in the literature. The aim of this study was to conceptually and theoretically examine how digital equity, as individual differences, moderates technology acceptance in the workplace thus contributing to the digital equity body of literature.

Workplace Learning

Even though the concept of workplace learning has received much attention by researchers (Li et al., 2009; Skule, 2004), little empirical research has been conducted to understand the role of workplace learning in promoting or hindering technology acceptance in organizations. Recent literature has emphasized the importance of an organization's ability to adapt to technological changes therefore workplace learning has become a necessity (Bauer et al., 2004; Li et al., 2009).

How employees learn in an organization has been explored by many researchers (Huczynski & Buchanan, 1991; Weiss, 1990). Progress has particularly been made regarding how adults learn and what factors mediate workplace learning effectiveness (Griffin, 2011), labeled an "emerging paradigm of learning" by Hager (2004). This paradigm had researchers in disagreement, with some studies showing workplaces as strong learning environments and other studies providing evidence of workplace learning ineffectiveness (Nieuwenhuis & Van Woerkom, 2007). In a literature review comprised of one hundred seventy studies, Burke and Hutchins (2007) identified training design and delivery, work environment, and post-training supplements as factors impacting workplace learning. Bauer, Festner, Gruber, Harteis, and Heid

(2004) suggested that workplace learning is very different from formal education involving a teacher and a classroom, making it difficult for employees to recognize informal learning possibilities. Bauer et al. (2004) showed epistemological beliefs influence learning strategies and learning outcomes, indicating that an employee's beliefs impact learning in the workplace.

The definition of workplace learning is argued by many researchers. Workplace learning was categorized as both formal and informal learning and focused on improving conditions and learning practices in a work setting (Li et al., 2009). Formal learning was typically defined as structured learning that took place outside of the work environment in a classroom-based formal education setting (Marsick, 2009). This was considered the standard paradigm of learning (Beckett & Hager, 2002). Informal learning was described by several researchers as unplanned and having unpredictable results, never organized or intentional, and was seen as happening spontaneously without stated learning outcomes (Kyndt, Dochy, & Nijs, 2009). Billett (2004) argued that workplace learning was far from informal, suggesting that an individual's unplanned or unstructured approach to workplace learning was actually highly structured and intentional. This concept was supported by the research of Fuller and Unwin (2003) who pointed to expansive participation as being deeper and more imaginative learning in their focus on modern apprenticeships in the workplace.

In the 1990s an earlier concept of the learning organization gained popularity (Seng, 1990). Much of the literature examined the concept of a learning organization with an organizational perspective (Berg & Chyung, 2008). However individual, organizational, and group levels collectively contributed to the success of a learning organization (Berg & Chyung, 2008). A learning organization is defined as "an organization where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of

thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together" (Seng, 1990, p. 3). The key to this definition is the collectivism and integration between employees and learning.

The context of workplace learning and learning organization has a common thread, which is, in order to make improvements in the organization employees needed to take action and be involved in individual and collective learning (Holyoke, Sturko, Wood, & Wu, 2012; Weldy & Gillis, 2010). In a study of faculty perceptions about their departments as learning organizations, Holyoke, Sturko, Wood, and Wu (2012) identified autonomy as success, stating faculty often identified more with their academic unit than with the university as a whole. Therefore, organizational learning in higher education institutions is more complex due to the many academic units and cultures that exist, resulting in independent silos. Based on this, can organizational learning exist in higher education institutions?

Workplace learning is associated with several social theories in the literature. Workplace learning was identified as not only a learning environment, but also as a product of culture and social interaction (Armson & Whiteley, 2010; Kessler, Horton, Gottlieb, & Atwood, 2012; Kyndt et al., 2009). Kyndt, Dochy, and Nijs (2009) revealed learning conditions that made workplace learning possible. Critical success factors associated with workplace learning effectiveness included communication and interaction, cooperation, feedback, evaluation, participation, reflection, coaching, and information (Kyndt et al., 2009; Weldy & Gillis, 2010).

Workplace Learning and Technology

Technology served not only as a means of collaboration between employees, but also as a method to how they learn during work (Jones, 2007). Li et al. (2009) agreed that as part of informal learning, staff learning increased when there was access to technology and the

opportunity to collaborate. Kessler, Horton, Gottlieb, and Atwood (2011) identified employee

acceptance of technology as key to implementation of a workplace learning system in their study

of an implementation of a workplace learning program in Texas WIC agencies. When measuring

the response of factory workers to new technology, a relationship between learning culture and

technology acceptance was identified (Reardon, 2010).

Measuring Workplace Learning

There was no consensus among researchers on workplace learning evaluation or a single

workplace paradigm (Griffin, 2011). There have been several approaches to defining and

measuring constructs in learning organizations (Garvin, 1994; Pedler, Burgoyne, & Boydell,

1991; Seng, 1990; Watkins & Marsick, 1993, 1995), but lack of empirical research, along with a

variety of definitions, made it difficult to develop a uniform instrument to measure workplace

learning constructs (Song, Joo, & Chermack, 2009). However, one instrument has been validated

and proven reliable in several studies, the Dimensions of the Learning Organization

Questionnaire (DLOQ) (Watkins & Marsick, 1996).

As noted, many studies have used DLOQ due to its validity and reliability with several

types of organizations from multi-national corporations and government to non-profits (Ali,

2012; Holyoke et al., 2012; Jamali, Sidani, & Zouein, 2009; Reardon, 2010; Watkins & Dirani,

2013; Yang, Watkins, & Marsick, 2004). The original version of the DLOQ contained forty-

three questions measuring perceptions of employees on seven factors of a learning culture,

divided into three levels—individual, group, and organizational. A shorter version, consisting of

twenty-one questions, was recommended when researching relationships between multiple

variables (Ellinger, Ellinger, Yang, & Howton, 2002). According to Yang, Watkins, and Marsick

(2004), the score from the short version was positively correlated with the learning culture of an

organization. The short version emphasized continuous learning for individuals, teams, and organizations and had an overall reliability of 0.93 and a coefficient alpha ranging between 0.68 and 0.83 (Ellinger et al., 2002). Based on the multiple relationships being examined in this study, Watkins and Marsick's (2003) DLOQ (short version) will be used to measure employees' perception of learning culture in the workplace.

Summary

There is a difference in opinion among researchers on the definition of workplace learning, the main argument being what defines formal and informal learning. Billett (2004) argued workplace learning is far from informal and suggested attention should focus more on structures, norms, values, and practices in the workplace and how these created opportunities for collaboration and learning. Alternatively, Li et al. (2009) identified effective informal learning as a significant portion of workplace learning in a multisite case study examining KM systems to improve knowledge sharing. The question remains as to how workplace learning is best measured.

Participants in this research study will complete only the DLOQ. In an effort to avoid the oversimplification of the relationship between technology and workplace learning (Kling, 2000), the contextual question, "Under what conditions will users accept and use a knowledge sharing technology in the workplace?" will be asked in this research study. The DLOQ is a perceptual measure of climate in an organization. This survey measures the learning culture of an organization. Learning culture represents improving learning conditions in the work setting. This dissertation proposed to extend the UTAUT model to predict users' behavioral intent and use of technology with workplace learning acting as a separate external moderator. By doing so, practitioners will be able to gain a further understanding of how employees' perceptions of

workplace learning, based on the seven factors outlined in the DLOQ survey, influence users'

acceptance and use of a knowledge sharing technology in the workplace.

The Unified Theory of Acceptance and Use of Technology (UTAUT) Model

Acceptance factors have been studied by previous researchers, resulting in several

information system theories and models designed to assist in explaining the intention and usage

of technology (Rahman et al., 2011). UTAUT has been adopted and extended by many

researchers to investigate acceptance and usage of technology in the workplace. UTAUT was

developed by Venkatesh, Morris, Davis, and Davis (2003) to explain behavioral intent and use of

a technology system by incorporating factors of performance expectancy, effort expectancy,

social influence, and facilitating conditions (Figure 2).
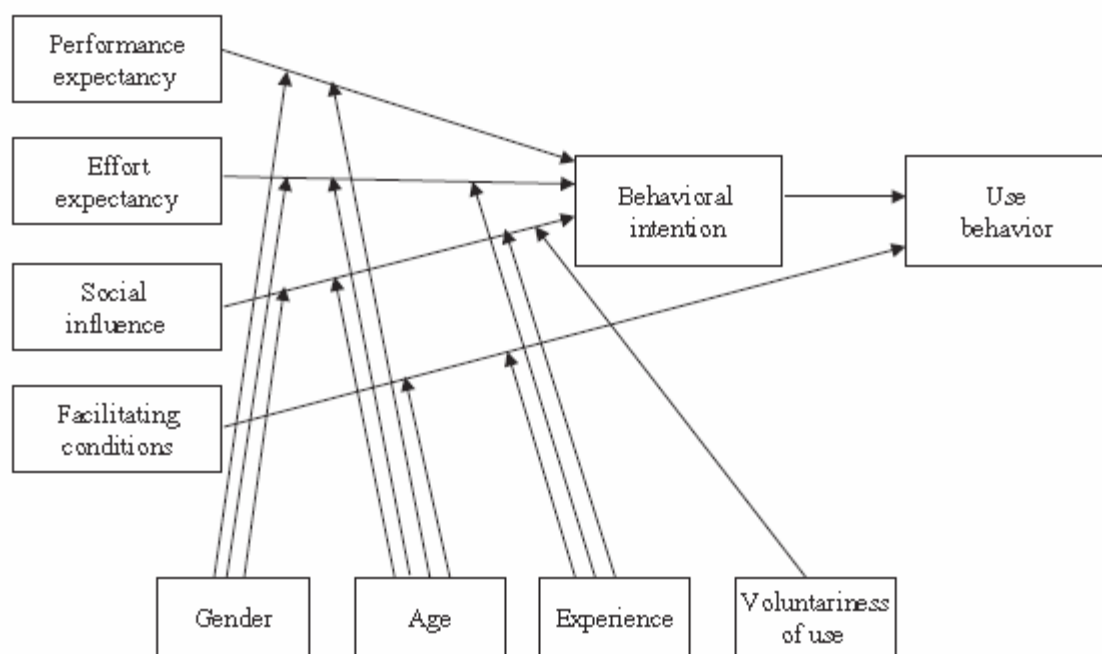
Figure 2. The Original UTAUT Model. This figure illustrates the constructs and moderators of the UTAUT model. Adapted from "User Acceptance of Information Technology: Toward a Unified View", by V. Venkatesh, M. Morris, G. Davis, F. Davis, 2003, *MIS Quarterly, 27*(3), 425-478.

Prior to the concept of Venkatesh et al. (2003), a technology acceptance model was introduced by Davis, Bagozzi, and Warshaw (1989), called the Technology Acceptance Model (TAM) and was aimed at understanding computer usage behaviors. TAM was specifically relating to organizational or workplace environments and was an adaptation of an even earlier theory, the Theory of Reasoned Action (TRA) by Fishbein and Azjen (1975). Most theories of IT acceptance were based on TRA and TAM (Bourdon & Sandrine, 2009). TRA studied human behavior capturing internal variables, attitudes and beliefs through external variables (actual behavior) (Fishbein & Azjen, 1975). TAM has the ability to explain 40 percent of the variance of accepting technology in the workplace. By incorporating constructs from this model and others, the UTAUT model has the capability to explain 70 percent of the variance (Ibrahim, Khalil, & Jaafar, 2011).

UTAUT has been used as a framework to predict users' intent and use of several types of technology, including information and communication technology (ICT) acceptance (Gupta, Dasgupta, & Gupta, 2008; Saravani & Haddow, 2011; Wang, Wu, & Wang, 2009), teachers' acceptance of digital learning environments (Birch & Irvine, 2009; Pynoo et al., 2011), and web-based learning (Chiu & Wang, 2008). Saravani and Haddow (2011) found the UTAUT model was able to provide more in-depth data analysis than the original deconstructed themes from their qualitative study on mobile library and staff preparedness. Additionally, based on consistency, Birch and Irvine (2009) suggested the UTAUT model be used for the study of preservice teachers' intentions to use ICT.

However, Venkatesh et al. (2003) clearly stated more research is needed to incorporate other variables that will influence acceptance beyond what is included in the UTAUT model. Venkatesh et al. (2003) encouraged future researchers to look at the "complex range of

moderating influences" (p. 469) to obtain a clearer understanding of users' acceptance to technology. In the context of acceptance of knowledge sharing technologies in the workplace, there has been little effort to determine predicting factors based on technology acceptance models (Bhatt, 1998; Ipe, 2003; Wang & Noe, 2010). Identifying individual and organizational factors outside the UTAUT model is highly important as these additional moderators may influence technology acceptance for knowledge sharing technologies. The original UTAUT model incorporates gender, age, experience, and voluntariness of use as moderators to the four determinants. To improve upon this model, gender and experience were removed as individual moderators of the original UTAUT model and regrouped as factors within the added external moderator, digital equity. Voluntariness of use was also removed as the use of SharePoint was not a mandate in the research setting.

While numerous studies have shown gender and experience to be significant moderators to UTAUT constructs, the research does not provide an explanation for these variables. By looking more closely at how gender and experience work in context with digital equity, a richer understanding of these moderating variables will be revealed (Venkatesh et al., 2003). The importance of identifying underlying influential mechanisms was underscored in the research of Venkatesh et al. (2003). This was especially true in the workplace where employees should have equal opportunities, regardless of gender, race, SES, or computer experience (Venkatesh et al., 2003). Digital equity is a potential candidate to reveal this.

Venkatesh et al. (2003) encouraged researchers to develop additional constructs and moderators based on the UTAUT model to aid in examining users' acceptance and use of various technologies. Two examples from the literature related to workplace learning were noted doing so, underscoring the complexity of the original UTAUT constructs (Saravani & Haddow, 2011;

Wang et al., 2009). The connection between social influence and workplace learning was highlighted by Saravani and Haddow (2011). These examples will be discussed later in this section, after a further review of UTAUT is complete.

UTAUT was a unified model based on empirical studies comparing eight different models synthesized to predict the intention of using technology (Venkatesh et al., 2003). Elements of the Theory of Reasoned Action (TRA), the Technology Acceptance Model (TAM), the Motivational Model (MM), the Theory of Planned Behavior (TPB), the Combined TAM and TPBD (C-TAM-TPB), the Model of PC Utilization (MPCU), the Innovation Diffusion Theory (IDT), and the Social Cognitive Theory (SCT) were tested, with eight constructs significantly spanning all time periods (Venkatesh et al., 2003). This resulted in four main constructs, referred to as determinants (performance expectancy, effort expectancy, social influence, and facilitating conditions) by Wang, Wu, and Wang (2009), along with four moderators (gender, age, experience, and voluntariness of use) comprising UTAUT. The three constructs that directly determined behavioral intention are performance expectancy, effort expectancy, and social influence, with facilitating conditions directly determining use behavior. Gender, age, experience, and voluntariness of use were moderators of these predictors. The difference between behavioral intention and use behavior is the difference between intention to use and actual use of the technology. The literature largely focused on the intent to use rather than actual use. UTAUT suggested that these four constructs determined use behavior and the moderators have effects on a user's acceptance of information technology (Venkatesh et al., 2003). The basic concept underlying this model is three-fold: (1) individual predictors to using information technology; (2) intentions to use technology; and (3) actual use of information technology (Venkatesh et al. 2003).

User acceptance of technology was further defined as "demonstrable willingness within a user group to utilize information systems for the tasks or purposes that are intended to support" (Dillon & Morrison, 1996; Ibrahim et al., 2011, p. 840). In the context of this study, user acceptance, based on this definition, meant proven action to use knowledge sharing technologies responsibly and for their intended purposes. Much of the research to date has been focused on creating new models and frameworks for understanding the use of technology for organizational knowledge sharing and collaboration (Chi & Holsapple, 2005; Hendriks, 1999; Song, 2002). Researchers such as Hendriks (1999) suggested that further research is needed regarding how the use of technology fits with management strategies promoting knowledge sharing. With the increase of technology-based knowledge management, Ipe (2003) suggested more case study investigation into the "nuances" of the knowledge sharing process. Bansler and Havn (2003) stated the need for further research on behavioral intention of knowledge sharing.

An understanding of the drivers for acceptance of knowledge sharing technologies was a priority in knowledge management research. Researchers have spent a considerable amount of time examining technology acceptance (Dasgupta, Granger, & McGarry, 2002; Davis, Bagozzi, & Warshaw, 1989; Venkatesh et al., 2003). Dasgupta, Granger, and McGarry (2002) investigated sixty information systems' undergraduate students' acceptance of Prometheus, an electronic collaboration technology similar to an intranet, using the TAM. TAM was introduced by Davis et al., (1989); it identified perceived ease of use and perceived usefulness determined behavioral intent to use technology. According to Dasgupta et al. (2002), the level of student experience and ease of use were both significant determinants of using Prometheus at the university. Fillion, Braham, and Ekionea (2011) used the TAM, TAM2 (Venkatesh & Davis, 2000), TAM3 (Venkatesh & Bala, 2008), as well as the UTAUT (Venkatesh et al., 2003) model to study

adoption and use of an enterprise resource planning (ERP) system by middle managers and end users in medium- and large-sized Canadian enterprises. Venkatesh et al. (2003) described research into technology adoption, acceptance, and use as "the most mature research area in contemporary information systems research literature" (p. 426). The UTAUT model has been proven to be a strong model (Venkatesh et al., 2003). Knowledge sharing technologies provide new methods for sharing knowledge, broadening the means of communication and collaboration among workgroups.

Extending the UTAUT Model

The UTAUT theory helped to explain user acceptance and actual use of a specific type of information technology (Venkatesh et al., 2003). In a complex literature review, Fillion et al. (2011) identified nineteen studies testing the UTAUT model and extensions to the model. Fourteen relevant studies are shown in Table 2. These fourteen studies are examples of extending UTAUT by using different constructs and moderator variables to help explain users' acceptance and use of a particular technology.

Table 2

Relevant Literature on the Test of UTAUT Model and Extensions

Studies	Models/Extensions	Constructs/Variables[1]
Venkatesh et al. (2003)	UTAUT	Independent: PE, EE, SI, FC Moderator: G, A E, VU Dependent: BI, UB
Wang and Yang (2005)	UTAUT, personality traits	Model 2 Independent: PE, EE, SI, FC Moderator: EX, C, A, N, O, E Dependent: BI
Anderson, Schwager, and Kern (2006)	UTAUT	Independent: PE, EE, SI, FX, G, A, E, VU Dependent: UB
Pu Li and Kishore (2006)	UTAUT, demographic characteristics	Independent: PE, EE, SI, FC Demographic: G, GK, SK, E, UF
Al-Gahtani, Hubona, and Wang (2007)	UTAUT	Independent: PE, EE, SN, FC Moderator: G, A, E Dependent: BI, UB
Chang, Hwang, Hung, and Li (2007)	UTAUT	Independent: PE, EE, SI, FC Dependent: BI, UB
Park, Yang, and Lehto (2007)	UTAUT	Independent: PE, EE, SI, FC Moderator: G, E, ED Dependent: BI, UB
Seymour, Makanya, and Berrange (2007)	UTAUT	Independent: PE, EE, SI, FC, SB, PC Moderator: G, A, E Dependent: BI
Gupta, Dasgupta, and Gupta (2008)	UTAUT	Independent: PE, EE, SI, FC Moderator: G Dependent: BI, UB
Kijsanayotin, Pannarunothai, and Speedie (2008)	UTAUT	Independent: PE, EE, SI, FC Moderator: E, VU Dependent: BI, UB

Table 2 Continued

Studies	Models/Extensions	Constructs/Variables[1]
Van Dijk, Peters, and Ebbers (2008)	UTAUT, socio-demographic, medial and channel use, and government supply-of-services factors	Independent: PE, EE, SI, AT, A, G, ED, SDF, MCF, GSF Dependent: BI, UB
Venkatesh, Brown, Maruping, and Bala (2008)	UTAUT	Independent: FC, BI Moderator: G, A, E Dependent: BE, UB
Wills, El-Gayar, and Bennett (2008)	UTAUT	Independent: PE, EE, SI, FC Dependent: BI, UB
Sykes, Venkatesh, and Gosain (2009)	TAM, UTAUT, social networks	Independent: BI, FC, SNF Dependent: UB

Note. Adapted from "Testing UTAUT on the Use of ERP Systems by Middle Managers and End-Users of Medium- to Large-Sized Canadian Enterprises," by G. Fillion, H. Braham, and J.-P. B. Ekionea, 2011, *Academy of Information and Management Sciences Journal, 14*(1), 1-29.

[1]PE: performance expectancy; EE: effort expectancy; SI: social influence; FC: facilitating conditions; G: gender; A: age; E: experience; VU: voluntariness of use; BI: behavioral intention; UB: use behavior; C: conscientiousness; O: openness; N: neuroticism; GK: general computing knowledge; SK: specific weblog-related knowledge; UF: usage frequency; SN: subjective norm; ED: education; SB: shared belief; PC: project communication; AT: attitude toward IS; SDF: socio-demographic factors; MCF: media and channel use factors; GSF: government supply-of-service factors; SNF: social network factors.

UTAUT has been used to measure technology acceptance toward several types of technology and helped to explain how and why an individual tries new technology in the workplace (Venkatesh et al., 2003). The studies defined in Table 2 involve technologies such as online meetings, hardware, mobile technologies, web-based front ends, and content management systems. Each of these studies was examined using a variety of constructs and moderators. The findings revealed the extensions (i.e., gender and education) were significant moderating factors

on behavioral intent and use behavior for mobile technologies (Park, Yang, & Lehto, 2007). Additionally, the variance in behavior intent and usage behavior for government Internet services was 79.4 percent using socio-demographic variables as an extension to UTAUT (Van Dijk, Peters, & Ebbers, 2008). Finally, social network factors significantly enhanced understanding of use behavior for content management systems (Sykes, Venkatesh, & Gosain, 2009). None of the studies listed in Table 2 addressed digital equity or workplace learning as a moderator.

Recent literature showed that UTAUT is continuing to be extended in an effort to understand why the adoption rate of technologies was low. Yu (2012) identified social influence, perceived financial cost, performance expectancy, and perceived credibility, moderated by gender and age, as what impacted people to adopt mobile banking. Two independent variables based on banking literature, perceived financial cost and perceived credibility, were added to the original UTAUT model in Yu's (2012) study. Similarly, two additional independent variables were added to the UTAUT model for a study on user acceptance of mobile learning (Wang et al., 2009). This study examined performance expectancy, effort expectancy, and social influence, with the two new constructs being added: perceived playfulness and self-management of learning. Because mobile-learning differs from traditional technology, the author employed constructs that accurately reflected influences specific to the context (Wang et al., 2009). Two moderators were combined as possible effects for each of these constructs—gender and age (Wang et al., 2009).

Consistent with Venkatesh et al. (2003) the three constructs from the UTAUT model had a significant influence on the behavioral intention to use m-learning (Wang et al., 2009). Additionally, the two newly added constructs, perceived playfulness and self-management of learning, were noted as being significant for all respondents, having a stronger influence than

social influence on behavioral intention (Wang et al., 2009). This study showed the flexibility of the UTAUT model to predict behavioral intention to use technology in the workplace. By adding constructs this study predicted behavioral intention by incorporating two constructs important to mobile learning technologies.

Another example of investigating the complexity of deconstructing original UTAUT constructs was provided in a study by Chau and Hu (2002). Chau and Hu (2002) adapted a three-dimensional framework based on the original UTAUT model, which divided the primary constructs into three categories: individual (i.e., computer anxiety, computer self-efficacy, computer attitude), technological (i.e., performance expectancy and effort expectancy), and implemental (i.e. social influence, compatibility, and organizational facilitating conditions) contexts. Their research hypothesized technology acceptance is based on characteristics of these three areas and highlighted the complexity of constructs and that their relationships influenced technology acceptance and implementation (Chau & Hu, 2002).

The UTAUT model demonstrated great promise for understanding acceptance of knowledge sharing technologies. The UTAUT model was based on job environment (Ibrahim et al., 2011), making it a viable framework on which to investigate the factors influencing technology acceptance in the workplace. To understand the model better, the construct definitions and how they can be affected by moderators in a workplace context will be discussed next.

Dependent and Independent Constructs in UTAUT

Performance expectancy. This was the strongest predictor of intentional behaviors (Venkatesh et al., 2003; Ibrahim et al., 2011) and was moderated by gender and age in the UTAUT model, stronger for men and younger workers (Taylor, 2004). Performance expectancy

was defined as "the extent to which an individual believes that using an information system will help him or her to attain benefits in job performance" (Ibrahim et al., 2011, p. 842). Performance expectancy focused on task accomplishment, and research on gender differences indicated that men are more task-oriented than women; it makes "sense" to have gender as a moderator (Venkatesh et al., 2003). Research also showed that younger workers place more value on rewards (Venkatesh et al., 2003). Venkatesh et al. (2003) suggested that gender and age moderators should be used together and not independently, because age may affect traditional gender roles.

Effort expectancy. This is another predictor in the UTAUT model and was defined by Venkatesh et al. (2003) as the degree of ease associated with use of the system, with ease of use becoming insignificant over a period of time. By helping new users, reducing steps to complete a task, and avoiding implementation too early, employees learn a new technology (Taylor, 2004). Effort expectancy was moderated by gender, age, and experience in "concert" (Venkatesh et al., 2003). According to Ibrahim et al. (2011), effort expectancy (ease of use) had a greater effect on young female users having little experience with the technology system.

Social influence. Social influence was a third predictor in the UTAUT model and means the extent to which others influenced technology use (Venkatesh et al., 2003). Social influence was moderated by gender, age, experience, and voluntariness of use, again in concert with each other as referenced to in the UTAUT model (Venkatesh et al., 2003). Voluntariness of use meant when use of technology is either mandated or voluntary and was stronger when mandated (Taylor, 2004). By requiring employees to use a specific technology, use increased (Taylor, 2004). Social pressure was higher with less experience in the workplace, because as users gained experience with the technology it became more of an instrument over time (Venkatesh et al.,

2003). The hypothesis stated the effect of social influence will be greater on older women, primarily due to women's sensitivity to others' opinions (Venkatesh et al., 2003).

Facilitating conditions. The final predictor in the UTAUT model was defined as the degree to which a person believed an organization had the necessary organizational and technical infrastructure to handle the technology in place (Venkatesh et al., 2003). According to Venkatesh et al. (2003), when both performance and effort expectancy were present, facilitating conditions were not significant; age and experience were the only moderators on this construct, and were used in concert with one another in the UTAUT model. This was because finding multiple ways to get help and technical support in an organization was more common with older experienced workers because they attached more importance with receiving help (Venkatesh et al., 2003). The social component of the organization was stressed in this construct whereas the technical aspect was not clear.

What is technical infrastructure? The literature did not provide a clear definition for this in the context of UTAUT. Azjen (1991) defined facilitating conditions as "reflects perceptions of internal and external constraints on behavior and encompasses self-efficacy, resource facilitating conditions, and technology facilitating conditions" (Venkatesh et al., 2003, p. 454). Other literature referred to technical infrastructure as being the implementation of processes aligning business with IT (Lucio-Nieto, Colomo-Palacios, Soto-Acosta, Popa, & Amescua-Seco, 2012; Tambouris, Zotou, Kalampokis, & Tarabanis, 2012).

Summary

Research has shown that even though organizations have implemented technology for employees' learning and performance, it will have no value if unused (Venkatesh et al., 2003). In efforts to predict users' acceptance and use of technology, the UTAUT model was developed.

The UTAUT model has been empirically validated and tested in numerous studies. Through a review of the literature, eight models were used to describe user acceptance of technology from which four constructs were identified as significantly playing a role as direct determinants (performance expectancy, effort expectancy, social influence, and facilitating conditions), and four moderators were also identified across all eight models (experience, voluntariness of use, gender, and age) (Venkatesh et al., 2003). Moderators are important for contextual analysis to develop strategies for technology implementation in organizations. Venkatesh et al. (2003) encouraged future researchers to extend and explore the existing UTAUT model to obtain a richer understanding of adoption and use of technology.

This research study suggests using an extended UTAUT model consisting of two additional external moderators, digital equity and workplace learning, which encompass individual and organizational level factors impacting acceptance of a knowledge sharing technology in the workplace. Individual, organizational, and technological factors have been noted as significant in the research of users' acceptance of technology in the workplace (Masrek et al., 2007). These external moderators address the gap between user acceptance and individual and organizational usage outcomes, as questioned by Venkatesh et al. (2003) when they suggested further research is needed on the topic. Furthermore, digital equity and workplace learning have not been identified in the context of previous UTAUT research.

<p style="text-align:center">Relationship between Digital Equity, UTAUT, and Workplace Learning</p>

The literature on usage of UTAUT as a model to investigate the relationship between digital equity and workplace learning as external moderators was missing. The need to improve the UTAUT model was important to keep pace with technological and societal changes in the world (Kling, 2000; Liker, Haddad, & Karlin, 1999). The UTAUT model was based on job

environment (Ibrahim et al., 2011), making it a viable framework to draw upon to investigate the possibility of formal education digital equity factors and workplace learning as influencing acceptance and use of a knowledge sharing technology in the higher education workplace. However, to address to what extent digital equity and workplace learning climate factors influenced acceptance of a knowledge sharing technology in the workplace, the UTAUT model was extended incorporating these as moderators.

Overall Summary

This literature review discusses the research surrounding knowledge, KM, knowledge sharing, knowledge sharing technologies, workplace learning, and digital equity. UTAUT is discussed in detail as a theoretical framework for understanding employees' acceptance and use of technology in the workplace.

First, the literature review provides background on the importance knowledge sharing plays for an organization to remain competitive. Three primary barriers for knowledge sharing were identified in the research: individual, organizational, and technical (Lin, 2007; Riege, 2005). This study proposed to investigate all three areas by examining digital equity at an individual level, workplace learning at an organizational level with an extended UTAUT model as the technology acceptance theoretical framework.

Analysis of the current information available shows the aim of this research study is to provide theoretical as well as practical implications for organizations wanting to implement a knowledge sharing technology in the workplace for users' acceptance and use. By identifying the influencing predictors of acceptance of a knowledge sharing technology in the workplace, organizations will be able to strategize successfully and accept new technology.

CHAPTER 3—METHODOLOGY

Overview

The present research model contains adaptations to the original UTAUT model. Based on a review of literature and the UTAUT theoretical context studied, this study explored an extended UTAUT model formed of four independent constructs influencing two dependent constructs. Performance expectancy, effort expectancy, social influence, and facilitating conditions are the independent constructs, while behavioral intention and use behavior are the dependent constructs. In addition, five moderator variables might affect the strength of the relationship between the independent and dependent constructs. The moderators include the factors associated with digital equity (i.e., gender, race, SES, and computer experience) and workplace learning climate (see Figure 3). This chapter begins with the research setting, participants, and pilot study. This will be followed with data collection, research questions, and data analysis.
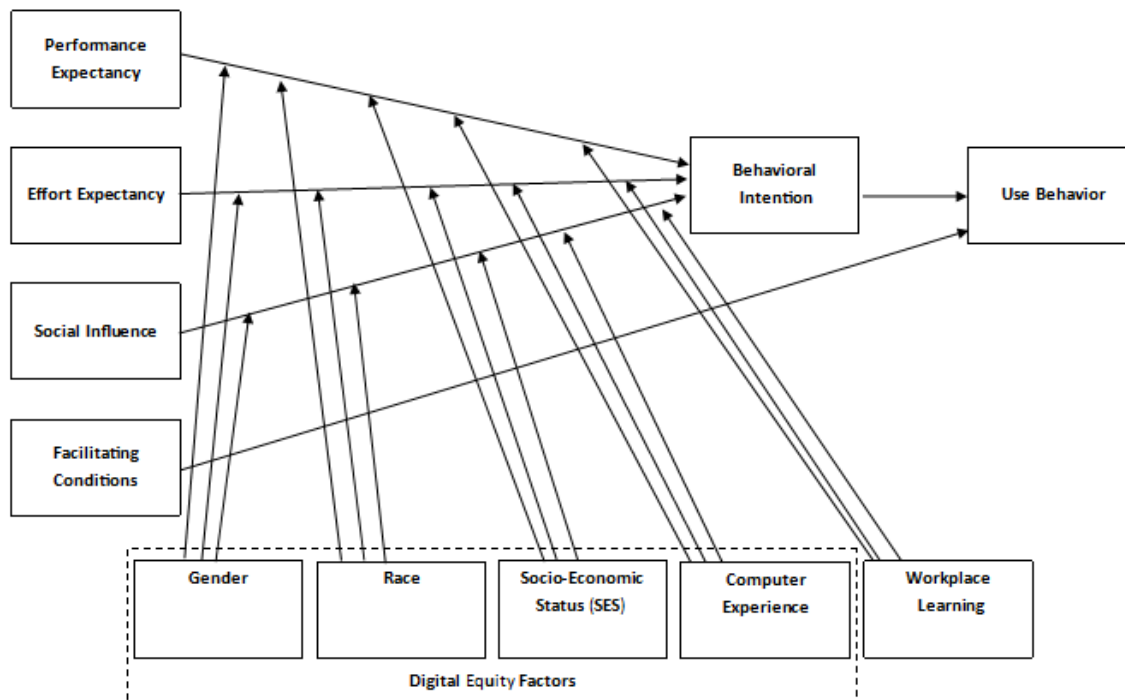
Figure 3. The extended UTAUT model. This figure illustrates the new external moderators, digital equity factors and workplace learning, extending the original UTAUT model.

Research Setting and Participants

The purpose of this study was to investigate the influence of digital equity factors and workplace learning on acceptance of a knowledge sharing technology in the higher education workplace; therefore, it was important to collect data from a university that was utilizing a knowledge sharing technology in its business processes. The opportunity for studying this was provided by the rollout of SharePoint in November 2012 as a knowledge sharing technology to the three campuses of the University of Illinois.

The University of Illinois is comprised of 38,733 faculty and staff (academic professional, civil service, and others) among three campuses (Urbana, Chicago, and Springfield), excluding student employees. After receiving Institution Review Board (IRB) approval, a representative sample of employees from these three campuses was invited to participate in this voluntary study. A subset of participants from the larger population was

interviewed based on the choice to participate in a focus group. The survey and focus group participants were drawn from the same population. Based on this criterion, the three campuses were potential data collection sites for this study.

Resulting Sample

The recruiting process followed IRB protocol and took a total of five weeks to complete (between February 27, 2014 and April 4, 2014). After agreeing to IRB consent, a total of 442 employees took the online survey. Of these, 390 participants completed all questions and these responses constituted the survey sample. This was a 5.6 percent response rate. The uncompleted surveys were excluded from data analysis. This number exceeded the amount requested in the preliminary proposal of 150 responses.

Additionally, from the 390 survey participants, 48 volunteered to participate in focus group sessions, resulting in a 12.3 percent response rate. While all 48 employees were invited to attend, 18 responded and after agreeing to IRB consent, participated in one of four focus group sessions held over the course of three weeks. Detailed demographics are discussed in Chapter 4.

Incentives

Two incentives were provided to the participants in this study in an effort to increase the response rate. First, a $99 Amazon gift card was awarded, drawn from the pool of participants who completed the online survey and elected to participate in the drawing. Second, another $99 Amazon gift card was awarded, drawn randomly from the pool of participants who elected to participate further in the focus groups and in the drawing. Not all participants elected to be included in the random drawings. Winners from both groups were drawn and notified after data collection was completed. The winner from the online survey drawing was mailed his gift card and the winner from the focus group session drawing picked up his card from the researcher.

Pilot Study

Prior to data collection and final IRB approval, a pilot study using purposeful sampling was conducted. Results of the pilot study provided internal validity to the online survey instrument and to the focus group questions being used for data collection. In addition to the researcher, three subject matter experts (SME) were invited to participate in the pilot study. All SMEs were members of the University of Illinois SharePoint Users' Group from the Urbana (UIUC) campus. Due to the results of the pilot study being excluded from the data for the full study, IRB approval was not needed.

For best pilot study results, Van Teijlingen and Hundley (2001) recommended following procedures just as if it were the full study. Therefore, the process for the pilot included administering the online survey, recording the time taken to complete the online survey, soliciting for feedback, and repeating the same for the focus group questions. The SMEs convened in a conference room on the Urbana campus (Coble Hall). Each of the SMEs was given a hard copy printout of the online survey and focus group questions, along with copies of the consent letters for the survey and focus group participants. SMEs first read through the online survey consent letter and then completed the survey. After completing the survey questionnaire, the SMEs and the researcher discussed whether there were any issues with either the consent letter or the questions (i.e., ambiguous or hard to understand or answer). The researcher documented the feedback in a notebook. SMEs then reviewed the focus group consent letter and focus group questions in the same manner. This allowed questions to be reworded as needed, shortened, or removed completely. Additionally each of the SMEs wrote comments on the hard copies of the surveys and focus group questions and returned these to the researcher at the end of the pilot study session. The pilot study session lasted approximately ninety minutes.

Changes were incorporated into the survey questionnaire and focus group questions as a result of the pilot study session. These modifications ranged from terminology and formatting issues to number and length of focus group questions, with the main changes being centered upon consistency in wording and number of scales and consolidation of focus group questions. The context of the survey instruments was not changed and no online survey questions were eliminated (Appendix C). After editing was completed, the revised questionnaire (Appendix A) and focus group questions (Appendix B) were sent to IRB for final approval prior to data collection.

Data Collection

This study used a mixed-methods approach to examine individual and organizational level factors affecting employees' acceptance and use of a knowledge sharing technology (i.e., SharePoint). The choice of utilizing mixed methods design was important to this study to gain a broader understanding of the individual and organizational conditions under which users accept a knowledge sharing technology in the workplace (Buck, Cook, Quigley, Eastwood, & Lucas, 2009; Jang, McDougall, Pollon, Herbert, & Russell, 2008; Johnson, Onwuegbuzie, & Turner, 2007). Mixed-methods, using both quantitative and qualitative analysis, is used by many researchers to compare and to validate the evidence compiled (Oye, Iahad, & Rabin, 2012). Additionally it deepens the understanding of the research questions (Hesse-Biber, 2010).

The sequence for this mixed-methods study was quantitative data collection first and qualitative data collection second. Therefore, the data were collected from online surveys first and focus groups second, from the same population. The quantitative data provided inferential statistics; the goal of the qualitative data was to validate as well as to provide a more detailed explanation of the numbers (Fielding, 2012). Comparatively, Buck, Cook, Quigley, Eastwood,

and Lucas (2009) refer to this as a "mixed methods sequential explanatory strategy" (p. 391) where two data collection phases are integrated during the interpretation phase (Creswell & Clark, 2007). Data collection took place from February 2014 to April 2014.

Quantitative Data

Quantitative data were collected with an online survey of participants in departments and colleges across all three campuses of the University of Illinois. Approvals (Appendices D and E) for this study were obtained from the IRB at the University of Illinois at Urbana, Chicago, and Springfield. Additionally, two email addendums were added to the approval: (1) a change to the sampling method; and (2) modifications made to online survey and focus group questions as a result of the pilot study (Appendix C). An email announcement with a link to the survey requesting participation in this study was sent to 7,000 employees, including all classifications of employment except student workers, at the University of Illinois on all three campuses (3,000 from Urbana; 3,000 from Chicago; and 1,000 from Springfield) via Webtools, with a total response rate of 6.3 percent. Due to Springfield being the smallest campus of the three, only 1,000 employees were selected. To ensure anonymity to the researcher, the Division of Management Information (DMI) Services at the Urbana campus created a Webtools email group and appended to this initial group the employee email addresses selected by the Chicago and Springfield Offices of Institutional Research, for their respective campuses. The researcher was only permitted to see the name of the email group in order to send out the email invitation. The researcher was not able to view or edit the individual employee emails within the group. The survey required participants to login with campus credentials for access, which ensured they were employees of the University of Illinois. This also restricted employees taking the survey once.

While the University of Illinois is geographically separated into three locations within Illinois, its campus-specific results were not analyzed in this study. The primary goal of including the three campuses was to increase participation in the survey. The employee samples were comprised of different job positions, ranging from academic professional, faculty, and civil service to other. To maximize sample response best practices were followed, including designing the questionnaire and cover letter for maximum appeal, offering incentives, and using follow-up emails (Blair & Zinkhan, 2006). Reminder email notifications were sent to the entire sample throughout the study (at the beginning of each week for the three weeks following initial notification), unless a potential participant elected to be unsubscribed from the email reminder notifications. In this case, DMI removed the participant from future mailings. Participant consent was required, but the option was available to opt out. Participants were not timed for the survey and were permitted to take the survey only once.

The online survey questionnaire (Appendix A) was designed to assess three areas: (1) acceptance and use of a knowledge sharing technology in the higher education workplace; (2) workplace learning; and (3) digital equity factors. The survey was based on two individual previously-developed and empirically-tested survey instruments along with demographic information combined into one document. Additionally in this study, the researcher used a multi-item, self-reported latent construct to provide dimensions on use behavior. Specifically, respondents were asked three questions gauging their usage: (1) frequency of using SharePoint; (2) frequency of using any collaboration technology; and (3) length of time using SharePoint. The use of self-reported constructs in conjunction with the UTAUT model has been used in previous studies (Al-Gahtani, Hubona, & Wang, 2007; Hester, 2011).

The first survey instrument was developed and validated by Venkatesh et al. (2003), the Unified Theory of Acceptance and Use of Technology (UTAUT) model. With over 70 percent of the variance being predicted, UTAUT predicted well beyond any other technology acceptance model (Ibrahim et al., 2011; Venkatesh et al., 2003). This survey instrument is composed of six constructs based on the original UTAUT model (Venkatesh et al., 2003): performance expectancy, effort expectancy, social influence, and facilitating conditions, behavioral intention, and use behavior. All of these constructs are defined in Table 3. The UTAUT instrument had been used to measure constructs by numerous researchers when examining users' acceptance and use of technology (Birch & Irvine, 2009; Lin & Anol, 2008; Pynoo et al., 2011; Saravani & Haddow, 2011; Wang et al., 2009; Wu, Yu, & Weng, 2012). This instrument can be viewed as the core of the study because it is the primary measure of employees' acceptance of a knowledge sharing technology in the higher education workplace. Participants rated twenty items of the survey based on a seven-point Likert scale from one (1) "strongly disagree" to seven (7) "strongly agree." These items were used to estimate the predictor latent constructs for the research model, including performance expectancy, effort expectancy, social influence, facilitating conditions, and behavioral intention. The use of latent constructs in the UTAUT model has been heavily documented in the literature (Brown, Dennis, & Venkatesh, 2010; Park et al., 2007; Venkatesh et al., 2003; Venkatesh, Thong, & Xu, 2012; Venkatesh & Zhang, 2010).

Table 3

The UTAUT Construct Definitions

Construct	Definition
Independent constructs	
Performance Expectancy	The degree to which an individual believes that using the system will help him or her attain gains in job performance.
Effort Expectancy	The degree of ease associated with the use of the system.
Social Influence	The degree to which an individual perceives that important others believe he or she should use the new system.
Facilitating Conditions	The degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system.
Dependent constructs	
Behavioral Intention	The degree to which an individual has formulated conscious plans to perform or not perform some specific future behavior.
Use Behavior	This measures the use of technology.

Note. Adapted from "User Acceptance of Information Technology: Toward a Unified View," by V. Venkatesh, M. G. Morris, G. B. Davis, and F. D. Davis, 2003. *MIS Quarterly, 27*(3), pp. 425-478.

The second survey instrument measured workplace learning by measuring seven dimensions of employees' perceptions of workplace learning. This scale was developed by Watkins and Marsick (1996), the Dimensions of Learning Organization Questionnaire (DLOQ). This instrument includes seven factors to measure learning and performance dimensions in an organization as shown in Table 4. Participants rated twenty-one items of the survey based on a seven-point Likert scale from one (1) "almost never" to seven (7) "almost always." The DLOQ

has been refined several times by researchers (Yang et al., 2004) to improve reliability and validity of the instrument (Weldy & Gillis, 2010). By measuring employees' perceptions of workplace learning, this instrument provides insight into how adept to change an organization is and how it adapts to technology to be successful (Rowley & Gibbs, 2008); this in turn may have an influence on employees' acceptance and use of a knowledge sharing technology in the workplace.

Table 4

The Seven Factors of a Learning Organization – Short Version

Factor	Definition
Continuous Learning	An organization's effort to create continuous learning opportunities for all its members.
Inquiry and Dialogue	An organization's effort in creating a culture of questioning, feedback, and experimentation.
Team Learning	Team collaboration and collaborative skills.
Empowerment	An organization's process to create and share a collective vision and receive feedback from its members.
Embedded System	Efforts to establish systems to capture and share learning.
System Connection	Reflects global thinking and actions to connect the organization to its internal and external environment.
Strategic Leadership	Reflects leaders' strategic thinking about how to use learning to create change and to move the organization in new directions.

Note. Adapted from "The Construct of the Learning Organization: Dimensions, Measurement, and Validation," by B. Yang, K. E. Watkins, and V. J. Marsick, 2004. *Human Resource Development Quarterly, 15*(1), pp. 31-55.

Finally, the online survey collected demographic information for analysis of gender, race, SES, and computer experience. SES is comprised of job position, education level, and individual income. The demographic information assessed digital equity factors during data analysis.

Qualitative Data

Qualitative data were collected and measured using focus groups. Focus groups have been used in research for over eighty years and are a way of collecting qualitative data by engaging a small number of people in a group discussion, focused around a specific subject (Onwuegbuzie, Dickinson, Leech, & Zoran, 2009). The standardized open-ended interview questions for this study were developed by the researcher based on the context of the online survey questions and revised as based upon results from the pilot study. Standardized open-ended interview questions are the most popular form for interviewing in research studies, according to Turner (2010). These types of questions are consistent yet allow the researcher to ask probing questions as a means to follow-up (Turner, 2010). While coding the data has been identified as more difficult for this type of questioning, the participants can provide more detail in their responses, therefore providing more qualitative data for the researcher (Turner, 2010). The focus group interview questions (Appendix B) were designed to assess the same three key areas that quantitative data addressed: (1) acceptance and use of a knowledge sharing tool in the higher education workplace; (2) workplace learning; and (3) digital equity factors.

Focus groups were conducted in parallel with online survey data collection. Focus group participants completed the online survey prior to participation in a focus group discussion. To ensure anonymous submittal, participants choosing to engage in focus groups were taken to a separate web page (from the online survey) to collect personal information (i.e., name, department, phone, and email). Participants were then contacted by email to provide details on

where and when the focus group interviews would occur. Focus group sessions took place in one

of two conference rooms on the University of Illinois Urbana campus—Coble Hall or the Henry

Administration Building. The sessions lasted up to ninety minutes and were either over the noon

hour, in which participants were encouraged to bring their lunch, or late in the day to

accommodate participants' schedules. Light snacks were provided during both time slots. For

participants that joined from the Chicago or Springfield campuses, a teleconference was

convened. There was a total of four focus groups (N = 18) with an average of four participants

per focus group. Onweugbuzie, Dickinson, Leech, and Zoran (2009) suggested three to six focus

groups are adequate "to reach data…and/or theoretical saturation" (p. 4). The focus group

sessions were guided by IRB-approved questions (Appendix B) with audio captured using

Audacity on a laptop with an external microphone. The focus group session logistics are

summarized in Table 5.

Table 5

Focus Group Session Logistics

(N=)	Date	Location	Duration
5	03/17/14	Henry Admin. Building	90 minutes
5	03/18/14	Coble Hall	60 minutes
3	03/19/14	Coble Hall	60 minutes
5	04/04/14	Henry Admin. Building	60 minutes

Research recommended a moderator team for focus group sessions, consisting of a

moderator and assistant moderator (Onweugbuzie et al., 2009; Quible, 1998). Therefore this

research study included a moderator (the researcher) and an assistant moderator. In addition to

asking a series of questions and taking notes, the moderator was responsible for facilitating the

discussion and encouraging everyone to participate, ensuring that a single participant did not

dominate the entire conversation (Onweugbuzie et al., 2009). Thus the role of the assistant

moderator was to record the session, take notes, secure the environment as viable (i.e., video

conferencing equipment was working, making sure members could hear if connected via

teleconference, and taking care of latecomers), and provide verification and interpretation of data

to the moderator. The assistant moderator is the same person tasked as a secondary coder for

qualitative data analysis (Quible, 1998), discussed later in this chapter. A search for an assistant

moderator/secondary coder was conducted through contacting peer doctoral students in the

University of Illinois' College of Education's doctoral programs who had prior coding

experience. The assistant moderator for this research study was a PhD student from the

University of Illinois' College of Education's Psychology program. The assistant

moderator/secondary coder selected had conducted multiple focus groups prior to volunteering to

assist with the current study. Additionally, this student used coding in her early research

qualitative study, spending considerable time coding interviews and journal entries. Henderson

(1992) identified the role of assistant moderator as not requiring any specific training; however, a

nonjudgmental attitude and strong foundation in research as well as a respect for others was

strongly encouraged.

Research Questions

The following research questions were addressed:

1. To what extent and under what conditions do digital equity factors influence

   predictors (i.e., performance expectancy, effort expectancy, and social influence) of

   intent to use a knowledge sharing technology (SharePoint) in the higher education

   workplace?

2. To what extent and under what conditions does the workplace learning climate affect predictors (i.e., performance expectancy, effort expectancy, and social influence) of intent to use a knowledge sharing technology (SharePoint) in the higher education workplace?

3. Which moderator (digital equity factors or workplace learning factors) would better influence the use of a knowledge sharing technology (SharePoint) in the higher education workplace?

Data Analysis

Before running any data analysis, data were verified for any issues (i.e., unanswered questions). Fifty-two surveys were found to be incomplete, meaning not all survey questions were answered. This was due to an error in the design of the survey in the survey tool (i.e., Web Tools); all questions were not marked as mandatory. This issue was detected and corrected during the first week of requesting participants to take the survey. Data were then downloaded into a spreadsheet format and imported into SPSS (the statistical tool used for quantitative data analysis). Once in SPSS, the data had to be recoded. This included recoding several different variables into one, defining variable labels and value labels for the newly created variables, and verifying the variable with frequency analysis.

Descriptive analysis, factor analysis, Cronbach's alpha, multiple regression, content analysis, and triangulation were used to answer the research questions. A determination of descriptive statistics to depict the sample was developed first. Descriptive measures are the basic summarization of data, including frequency, percentage, mean, median, mode, standard deviation, and range (Janes, 1999). These statistics help when making comparisons between sets of data (Carr, 2008).

Second, factor analysis played an important role in this study. Factor analysis reduces the number of variables into a more manageable number by identifying underlying factors that group variables into homogenous sets. Factor analysis can be exploratory or confirmatory. Exploratory factor analysis (EFA) is used when developing a new model or to determine whether other patterns exist; whereas confirmatory factor analysis (CFA) is used when constructs have been well-tested. In this study EFA was used to ensure the validity of workplace learning as a latent construct and to explore the possibility of different scales. EFA was also used to test the fit of the factors within the constructs of the UTAUT model (i.e., performance expectancy, effort expectancy, social influence, facilitating conditions, behavioral intention, and use behavior) (Wu et al., 2012). Item reliability was determined via the loadings of the measures with their respective construct. In general researchers accept items with loadings equal to or greater than 0.70 (Hulland, 1999). Items with loadings or cross-loadings below 0.50 were eliminated from the research to avoid reliability problems, with remaining loadings exceeding recommended cut-off levels (Chiao-Chen, 2013). The low loadings could be related to poorly worded items or the improper transfer from one context to another (Hulland, 1999).

Third, in a model containing multi-item constructs, it is important to test reliability of the constructs. Cronbach's alpha, a commonly used measure of reliability, was utilized to test how closely related the set of factors for workplace learning was and also to test the UTAUT constructs for the same (Hinkin, 1995; Wu et al., 2012). A general range of Cronbach's alpha includes: reliable between 0.50 and 0.70, very reliable between 0.70 and 0.90, and strongly reliable greater than 0.90 (Wu et al., 2012). Values over 0.70 are often considered acceptable. Once reliability testing was completed, the constructs (i.e., performance expectancy, effort expectancy, social influence, facilitating conditions, behavioral intention, and use behavior) were

re-coded in SPSS based on the mean of the related survey questions (i.e., behavioral intention was the average of behavioral intention questions). The use of UTAUT construct averages in multiple regression analysis for the study of technology perception and adoption was identified in the literature (Mardikyan, Besiroglu, & Uzmaya, 2012).

Fourth, the UTAUT model has been tested in a variety of research with the data examined using different analysis methods. The methods included partial least squares (Neufeld, Dong, & Higgins, 2007; Venkatesh et al., 2003), simple correlation analysis (Marchewka & Liu, 2007), linear regression (Chen, Wu, & Yang, 2008), and multiple regression (AbuShanab, Pearson, & Setterstrom, 2010; Mardikyan et al., 2012; Oye, Iahad, & Shakil, 2011). In this study multiple regression analysis was conducted to identify which moderator had the strongest influence on employees' acceptance and use of a knowledge sharing tool in the higher education workplace. Multiple regression analysis examines the relationships between a single dependent variable and several independent variables by incorporating each moderator separately (i.e., digital equity and workplace learning climate) (AbuShanab et al., 2010).

In order to examine moderator effects for categorical variables (i.e., gender and race), the first step was to represent these two categorical variables using dummy coding, as these must be interval data before being analyzed with multiple regression analysis (AbuShanab et al., 2010; Frazier, Barron & Tix, 2004). The number of code variables is dependent upon the number of levels of the categorical variable, minus one (Frazier et al., 2004). Gender was coded female and male (Table 6). Race was first combined with ethnicity into five race-ethnicity variables (i.e., Hispanic, White_NH, Black/African American, Asian, and Other) then coded into two dummy variables, after comparing differences between groups (i.e., White_NH and Other) as shown in Table 7. Assessing moderating effects of categorical variables in multiple regression was a

common choice in a variety of research (Aquinis, Beaty, Boik, & Pierce, 2005; Frazier et al., 2004). In a thirty-year review of psychology and management journals, Aquinis, Beaty, Boik, and Pierce (2005) identified the use of categorical variables as moderators in multiple regression analysis in over one hundred articles.

Table 6

Dummy Codes for Gender Variable

Gender	New Variable (Female)
1 (Female)	1
2 (Male)	0

Table 7

Dummy Codes for Race-Ethnicity Variable

Race	New Variable (White_NH)
1 (White-non Hispanic)	1
2-5 (Other)	0

Multiple regression analysis was then calculated on individual level (i.e., digital equity factors) and organizational level (i.e., workplace learning climate) factors, separately, as moderators to the UTAUT constructs. This data analysis method weighed every independent construct to ensure that the best prediction was obtained.

Finally, the main concepts and themes were collected, coded, and refined from focus groups for the qualitative data. To do so, a directed approach to qualitative content analysis was used. The goal of a directed approach as stated by Hsieh and Shannon (2005) was "to validate or extend conceptually a theoretical framework or theory… [and] is guided by a more structured

process….” (p. 1281). This type of analysis starts with theory as guidance for the initial codes (Hsieh & Shannon, 2005). Before coding could begin, data from the four focus group sessions were transcribed for a fee by a graduate student. The audio files were first exported to .wav files by the researcher. Due to the size of the audio files, they were transmitted to the transcriber via Box.com (a free cloud service offered at the University of Illinois) and were transcribed one at a time. The researcher gave the transcriber permissions to one specific folder in Box.com to download the files. The sessions were transcribed *verbatim*, including stutters and pauses. As the transcriber finished each focus group session, the documents were emailed to the researcher. Total time for transcription took 14.5 hours. Transcriber permissions to the researcher's Box.com folder were terminated after transcription was complete. The researcher then began the task of coding the data.

Qualitative data were coded by two coders, the researcher (primary coder) and another experienced coder (secondary coder). Bernard and Ryan (2010) encouraged having more than one coder for qualitative data research. The use of multiple coders was identified by Lee (2011) in a qualitative study on users' usage behaviors toward mobile video adoption in Taiwan. By having multiple coders, additional themes were not overlooked in the text, especially themes that may not be clear or easy to detect. To reduce necessary training for a secondary coder, a codebook was developed and provided by the primary coder which identified key themes, categories, definitions, and examples. This type of guide book provided detailed instructions for the secondary coder, serving as reference when marking data (Bernard & Ryan, 2010). To ensure against bias, the second coder searched for themes which the primary coder missed.

Inter-coder reliability was tested, which is vital, according to Bernard and Ryan (2010) when doing statistical analysis on data. Inter-coder reliability is referred to as an inter-coder

agreement by Lombard, Snyder-Duch, and Bracken (2002). While this does not ensure validity, it creates an agreement between coders which increases reliability of the research method (Lombard, Snyder-Duch, & Bracken, 2002). To measure inter-coder reliability, two or more coders categorize units and use these categorizations to calculate a numerical index of the extent of agreement between the coders (Lombard et al., 2002). Inter-coder reliability tests the probability that multiple coders find the same themes when examining text (Bernard & Ryan, 2010). Research showed coefficients of 0.80 or greater are an acceptable level of reliability and coefficients less than 0.70 being less acceptable, with Cohen's kappa being the most widely used measure of reliability outside of percentage agreement (Lombard et al., 2002). This study used Cohen's kappa inter-rater reliability to measure the agreement between two coders. Several user technology acceptance studies have used Cohen's kappa to measure dual coders (Bullinger, Renken, & Moeslein, 2011; Riezebos, Bijleveld, & Wierstra, 2012). When new categories emerged during analysis themes were refined and the codebook was updated to reflect agreement of both coders. It was important for the primary coder to have a solid understanding of the research paradigm and qualitative coding. While it would be ideal for the secondary coder to have these same skills, the iterative process of refining the codebook provided sufficient training for the secondary coder in this study.

This study followed the qualitative data analysis procedures proposed by Creswell (2003). The first step was organizing and preparing the data. In this step field notes from each focus group were placed in an electronic format and taped dialogue was transcribed. The second step involved reading and understanding what the participants were saying and determining credibility. After comparison between text and recorded data, coding was created and labeled in

step three. Step four sorted the coded data into themes and categories. In step five, a qualitative narrative was composed. In the final step, the data was interpreted.

During the final step of Creswell's (2003) method, reliability and validity of qualitative data will be tested using triangulation. Triangulation combined methods to strengthen a study of the same phenomenon (Golafshani, 2003; Jonsen & Jehn, 2009). In this study, qualitative and quantitative methods were combined to improve the analysis and understanding of the data collected in order to answer the research questions. Specifically, qualitative data was used to help understand the quantitative data and to provide real world perceptions and experiences of acceptance and use of a knowledge sharing technology in the higher education workplace.

Resources

Hardware

All statistical analysis and word processing were done on the researcher's personally-owned computer with data being backed up in multiple locations.

Software

All data analysis was conducted using the Statistical Package for the Social Sciences (SPSS), version 22, Microsoft Excel for qualitative coding and inter-coder reliability, and NVivo for comparison of qualitative data.

CHAPTER 4—RESULTS

The results consist of four sections. First, the researcher presents the participants and descriptive statistics. Second, the researcher reports the factor analysis and reliability of the survey instruments. Third, the researcher shares experience exploring data with bivariate regression and then reports the results to the research questions using multiple regression analysis. Finally, the researcher reports content analysis and uses triangulation to answer further the research questions.

Demographics

Participants

The target population for this study was employees of the University of Illinois (all campuses), excluding student employees. As a result, a total of 390 employees (of 7,000 who were sent the email to participate) responded to all questions on the self-administered questionnaire. This represented a response rate of 5.6 percent.

The respondents for this study were characterized by eight variables: gender, age, race, SES, computer experience, campus and length of employment, computer access and skills, and usage of knowledge sharing technology. Of 390 completed datasets for the online survey questionnaire, the average participant age was 31 to 40 (26.4%). Two hundred twenty-six questionnaires were completed by females (57.9%), while one hundred sixty-four (42.1%) were completed by males. The participants' races were reported as 303 (77.7%) White (non-Hispanic), 26 (6.7%) as Hispanic, 24 (6.2%) as Black/African American (non-Hispanic), 25 (6.4%) as Asian (non-Hispanic), while 12 (3.1%) reported Other. Sixty-eight (17.4%) participants did not have a four-year college degree with one hundred (25.6%) having a four-year degree, and two hundred twenty-two (56.8%) having an advanced degree (including master, doctoral, or

professional). One hundred forty-five (37.2%) participants were Academic Professionals, with

88 (22.6%) reported as Faculty members, 125 (32.1%) self-defined as Civil Service employee,

and 32 (8.2%) reported None of these. Of these participants, 222 (56.9%) worked at the Urbana

campus, 88 (22.6%) worked at the Chicago campus, 66 (16.9%) worked at the Springfield

campus, 8 (2.1%) worked for University Administration on the Urbana campus, and 6 (1.5%)

selected Other. A further description is shown in Table 8.

Table 8

Demographic Information for Online Survey Respondents

	Demographic	Frequency (Percent of Respondents)
Gender (N=390)	Female	57.9%
	Male	42.1%
Age (N=390)	18-21	1.5%
	22-25	5.1%
	26-30	9.2%
	31-40	26.4%
	41-50	24.4%
	51-60	26.0%
	61+	7.4%
Race (N=390)	White (non-Hispanic)	77.7%
	Black/African American	6.2%
	Asian	6.4%
	Hispanic	6.7%
	Other	3.1%
Job Position (N=390)	Academic Professional	37.2%
	Faculty	22.6%
	Civil Service	32.1%
	Other	8.2%
Number of Years Employed At University of Illinois (N=390)	< 1 Year	12.1%
	1-5 Years	32.3%
	6-10 Years	22.8%
	11-15 Years	15.4%
	More than 16 Years	17.4%

Table 8 Continued

	Demographic	Frequency (Percent of Respondents)
Campus Employed By (N=390)	UIUC	56.9%
	UIS	16.9%
	UIC	22.6%
	UA	2.1%
	Other	1.5%
Level of Education Completed (N=390)	High School/GED	3.3%
	Some College	9.2%
	2-Year College Degree	4.9%
	4-Year College Degree	25.6%
	Master Degree	33.3%
	Doctoral Degree	19.7%
	Professional Degree	3.8%
Individual Income (N=390)	< $19,999	6.2%
	$20,000-$39,999	24.9%
	$40,000-$59,999	30.8%
	$60,000-$79,999	17.2%
	$80,000-$99,999	11.5%
	Over $100,000	9.5%

Additionally, of the 48 that volunteered to participate in focus group sessions, 18

responded to the email and participated – 9 males (50%) and 9 females (50%). Fifteen (83.3%)

volunteers were White (non-Hispanic), one was Asian (5.6%), and one (5.6%) reported as Two

or More Races with one volunteer not providing information (5.6%). Detailed demographic

information is shown in Table 9.

Table 9

Demographic Information for Focus Group Study Session Volunteers

	Demographic	Frequency (Percent)
Gender (N=18)	Female	50%
	Male	50%
Age (N=18)	18-21	
	22-25	
	26-30	
	31-40	33.3%
	41-50	27.8%
	51-60	22.2%
	61+	11.1%
	Did Not Report	5.6%
Race (N=18)	White (non-Hispanic)	83.3%
	Black/African American	
	Asian	5.6%
	Hispanic	
	Did Not Report	5.6%
	Other	5.5%
Job Position (N=18)	Academic Professional	77.8%
	Faculty	11.0%
	Civil Service	5.6%
	Did Not Report	5.6%
Number of Years Employed At University of Illinois (N=18)		
	< 1 Year	5.6%
	1-5 Years	27.8%
	6-10 Years	27.8%
	11-15 Years	16.6%
	More than 16 Years	16.6%
	Did Not Report	5.6%
Campus (N=18)	UIUC	83.3%
	UIS	
	UIC	5.6%
	UA	11.1%
	Other	
Level of Education (N=18)	High School/GED	
	Some College	
	2-Year College Degree	
	4-Year College Degree	22.2%
	Master Degree	55.6%
	Doctoral Degree	11.0%
	Professional Degree	5.6%
	Did Not Report	5.6%

Table 9 Continued

	Demographic	Frequency (Percent)
Individual Income (N=18)	< $19,999	
	$20,000-$39,999	
	$40,000-$59,999	22.2%
	$60,000-$79,999	38.9%
	$80,000-$99,999	16.7%
	Over $100,000	11.1%
	Did Not Report	11.1%

Computer Access and Skills

The respondents' level of computer experience was broken down into four categories: K-12 computer access, frequency of computer usage at home and at work, and self-rating of computer skills. Over 97 percent of respondents reported using a computer several times a day with regular access at work and home. Additionally, 38.7 percent (151 respondents) did not have access to computers in K-12 education with 81 respondents (20.8%) rarely having access, 66 (16.9%) sometimes having access, 59 (15.1%) having access often, and 33 (8.5%) reported always having access to computers in K-12. See Tables 10 and 11 for detailed information.

Table 10

Difference in Computer Access for Non-SharePoint Users versus SharePoint Users

	Non-User (N=299)		User (N=91)		
	Mean	SD	Mean	SD	*p*
Access to Computer at Home	1.03	0.17	1.01	0.10	.314
Access to Computer at Work	1.01	0.16	1.04	0.21	.072
Access to SharePoint in Dept.	1.85	0.35	1.33	0.47	.000***
Access to Computers in K-12	2.27	1.33	2.56	1.39	.072

*Note. * p < .05; ** p < .01; ***p < .001.*

Table 11

Difference in Frequency of K-12 Computer Access Across Ages of Participants

	Non-User (N=299)		User (N=91)		
	Mean	SD	Mean	SD	*p*
Participant's Age	4.77	1.37	4.67	1.33	.557

Usage of Knowledge Sharing Technology

About 20.8 percent of respondents (81 participants) of the online survey never used any type of collaboration technology, and 120 reported usage (30.8%) a few times a month or less, 45 (11.5%) once a week, 58 (14.9%) every day or two, and 86 (22.1%) used some type of collaboration technology several times a day. Of these respondents, 306 (78.5%) never used SharePoint with 47 (12.1%) having used it a few times a month or less, 12 (3.1%) once a week, 13 (3.3%) every day or two, and 12 (3.1%) several times a day. Additionally, 41 respondents (10.5%) reported using SharePoint for fewer than six months and 50 (12.8%) used SharePoint for greater than six months while 299 (76.7%) had not used Sharepoint at all. Conversely, 105 (26.9%) participants had access to SharePoint and 285 (73.1%) did not. Mean scores and standard deviations for behavioral intention versus use behavior are identified in Table 12.

Table 12

Frequencies of Behavioral Intention versus Use Behavior

(N=390)	Mean	SD
Behavioral Intention	3.26	1.74
Use Behavior	2.14	0.99

Exploratory Factor Analysis (EFA) and Reliability

UTAUT

EFA was examined to ensure validity for each of the constructs of UTAUT in the context of knowledge sharing technology acceptance in the higher education workplace. Each of the independent constructs (i.e., performance expectancy, effort expectancy, social influence, and facilitating conditions) was validated, as well as the dependent constructs (i.e., behavioral intent and use behavior). Initial factor extractions were done based on eigenvalues greater than 1.00 using principal components analysis in SPSS 22 with individual item factor loadings of 0.70 or

more. Guidelines suggest that factor loadings be greater than 0.50, with greater than 0.70 being a stricter criterion (Fornell, 1982). In many studies it is common to find some items with loadings below 0.70; this is especially true when new item scales are being developed (Hulland, 1999). In these cases, loadings with less than 0.50 should be dropped (Hair, Anderson, Tatham, & Black, 1998; Hulland, 1999). Initial loadings are shown in Table 13 along with the initial Kaiser-Meyer-Olkin (KMO) measure. The KMO measure indicated that all measures of sampling adequacy were above the acceptable level of 0.50, which determined the appropriateness of factor analysis (Rahman et al., 2011). PE4, EE1, SI4, FC4, BI4, UB3, and UB4 were dropped due to low loadings. After elimination of these factors, the improved loadings and KMO are shown in Table 14.

Table 13

UTAUT Construct Initial Factor Loadings

Item	Loading	KMO
Performance Expectancy		
I would find SharePoint useful in my job (PE1)	.749	
Using SharePoint enables me to accomplish tasks more quickly (PE2)	.902	
Using SharePoint increases my productivity (PE3)	.882	
If I use SharePoint, I will increase my chances of getting a raise (PE4)	.233	
Effort Expectancy		
My interaction with SharePoint would be clear and understandable (EE1)	.526	
It would be easy for me to become skillful at using SharePoint (EE2)	.798	
I would find SharePoint easy to use (EE3)	.855	
Learning to operate SharePoint is easy for me (EE4)	.759	
Social Influence		
People who influence my behavior think that I should use SharePoint (SI1)	.763	
People who are important to me think that I should use SharePoint (SI2)	.778	
The senior management of this organization has been helpful in the use of SharePoint (SI3)	.704	
In general, my organization has supported the use of SharePoint (SI4)	.677	
Facilitating Conditions		.882
I have the access necessary to use SharePoint (FC1)	.754	
I have the knowledge necessary to use SharePoint (FC2)	.623	
SharePoint is not compatible with other systems I use (F3)	.114	
A specific person (group) is available for assistance with SharePoint difficulties (FC4)	.451	
Behavioral Intent		
I intend to use SharePoint in the next six months (BI1)	.933	
I predict I will use SharePoint in the next six months (BI2)	.903	
I plan to use SharePoint in the next six months (BI3)	.945	
I use SharePoint on a regular basis (BI4)	.695	
Use Behavior		
Usage of Microsoft SharePoint (UB1)	.767	
Usage of any collaboration technology (UB2)	.352	
How long have you used Microsoft SharePoint (UB3)	.641	
Do you have access to use Microsoft SharePoint in your department (UB4)	.545	

Additionally, several Cronbach's alphas were calculated to assess the level of internal consistency reliability of the constructs. The Cronbach's alphas revealed that the following subscales demonstrated sufficient levels (alpha 0.70 or greater) for internal reliability (Table 14)

after removal of six questions from the subscales. The KMO was recalculated after final factor

loading and showed improvement.

Table 14

UTAUT Construct Final Factor Loadings and Cronbach's alpha

Item	Loading	Cronbach's alpha	KMO
I would find SharePoint useful in my job (PE1)	.795	.92	
Using SharePoint enables me to accomplish tasks more quickly (PE2)	.918		
Using SharePoint increases my productivity (PE3)	.892		
It would be easy for me to become skillful at using SharePoint (EE2)	.816	.90	
I would find SharePoint easy to use (EE3)	.884		
Learning to operate SharePoint is easy for me (EE4)	.816		
People who influence my behavior think that I should use SharePoint (SI1)	.854	.86	.750
People who are important to me think that I should use SharePoint (SI2)	.871		
The senior management of this organization has been helpful in the use of SharePoint (SI3)	.624		
I have the access necessary to use SharePoint (FC1)	.800	.75	
I have the knowledge necessary to use SharePoint (FC2)	.800		
I intend to use SharePoint in the next six months (BI1)	.958	.98	
I predict I will use SharePoint in the next six months (BI2)	.938		
I plan to use SharePoint in the next six months (BI3)	.962		
Usage of Microsoft SharePoint (UB1)	.667	.46	
Usage of any collaboration technology (UB2)	.667		

Note. Three factors loaded just below the threshold of 0.70 after eliminating items. SI3 loaded at .704 before removing SI4. UB1 and UB2 loaded at .767 and .352 respectively before removing UB3 and UB4.

Mean composite scores were then calculated for each of the UTAUT subscales. First

scores were calculated for all respondents; see Table 15. Next, mean composite scores were

calculated to compare SharePoint users and non-users (Table 16).

Table 15

Mean Composite Scores for UTAUT Subscales

Subscale	N	Min.	Max.	M	SD
Performance Expectancy	390	1.00	7.00	4.04	1.21
Effort Expectancy	390	1.00	7.00	4.44	1.13
Social Influence	390	1.00	7.00	3.39	1.23
Facilitating Conditions	390	1.00	7.00	3.69	1.65
Behavioral Intent	390	1.00	7.00	3.26	1.74
Use Behavior	390	1.00	5.00	2.14	1.00

Table 16

Mean Composite Scores for UTAUT Subscales Comparing SharePoint Users and Non-Users

Subscale	Non-User (N=299)		User (N=91)	
	M	SD	M	SD
Performance Expectancy	3.86	0.95	4.63	1.68
Effort Expectancy	4.29	0.92	4.93	1.56
Social Influence	3.25	1.17	3.85	1.48
Facilitating Conditions	3.28	1.50	5.03	1.41
Behavioral Intent	2.74	1.35	4.97	1.80
Use Behavior	1.82	0.73	3.18	1.04

Workplace Learning Climate

To explore the seven factors of workplace learning as identified by Watkins and Marsick (1996) which loaded at a level of 0.70 or higher, EFA was conducted on the DLOQ questions from the online survey (i.e., continuous learning, inquiry and dialogue, team learning, embedded system, empowerment, system connection, and strategic leadership). EFA was used because this survey had not been used before in the context of UTAUT. See Table 17 for initial factor loading results.

Table 17

DLOQ Initial Factor Loadings

Item	Loading
***Component One** (WL1)*	
My organization recognizes people for taking initiative (*Empowerment*)	.846
In my organization, leaders mentor and coach those they lead (*Strategic Leadership*)	.823
In my organization, teams/groups are confident that the organization will act on their recommendations (*Team Learning*)	.825
In my organization, leaders ensure that the organization's actions are consistent with its values (*Strategic Leadership*)	.822
In my organization, leaders continually look for opportunities to learn (*Strategic Leadership*)	.796
In my organization, people give open and honest feedback to each other (*Inquiry and Dialogue*)	.788
My organization gives people control over the resources they need to accomplish their work (*Empowerment*)	.788
In my organization, teams/groups revise their thinking as a result of group discussions or information collected (*Team Learning*)	.784
In my organization, teams/groups have the freedom to adapt their goals as needed (*Team Learning*)	.778
In my organization, people spend time building trust with each other (*Inquiry and Dialogue*)	.772
My organization supports employees who take calculated risks (*Empowerment*)	.754
My organization encourages people to think from a global perspective (*System Connection*)	.750
In my organization, whenever people state their view, they also ask what others think (*Inquiry and Dialogue*)	.744
My organization makes its lessons learned available to all employees (*Embedded Systems*)	.724
My organization encourages people to get answers from across the organization when solving problems (*System Connection*)	.728
In my organization, people are rewarded for learning (*Continuous Learning*)	.698
My organization creates systems to measure gaps between current and expected performance (*System Connection*)	.679
My organization works together with the outside community to meet mutual needs (*Empowerment*)	.641
My organization measures the results of the time and resources spent on training (*Embedded Systems*)	.598

Table 17 Continued

Item	Loading
Component Two *(WL2)*	
In my organization, people help each other learn to use Microsoft SharePoint *(Continuous Learning)*	.934
In my organization, people are given time to support Microsoft SharePoint learning *(Continuous Learning)*	.920

After Varimax rotation (Kaiser Normalization) and removal of three survey questions, EFA identified two components with a minimum of two items each with a loading of greater than 0.70. Component One was comprised of all seven factors of workplace learning while factors associated with continuous learning only are in Component Two. Component One was referred to as WL1 and Component Two was referred to as WL2. The three items removed included "*my organization creates systems to measure gaps between current and expected performance,*" "*my organization measures the results of the time and resources spent on training,*" and "*my organization works together with the outside community to meet mutual needs*" with loadings of 0.679, 0.598, and 0.641 respectively. An overall Cronbach's alpha of 0.95 was reported for the two components combined, after removal of the low loading items. See Table 18.

Table 18

DLOQ Final Factor Loadings and Cronbach's alpha

Item	Loading	Cronbach's alpha
Component One *(WL1)*		
My organization recognizes people for taking initiative *(Empowerment)*	.846	
In my organization, leaders mentor and coach those they lead *(Strategic Leadership)*	.825	
In my organization, teams/groups are confident that the organization will act on their recommendations *(Team Learning)*	.824	
In my organization, leaders ensure that the organization's actions are consistent with its values *(Strategic Leadership)*	.802	
In my organization, leaders continually look for opportunities to learn *(Strategic Leadership)*	.798	
In my organization, people give open and honest feedback to each other *(Inquiry and Dialogue)*	.797	
My organization gives people control over the resources they need to accomplish their work *(Empowerment)*	.795	
In my organization, teams/groups have the freedom to adapt their goals as needed *(Team Learning)*	.787	.96
In my organization, teams/groups revise their thinking as a result of group discussions or information collected *(Team Learning)*	.787	
In my organization, people spend time building trust with each other *(Inquiry and Dialogue)*	.778	
My organization supports employees who take calculated risks *(Empowerment)*	.763	
In my organization, whenever people state their view, they also ask what others think *(Inquiry and Dialogue)*	.754	
My organization encourages people to think from a global perspective *(System Connection)*	.750	
My organization makes its lessons learned available to all employees *(Embedded Systems)*	.738	
In my organization, people are rewarded for learning *(Continuous Learning)*	.700	
My organization encourages people to get answers from across the organization when solving problems *(System Connection)*	.731	

Table 18 Continued

Item	Loading	Cronbach's alpha
Component Two (WL2)		
In my organization, people help each other learn to use Microsoft SharePoint *(Continuous Learning)*	.940	
In my organization, people are given time to support Microsoft SharePoint learning *(Continuous Learning)*	.926	.87

Participants in the online survey and focus group sessions were offered five choices for campus, even though the University of Illinois is comprised of three campuses (i.e., Urbana, Chicago, and Springfield). This is because University Administration (UA) is not considered an academic unit; it functions as a business unit and crosses all campuses. Additionally, participants were given the choice of Other as they might work off site and not be affiliated with a specific geographic campus (i.e., Extension Offices). The mean scores across job position and campus differed slightly, specifically with UA consistently reporting higher means across all job positions with respect to employees' perceptions of workplace learning climate. Mean scores for workplace learning climate factors according to job position and campus are identified in Table 19.

Table 19

Mean Scores of Workplace Learning Components per Campus and Job Position

Position	Campus	Workplace Learning Component One (WL1)	SD	Workplace Learning Component Two (WL2)	SD
Academic Professional (N=145)	UIUC	4.64	1.10	1.95	1.37
	UIS	4.36	1.23	1.80	1.47
	UIC	3.83	1.33	1.44	0.74
	UA	4.86	1.10	3.63	2.36
	Other	3.75		2.50	
Faculty (N=88)	UIUC	4.68	1.34	1.34	0.95
	UIS	4.43	1.22	1.69	1.03
	UIC	4.40	1.19	1.65	1.02
Civil Service (N=125)	UIUC	4.22	1.43	2.03	1.64
	UIS	4.45	1.49	1.71	1.29
	UIC	3.56	1.43	2.02	1.40
	UA	5.42	1.71	3.17	2.93
	Other	4.58	0.47	1.50	0.87
Other (N=32)	UIUC	5.02	1.39	1.81	1.55
	UIS	5.19		2.50	
	UIC	4.95	1.06	2.10	1.24
	UA	5.38		2.00	
	Other	4.13	0.88	1.75	1.06

Note. UIUC = Urbana Campus; UIC = Chicago Campus; UIS = Springfield Campus; UA = University Administration; Other = other campus affiliation.

Mean composite scores were then calculated for each of the workplace learning components (i.e., WL1 and WL2) for all respondents (Table 20) and compared between non-SharePoint users and SharePoint users (Table 21). The perception of workplace learning climate factors may be different for non-SharePoint users versus SharePoint users, therefore the researcher compared data results from the two factors using select cases in SPSS. The number of non-SharePoint users and SharePoint users was based on a question in the online survey that

required participants to select how long they had used SharePoint, with one of the answers being

"not at all." For respondents that answered "not at all," they were coded in SPSS with a "0" for

"no" with all others coded "1" for "yes." This resulted in 299 non-SharePoint users and 91

SharePoint users that participated in the study. A new variable was then computed in SPSS titled

SharePoint _Use. This variable was used to filter results between the two sets of responses in

SPSS. Cases were sorted by this newly computed variable and descriptive statistics were

conducted to determine the mean and standard deviation of WL1 and WL2 for both non-

SharePoint users and SharePoint users. Means were then compared using an ANOVA test in

SPSS.

Table 20

Descriptive Statistics for Workplace Learning Components

Subscale	N	Min.	Max.	M	SD
WL1	390	1.00	7.00	4.42	1.31
WL2	390	1.00	7.00	1.84	1.36

Table 21

Comparison of Descriptive Statistics for Workplace Learning Components of Non-SharePoint Users and SharePoint Users

	Non-User (N=299)		User (N=91)		
Subscale	M	SD	M	SD	p
WL1	4.47	1.30	4.21	1.32	.091
WL2	1.52	1.12	2.90	1.54	.000***

Note. $*p < .05$; $**p < .01$; $***p < .001$.

Correlations, Multicollinearity, Normality, and Linearity Analysis

UTAUT

Correlations, collinearity diagnostics, normality, and linearity along with outliers were also examined before regression analysis was performed. To measure how close the linear relationship was between sets of data, a Pearson Correlation test was completed. A Pearson Correlation coefficient matrix presented a correlation between all possible pairs of constructs. The range of positive coefficients is 0.90 to 1.00 as "very high positive correlation," 0.70 to 0.90 as "high positive correlation," 0.50 to 0.70 as "moderate positive correlation," and below 0.50 as "low or little positive correlation" (Hinkle, Wiersma, & Jurs, 1998). According to Hinkle, Wiersma, and Jurs (1998), the UTAUT correlation coefficients were within the acceptable limits; see Table 22.

Table 22

Pearson Correlation of UTAUT Constructs

UTAUT Construct	Behavioral Intent	Performance Expectancy	Effort Expectancy	Social Influence
Behavioral Intent	1.000	0.513	0.289	0.526
Performance Expectancy	0.513	1.000	0.471	0.459
Effort Expectancy	0.289	0.471	1.000	0.176
Social Influence	0.526	0.459	0.176	1.000

Second, collinearity diagnostics were performed by examining the tolerance and variance inflation factor (VIF) in the coefficient table. Tolerance is an indicator of how much variability is not explained by the other constructs in the model, with less than (<) 0.10 meaning there may be multicollinearity. VIF is the inverse of tolerance; any number greater than (>) 10 would be a concern for multicollinearity. No multicollinearity existed for this research study. See Table 23 for detailed information.

Table 23

Collinearity Diagnostics of UTAUT Independent Constructs

UTAUT Independent Constructs	Tolerance	VIF
Performance Expectancy	.633	1.581
Effort Expectancy	.776	1.288
Social Influence	.787	1.270

Third, normality, linearity, and outliers were examined in the linear regression model. Outliers refer to values in a dataset that are inconsistent with the remainder of the data, possibly influencing the results of data analysis (Wefald, Katz, Downey, & Rust, 2010). Figure 4 visually expressed a reasonably straight line in the normal p-plot of regression standardized residual with behavioral intention as the dependent construct. Further visual analysis confirmed linearity with the scatterplot in Figure 4, where a rectangular area can be drawn around the data points. It is not unusual to find a few outliers. The standard for normal cases is typically greater than 3.3 or less than -3.3 (Tabachnick & Fidell, 2012).
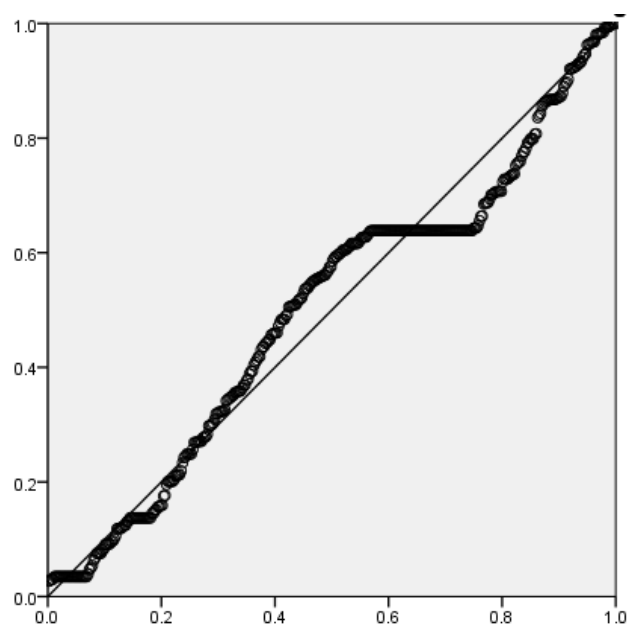
Figure 4. The p-Plot of Regression Standardized Residual. This figure confirmed linearity in the UTAUT linear regression model with behavioral intention as the dependent construct.
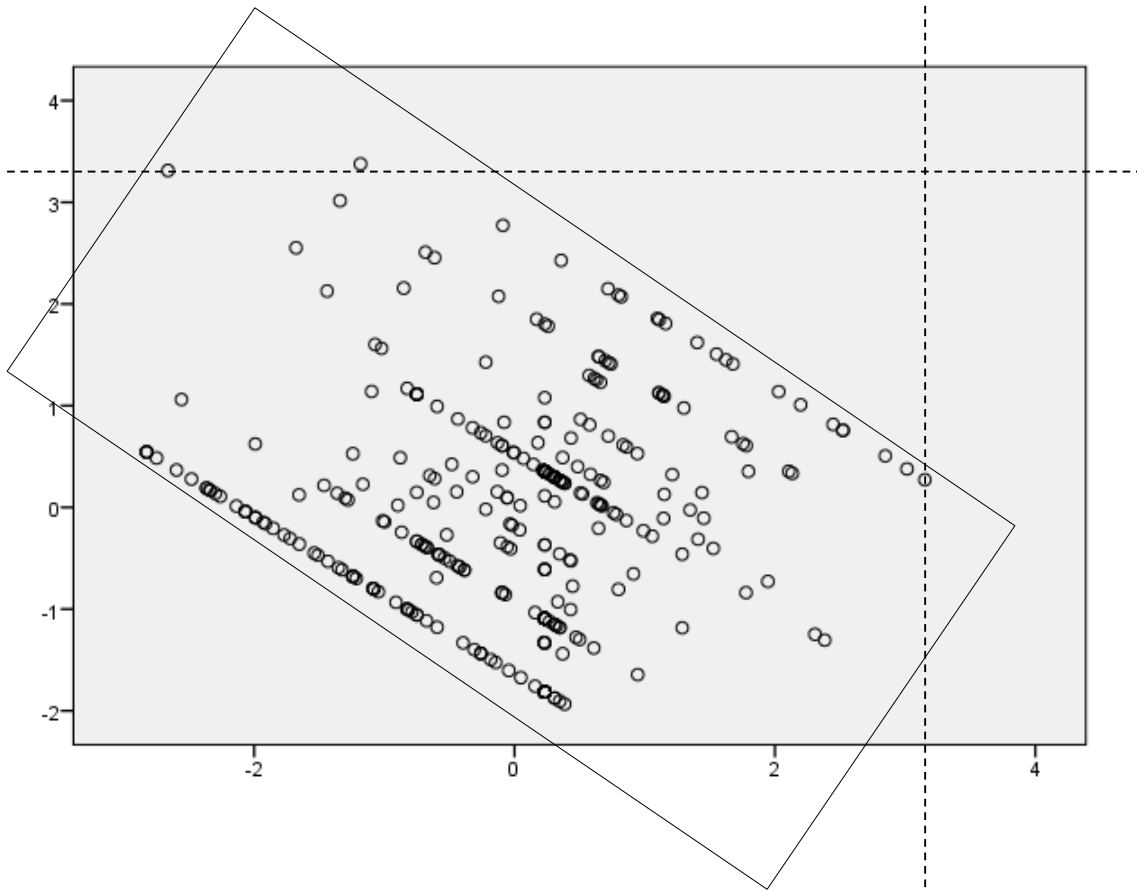
Figure 5. The Scatterplot. This figure confirmed linearity showing where a rectangle can be drawn around the data points, with few outliers outside of 3.3 (refer to the dotted lines).

Outliers were also examined in SPSS using Mahalonbis distance analysis. This is the graphical method used for examining multivariate outliers (Hair, Black, Babin, Anderson, & Tatham, 2006). The residual statistics table showed that the Mahalanobis distance maximum value was 39.084, which was outside the acceptable range for three independent constructs. The maximum value should not exceed the chi-square critical value of three degrees of freedom, which is 16.27. Three cases were identified outside the normal range (MAH_1 = 39.08, 22.07, and 16.88); however, Cook's Distance verified there was no undue influence of these three cases to predict outcome. According to Zhu, Ibrahim, and Cho (2012), Cook's Distance indicates how much an observation influenced the coefficient estimates of the fitted regression equation.

Cook's Distance says that any cases greater than (>) 1 should be removed from the model. SPSS identified Cook's Distance in the residual table. Cook's Distance for this model was 0.092.

Multiple Regression Analysis

UTAUT

Three UTAUT independent constructs (i.e., performance expectancy, effort expectancy, and social influence) and one dependent construct (i.e., behavioral intention) were entered simultaneously in the linear regression model in SPSS to explain the level of variance as a group. Multiple regression was conducted to examine whether performance expectancy, effort expectancy, and social influence impacted behavioral intention to use SharePoint. This analysis set the foundation for the research questions in this study. Without this analysis there would be only an assumption that the UTAUT constructs predicted behavioral intention and use without moderation. Therefore, by examining the six UTAUT model constructs before any moderation variables were included, the researcher was able to explain the answers to the research questions more fully. The overall model explained 37.5 percent of variance in acceptance, which was revealed to be statistically significant, $F(3,386) = 77.238$, $p < .001$. An inspection of individual predictors revealed that performance expectancy ($\beta = .305$, $p < .001$) and social influence ($\beta = .372$, $p < .001$) were significant predictors of acceptance to use SharePoint in the higher education workplace. Higher levels of performance expectancy and social influence were associated with higher levels of behavioral intention to use SharePoint. The model is similar to the original UTAUT model by Venkatesh et al. (2003) which predicted the outcome with social influence having made the strongest contribution, performance expectancy the second strongest contribution, and effort expectancy having contributed very little to the variance. See Table 24 for detailed information.

Table 24

Linear Regression Model: Performance Expectancy, Effort Expectancy, and Social Influence on Behavioral Intention

Construct	B	SE B	β	p
Performance Expectancy	.441	.073	.305	.000***
Effort Expectancy	.123	.070	.080	.082
Social Influence	.524	.064	.372	.000***

Note. Adjusted $R^2 = .375$ (*$p < .05$; **$p < .01$; ***$p < .001$).

A linear regression was used to test whether facilitating conditions significantly predicted SharePoint use in the higher education workplace. While these results did not directly answer the research questions for this study, they did provide an indirect benefit by comparing the variance of the prediction of facilitating conditions on use behavior to the variance of what was predicted by behavioral intention on use behavior. The results of the regression indicated that the prediction was significant *($p < .001$)* and facilitating conditions explained 14.6 percent of the variance. Facilitating conditions did not predict behavioral intention (i.e., acceptance) in the UTAUT model, therefore that regression was not run for this study. The outcome of the testing is summarized in Table 25.

Table 25

Linear Regression Model: Facilitating Conditions on Use Behavior

Construct	B	SE B	β	p
Facilitating Conditions	.232	.028	.385	.000***

Note. Adjusted $R^2 = .146$ (*$p < .05$; **$p < .01$; ***$p < .001$).

Finally, a linear regression was conducted to test whether behavioral intention significantly predicted use behavior. The results of the linear regression indicated a significant prediction *($p < .001$)* of behavioral intention on the use of SharePoint in the higher education

workplace, which explained 19.6 percent of the variance. The outcome of the testing is detailed in Table 26.

Table 26

Linear Regression Model: Behavioral Intention on Use Behavior

Construct	B	Std. Error	β	p
Behavioral Intent	.252	.026	.442	.000***

Note. Adjusted $R^2 = .196$ (*$p < .05$; **$p < .01$; ***$p < .001$).

Research Question One

Quantitative Results

To what extent and under what conditions do digital equity factors influence predictors (i.e., performance expectancy, effort expectancy, and social influence) of intent to use a knowledge sharing technology (SharePoint) in the higher education workplace?

The main purpose of the first research question was to explore how employees' gender, race, SES, and computer experience affected their intent to use a knowledge sharing technology, specifically SharePoint, in the higher education workplace. To measure this several multiple regression analyses were used to test the level of prediction of the relationship between performance expectancy, effort expectancy, and social influence on behavioral intention with digital equity factors as moderators. Hierarchical multiple regression analyses in SPSS enabled the researcher to compare the overall model before and after incorporating the moderating variables.

Performance expectancy and digital equity factors. A multiple regression analysis was conducted to test whether performance expectancy significantly predicted behavioral intention to use SharePoint in the higher education workplace as moderated by gender. The results of the regression in Step One indicated that performance expectancy and gender explained 26 percent

of the variance ($p < .001$). Only performance expectancy significantly predicted behavioral

intention ($\beta = .541$, $p < .001$). After adding gender as a moderator in Step Two of the regression,

it did not predict behavioral intention to use SharePoint. Table 27 details the results.

Table 27

Gender as Moderator of Performance Expectancy-Behavioral Intention Relationship

					Overall Model			
Predictors	B	SE B	β	*p*	Total R^2	ΔR^2	F	*p*
Step One:								
PE	.741	.063	.514	.000***				
Gender								
Female	-.017	.154	-.005	.911	.264	.260	69.256	.000***
Step Two:								
PE	.752	.090	.521	.000***				
Gender								
Female	.071	.531	.020	.894				
PE*Female	-.022	.126	-.027	.863	.264	.258	46.065	.000***

Note. *$p < .05$; **$p < .01$; ***$p < .001$.

A multiple regression analysis was conducted to test whether performance expectancy

significantly predicted behavioral intention to use SharePoint in the higher education workplace

as moderated by race. The results of the regression in Step One indicated that performance

expectancy and race explained 26.1 percent of the variance *($p < .001$)*. Only performance

expectancy significantly predicted behavioral intention ($\beta = .515$, $p < .001$). After incorporating

race as a moderator variable to performance expectancy in Step Two of the regression, it did not

predict behavioral intention to use SharePoint. Table 28 presents the results.

Table 28

Race as Moderator of Performance Expectancy-Behavioral Intention Relationship

					Overall Model			
Predictors	B	SE B	β	p	Total R^2	ΔR^2	F	*p*
Step One:								
PE	.744	.063	.515	.000***				
Race								
White	.137	.183	.033	.454	.265	.261	69.628	.000***
Step Two:								
PE	.620	.135	.430	.000***				
Race								
White	-.519	.658	-.124	.431				
PE*White	.158	.153	.180	.300	.267	.261	46.787	.000***

Note. *$p < .05$; **$p < .01$; ***$p < .001$.

Before running a multiple regression analysis to test SES as a moderator on behavioral intent, a one-way ANOVA was run separately on two of the three categories that comprised SES (i.e., job position and level of education). These tests were conducted to see whether there were any significant differences within each group. The ANOVAs identified significance ($p < .001$) with both job position and level of education, therefore a Tukey's HSD *post hoc* test was conducted to examine the differences. Faculty were identified as having a significant difference in job position and recoded Faculty with a value of "1" and All Other Positions with a value of "0." The professional and doctoral degrees were identified as having a significant difference in level of education and recoded ProDoc with a value of "1" given to professional and doctoral degrees and All Other Degrees recoded with a value of "0."

A multiple regression analysis was then conducted to test whether performance expectancy significantly predicted behavioral intention to use SharePoint in the higher education workplace as moderated by SES. While SES was coded into three separate variables (i.e., level

of education, job position, and individual income) it was considered a single factor within digital

equity, therefore all three questions were included in the regression model at one time. The

results of the regression in Step One indicated that performance expectancy and SES explained

30.7 percent of the variance ($p < .001$). Performance expectancy, level of education, and

individual income significantly predicted behavioral intention ($\beta = .427$, $\beta = -.170$, and $\beta = -.100$,

$p < .05$). However, performance expectancy as moderated by SES did not predict behavioral

intention to use SharePoint, when added in Step Two of the regression. Table 29 presents the

results.

Table 29

SES as Moderator of Performance Expectancy-Behavioral Intention Relationship

					Overall Model			
Predictors	B	SE B	β	*p*	Total R^2	ΔR^2	F	*p*
Step One:								
PE	.682	.062	.427	.000***				
Education								
ProDoc	-.695	.222	-.170	.002**				
Position								
Faculty	-.416	.218	-.100	.057				
Income	.133	.057	.105	.021*	.314	.307	43.999	.000***
Step Two:								
PE	.596	.167	.413	.000***				
Education								
ProDoc	-.489	.742	-.119	.510				
Position								
Faculty	.101	.721	.024	.888				
Income	-.017	.196	-.014	.930				
PE*ProDoc	-.050	.176	-.048	.775				
PE*Faculty	-.140	.178	-.129	.430				
PE*Income	.036	.045	.146	.425	.317	.304	25.300	.000***

Note. *$p < .05$; **$p < .01$; ***$p < .001$.

A multiple regression analysis was conducted to test whether performance expectancy

significantly predicted behavioral intention to use SharePoint in the higher education workplace

as moderated by computer experience. The results of the regression in Step One indicated that performance expectancy and computer experience explained 26.1 percent of the variance ($p <$ .001). Only performance expectancy significantly predicted behavioral intention ($\beta = .513$, $p <$ .001). Performance expectancy, moderated by computer experience in the second step of the regression, did not predict behavioral intention to use SharePoint. Table 30 presents the results.

Table 30

Computer Experience as Moderator of Performance Expectancy-Behavioral Intention Relationship

					Overall Model			
Predictors	B	SE B	β	p	Total R^2	ΔR^2	F	p
Step One:								
PE	.741	.063	.513	.000***				
Experience	.055	.086	.028	.524	.264	.261	69.523	.000***
Step Two:								
PE	.643	.347	.445	.065				
Experience	-.035	.326	-.018	.914				
PE*Experience	.023	.079	.083	.774	.264	.259	46.266	.000***

Note. *$p < .05$; **$p < .01$; ***$p < .001$.

Effort expectancy and digital equity factors. A multiple regression analysis was conducted to test whether effort expectancy significantly predicted behavioral intention to use SharePoint in the higher education workplace as moderated by gender. The results of the regression in Step One indicated that effort expectancy and gender explained 7.9 percent of the variance ($p < .001$). Only effort expectancy significantly predicted behavioral intention ($\beta = .289$, $p < .001$). Effort expectancy as moderated by gender in the second step of the regression did not predict behavioral intention to use SharePoint. Table 31 summarizes the results.

Table 31

Gender as Moderator of Effort Expectancy-Behavioral Intention Relationship

Predictors	B	SE B	β	p	Total R^2	ΔR^2	F	p
					Overall Model			
Step One:								
EE	.444	.075	.289	.000***				
Gender								
Female	.009	.172	.003	.956	.083	.079	17.605	.000***
Step Two:								
EE	.601	.115	.390	.000***				
Gender								
Female	1.213	.691	.344	.080				
EE*Female	-.272	.151	-.370	.073	.091	.084	12.882	.000***

Note. *p < .05; **p < .01; ***p < .001.

A multiple regression analysis was conducted to test whether effort expectancy significantly predicted behavioral intention to use SharePoint in the higher education workplace as moderated by race. The results of the regression in Step One indicated that effort expectancy and race explained 7.9 percent of the variance ($p < .001$). Only effort expectancy significantly predicted behavioral intention ($\beta = .290$, $p < .001$). Effort expectancy as moderated by race in the second step of the regression did not predict behavioral intention to use SharePoint. Table 32 presents the results.

Table 32

Race as Moderator of Effort Expectancy-Behavioral Intention Relationship

Predictors	B	SE B	β	*p*	Total R^2	ΔR^2	F	*p*
					Overall Model			
Step One:								
EE	.446	.075	.290	.000***				
Race								
White	.073	.204	.017	.720	.084	.079	17.673	.000
Step Two:								
EE	.436	.152	.283	.004**				
Race								
White	.013	.817	.003	.016*				
EE*White	.013	.175	.016	.939	.084	.077	11.754	.000***

*Note. *p < .05; **p < .01; ***p < .001.*

A multiple regression analysis was conducted to test whether effort expectancy

significantly predicted behavioral intention to use SharePoint in the higher education workplace

as moderated by SES. The results of the regression in Step One indicated that effort expectancy

and SES explained 14.4 percent of the variance ($p < .001$). Effort expectancy, level of education,

job position, and individual income significantly predicted behavioral intention (β = .235,

β = -.190, β = -.129, and β = .108, $p < .05$). However, when incorporating SES as a moderator to

effort expectancy in Step Two of the regression, the interaction did not predict behavioral

intention to use SharePoint. Table 33 presents the results.

Table 33

SES as Moderator of Effort Expectancy-Behavioral Intention Relationship

Predictors	B	SE B	β	*p*	Total R^2	ΔR^2	F	*p*
						Overall Model		
Step One:								
EE	.361	.074	.235	.000***				
Education								
ProDoc	-.780	.246	-.190	.002**				
Position								
Faculty	-.536	.243	-.129	.028*				
Income	.136	.064	.108	.033*	.152	.144	17.306	.000***
Step Two:								
EE	.293	.203	.190	.151				
Education								
ProDoc	-.667	.974	-.163	.494				
Position								
Faculty	-.732	1.014	-.176	.471				
Income	.049	.261	.039	.851				
EE*ProDoc	-.023	.213	-.024	.913				
EE*Faculty	.046	.230	.045	.844				
EE*Income	.019	.057	.079	.733	.153	.137	9.836	.000***

Note. *p < .05; **p < .01; ***p < .001.

A multiple regression analysis was conducted to test whether effort expectancy

significantly predicted behavioral intention to use SharePoint in the higher education workplace

as moderated by computer experience. The results of the regression in Step One indicated that

effort expectancy and computer experience explained 7.9 percent of the variance (*p* < .001).

Only effort expectancy significantly predicted behavioral intention (β = .293, *p* < .001). When

incorporating computer experience as a moderator to effort expectancy in Step Two of the

regression, it did not predict behavioral intention to use SharePoint. Table 34 presents the results.

Table 34

Computer Experience as Moderator of Effort Expectancy-Behavioral Intention Relationship

Predictors	B	SE B	β	*p*	Total R^2	ΔR^2	F	*p*
						Overall Model		
Step One:								
EE	.451	.076	.293	.000***				
Experience	-.048	.098	-.024	.621	.084	.079	17.736	.000***
Step Two:								
EE	.724	.450	.471	.108				
Experience	.218	.443	.110	.623				
EE*Experience	-.063	.102	-.243	.538	.085	.078	11.932	.000***

Note. *p* < .05; ***p* < .01; ****p* < .001.

Social influence and digital equity factors. A multiple regression analysis was

conducted to test whether social influence significantly predicted behavioral intention to use

SharePoint in the higher education workplace as moderated by gender. The results of the

regression in Step One indicated that social influence and gender explained 27.3 percent of the

variance (*p* < .001). Only social influence significantly predicted behavioral intention (β = .526,

p < .001). Social influence as moderated by gender did not predict behavioral intention to use

SharePoint, when added in the second step of the regression. Table 35 presents the results.

Table 35

Gender as Moderator of Social Influence-Behavioral Intention Relationship

Predictors	B	SE B	β	*p*	Total R^2	ΔR^2	F	*p*
						Overall Model		
Step One:								
SI	.742	.061	.526	.000***				
Gender								
Female	.062	.152	.018	.684	.277	.273	74.013	.000***
Step Two:								
SI	.716	.094	.508	.000***				
Gender								
Female	-.089	.446	-.025	.842				
SI*Female	.045	.123	.049	.719	.277	.271	49.274	.000***

Note. *p < .05; **p < .01; ***p < .001.

A multiple regression analysis was conducted to test whether social influence

significantly predicted behavioral intention to use SharePoint in the higher education workplace

as moderated by race. The results of the regression in Step One indicated that social influence

and race explained 27.3 percent of the variance (*p* < .001). Only social influence significantly

predicted behavioral intention (β = .527, *p* < .001). Social influence as moderated by race, in

Step Two of the regression, did not predict behavioral intention to use SharePoint. Table 36

presents the results.

Table 36

Race as Moderator of Social Influence-Behavioral Intention Relationship

Predictors	B	SEB	β	*p*	Total R²	ΔR²	F	*p*
						Overall Model		
Step One:								
SI	.744	.061	.527	.000***				
Race								
White	.124	.181	.030	.495	.277	.273	74.220	.000***
Step Two:								
SI	.791	.139	.561	.000***				
Race								
White	.330	.569	.079	.562				
SI*White	-.059	.154	-.061	.702	.278	.272	49.420	.000***

Note. *p < .05; **p < .01; ***p < .001.

     A multiple regression analysis was conducted to test whether social influence significantly predicted behavioral intention to use SharePoint in the higher education workplace as moderated by SES. The results of the regression in Step One indicated that social influence and SES explained 21.9 percent of the variance ($p < .001$). Social influence, level of education, and individual income significantly predicted behavioral intention (β = .488, β = -.162, and β = .126). However, social influence as moderated by SES, in the second step of the regression, did not predict behavioral intention to use SharePoint. Table 37 displays the results.

Table 37

SES as Moderator of Social Influence-Behavioral Intention Relationship

					Overall Model			
Predictors	B	SEB	β	*p*	Total R²	ΔR²	F	*p*
Step One:								
SI	.688	.061	.488	.000***				
Education	-.664	.220	-.162	.003**				
Position	-.422	.216	-.101	.051				
Income	.159	.057	.126	.005**	.326	.219	46.532	.000***
Step Two:								
SI	.604	.159	.428	.000***				
Education								
ProDoc	-.775	.677	-.189	.253				
Position								
Faculty	.679	.662	.163	.306				
Income	-.001	.162	-.001	.994				
SI*ProDoc	.020	.188	.016	.914				
SI*Faculty	-.342	.188	-.268	.070				
SI*Income	.047	.045	.166	.295	.336	.324	27.592	.000***

Note. *p* < .05; **p* < .01; ***p* < .001.

A multiple regression analysis was conducted to test whether social influence

significantly predicted behavioral intention to use SharePoint in the higher education workplace

as moderated by computer experience. The results of the regression in Step One indicated that

social influence and computer experience explained 27.5 percent of the variance (*p* < .001). Only

social influence significantly predicted behavioral intention (β = .528, *p* < .001). Social influence

as moderated by computer experience, in Step Two of the regression, did not predict behavioral

intention to use SharePoint. Table 38 presents the results.

Table 38

Computer Experience as Moderator of Social Influence-Behavioral Intention Relationship

Predictors	B	SEB	β	p	Total R^2	ΔR^2	F	p
						Overall Model		
Step One:								
SI	.745	.061	.528	.000***				
Experience	.101	.086	.051	.239	.279	.275	74.857	.000***
Step Two:								
SI	.323	.370	.229	.384				
Experience	-.245	.312	-.124	.432				
SI*Experience	.098	.085	.343	.250	.281	.276	50.390	.000***

Note. *$p < .05$; **$p < .01$; ***$p < .001$.

Digital equity factors and PE, EE, and SI. A multiple regression analysis was

conducted to test whether performance expectancy, effort expectancy, and social influence

significantly predicted behavioral intention to use SharePoint in the higher education workplace

as moderated by all the digital equity factors (i.e., gender, race, SES, and computer experience)

in the model at the same time. The results of the regression in Step One indicated that

performance expectancy, effort expectancy, social influence, gender, race, SES, and computer

experience explained 39.7 percent of the variance ($p < .001$). Performance expectancy, social

influence, education, and individual income significantly predicted behavioral intention. After

adding digital equity factors as moderators in the second step of the regression, gender (female)

and job position (faculty) significantly predicted behavioral intention to use SharePoint

($β = -.453$ and $β = -.299$, $p < .05$); however, the variance had very little change at 39.8 percent.

Table 39 presents the results.

Table 39

Digital Equity Factors as Moderators to Performance Expectancy, Effort Expectancy, and Social Influence-Behavioral Intention Relationship

Predictors	B	SEB	β	p	Total R^2	ΔR^2	F	p
Step One:								
PE	.432	.072	.299	.000***				
EE	.078	.071	.051	.272				
SI	.499	.064	.354	.000***				
Race								
White	.085	.168	.020	.614				
Gender								
Female	-.033	.145	-.009	.821				
Education								
ProDoc	-.624	.210	-.152	.003**				
Position								
Faculty	-.246	.207	-.059	.236				
Income	.149	.055	.117	.007**				
Experience	.063	.081	.032	.436	.411	.397	29.421	.000***
Step Two:								
PE	.080	.466	.055	.864				
EE	.754	.527	.490	.153				
SI	.327	.436	.232	.455				
Race								
White	.052	.814	.012	.949				
Gender								
Female	1.114	.701	.316	.113				
Education								
ProDoc	-.927	1.089	-.226	.395				
Position								
Faculty	1.446	1.058	.348	.173				
Income	-.111	.265	-.087	.677				
Experience	.241	.480	.121	.616				
PE*Female	-.015	.157	-.019	.922				
PE*White	.058	.187	.066	.755				
PE*ProDoc	-.148	.219	-.142	.502				
PE*Faculty	.022	.203	.020	.914				
PE *Income	.059	.064	.239	.356				
PE*Experience	.028	.094	.102	.766				
EE*Female	-.333	.154	-.453	.031*				
EE*White	.055	.180	.066	.758				
EE*ProDoc	.135	.218	.141	.537				
EE*Faculty	-.120	.231	-.119	.604				

Table 39 Continued

					Overall Model			
Predictors	B	SEB	β	p	Total R^2	ΔR^2	F	p
EE*Income	-.026	.63	-.105	.686				
EE*Experience	-.097	.105	-.374	.354				
SI*Female	.125	.135	.138	.354				
SI*White	-.149	.158	-.153	.346				
SI*ProDoc	.076	.198	.061	.703				
SI*Faculty	-.382	.193	-.299	.049*				
SI*Income	.042	.049	.149	.390				
SI*Experience	.037	.088	.130	.674	.440	.398	10.516	.000***

Note. *$p < .05$; **$p < .01$; ***$p < .001$.

Line charts were drawn in Excel to understand further the negative beta scores for the significant interactions in Table 39. When incorporating gender as a moderator to effort expectancy in Step Two there was a significant influence on behavioral intention to use SharePoint in the higher eduation workplace. At lower levels of effort expectancy, females have higher intent to use than do males; however at higher levels of effort expectancy, males have higher intent to use. Figure 6 displays the results.
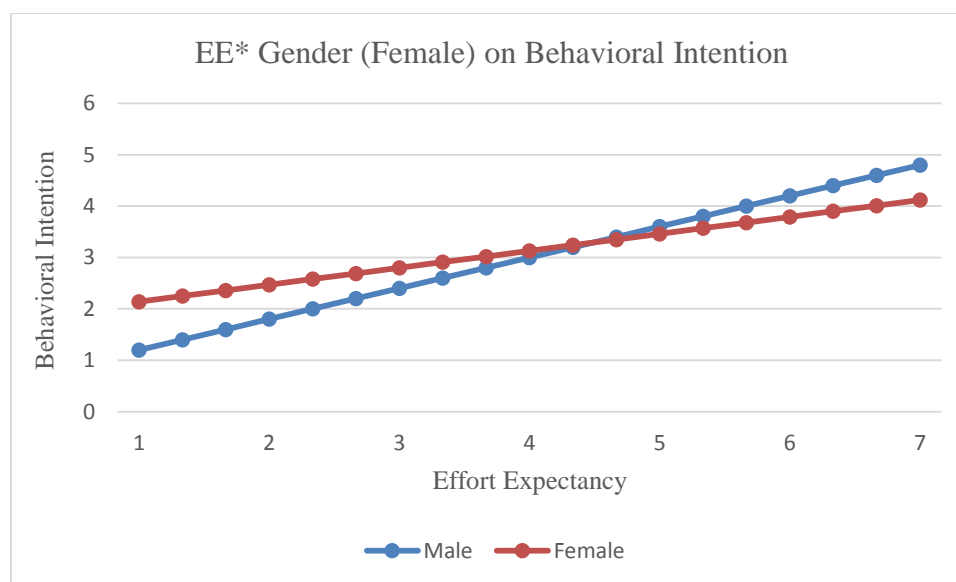

Figure 6. The Predicted Slope of EE*Gender on Behavioral Intention. The effect of effort expectancy on behavioral intention is higher for females than males at lower levels of effort expectancy, but higher for males than females at higher levels of effort expectancy.

Additionally, when incorporating faculty as a moderator to social influence in Step Two there was a significant influence on behavioral intention to use SharePoint in the higher eduation workplace. Other job positions (i.e., Academic Professional, Civil Service, and Other) are more likely to use SharePoint than are faculty. Figure 7 displays the results.
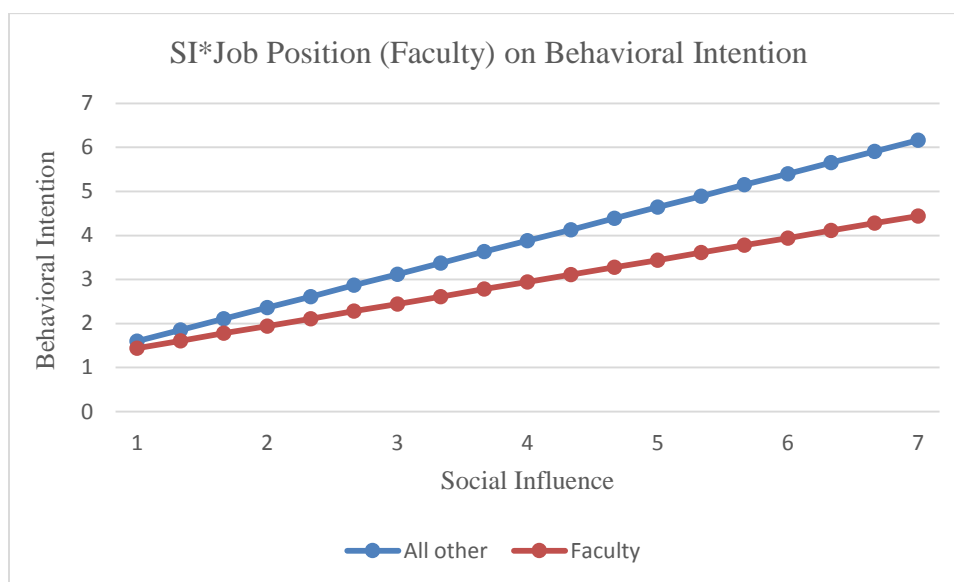

Figure 7. The Predicted Slope of SI*Job Position on Behavioral Intention. The effect of social influence on behavioral intention is lower for faculty than all other positions, especially at higher levels of social influence.

Qualitative Results

Four focus group sessions were conducted to provide a deeper understanding of the research questions for the present study. Participants were not given any information about the focus group sessions in advance. Prior to asking any questions, the researcher briefly provided an overview of the study, including a definition of digital equity and workplace learning. The same twenty open-ended questions concerning acceptance of knowledge sharing technology (i.e., SharePoint) in the higher education workplace were asked by the researcher in each focus group session. After transcription, data was coded by the researcher, then by a secondary coder first independently and then collaboratively.

The initial themes were coded based on the conceptual framework for this study: digital equity factors, workplace learning, and technology acceptance. The researcher coded all the data; wrote definitions of each theme, category, and subcategory; then included examples from the dataset into a codebook. The researcher also imported all the transcriptions from the focus group sessions into NVivo, a software tool used for qualitative coding, to find by looking at word frequency any themes that may have been missed. NVivo was also used to organize content by themes, categories, and subcategories.

Once the researcher had completed coding and produced a codebook, 20 percent of the dataset (equal to one focus group session) was given to the secondary coder for review. A meeting between the researcher and secondary coder was conducted and differences in interpreting the codes were discussed until a consensus was reached. After modifications were made to categories, sub-categories, and definitions based on the previous discussion (Appendix F), the researcher used a free online Excel inter-coder reliability testing tool (ReCal2) to determine reliability. This resulted in an inter-coder reliability of 0.85 based on Cohen's kappa and a 97.8 percent agreement between both coders.

Theme: Digital equity factors. Three categories were generated from the focus group data in the context of digital equity factors—early exposure to computers, demographic perceptions, and current experience with computers.

Early exposure to computers. The early exposure category consisted of four sub-categories, including K-12 computer access, home access, parents' skill levels, and preparation for future use. When focus group participants were asked about their computer experience in K-12, the responses from all groups were very similar. Age was a primary factor in whether participants had access to computers while in school. The older participants were in K-12 before

the computer era, while the younger participants had computers in the classroom as early as second grade. For those participants that did have computers in K-12, none reported them being integrated into the curriculum, with teachers using computers primarily to enter grades. One participant responded, "Regular classrooms had computers in them, but I don't remember a teacher ever once using them." The primary computer use was for either educational games or word processing, as there was limited Internet access. Computers were commonly located in libraries and gifted classrooms in elementary school. While many high schools had computer labs, teachers were not integrating them into the classroom unless the class was a specialized computer programming-type class. A participant who reported having access to computers in second and third grades commented "by the time I got to high school we had no computer classes, because I think it was just assumed people would come in with that knowledge."

Thirty-nine percent of focus group participants (7 of 18) reported having access to their parents' computer at home during their K-12 school years. Only one participant reported his parents' owning a computer as well as having his own computer. The most common computer owned was the Apple II (Mac). Playing "Oregon Trail" and typing reports for school were the primary uses of the home computer. Several participants discussed their parents helping them type homework or search for information on the Internet using a dialup connection.

When asked how exposure to computers in K-12 prepared them to use technology, participants shared mixed findings. One participant felt like a "digital native," another participant did not feel the exposure was helpful, while several participants reported that learning how to type was the greatest benefit to using a computer. An older participant who did not have access to computers in K-12 commented that not having computers in K-12 "did not hold me back." Lastly, a younger participant related being introduced to technology as changing the way he

interacted in schoolwork, homework, and research from that point forward. The participants further commented, "There was nothing that was covered in the college courses in a computer science curriculum that was covered in high school or in K-12. It was all more advanced from the outset."

Demographic perceptions. The demographics category consisted of four sub-categories, including age, SES, race, and gender. Focus group participants were asked about their perceptions regarding how gender, race, SES, and computer experience impacted adoption of SharePoint now and in the future.

Age, race, and gender were commented upon by half the participants. These focus group participants referred to age when discussing early exposure to computers, specifically in reference to K-12 access. Several participants commented being born before the computer age or before the Internet. Age was also correlated with being able to adapt to new technology more quickly. Thus, the younger the person the more adaptable he was. One participant commented, "If you get to people who are, say ten years older than me, then you're going to start finding more and more discomfort with technology as a whole."

When reflecting on their K-12 computer experiences, participants discussed race and gender. Several participants felt race and gender had nothing to do with prediction of technology use. In comparison, one respondent specifically mentioned women and race in the comment: there were not a lot of "girls or non-Caucasians" in the computer classes. Additionally, one participant compared the issues of gender and race in the context of using technology as being similar to the issues for gender and race in science and math. A male participant stated, "It does seem like sometimes that men are more likely to use it [collaboration technologies] than women."

The perception of the four focus groups was that SES did matter in technology acceptance. Two participants agreed that people using SharePoint were probably better educated because you have to be somewhere SharePoint can be afforded in the first place. This was further explained by another participant who stated, "It's not something that you're going to [have] worked in a lower-income school." In contrast, one focus group participant from a different session remarked, "I don't think it [adoption] has to do with pay grades." Overall, the general consensus from participants was people with higher SES tend to be more comfortable with technology, they are better educated, and have higher salaries.

In a slight detour from current employees' SES, the conversation in the last focus group evolved into a discussion about the focus group participants' school age children and SES. An issue of "anti-adoption" was identified by one participant, since not every student could purchase technology this resulted in no one being able to use it in the classroom. Another focus group participant reflected on the disparity between the affluent schools attended by her children versus those higher poverty schools attended by other students. She commented,

> Public schools, in order to have equity, are going to have to provide as part of a free education, technology for those who can't afford it at home, because it is blatantly unfair what my kids had the ability to do from home and what somebody that didn't have the socioeconomic capability of.

Current computer experience. The current experience category of digital equity consisted of two sub-categories, including computer use and SharePoint access. The questions focus group participants answered relative to this category were how they typically used the computer at work, what access they had to SharePoint at work individually and departmentally, and whether access to computers at home impacted learning at work. One hundred percent of

focus group participants used computers at work in some manner from server administration,

managing data, system administration, project management, communication purposes (i.e.,

email, video conferences, and phone), generating reports, creating presentations, and research on

the Internet to collaborating using SharePoint. To signify the amount of time focus group

participants spent on the computer, one participant responded, "I am always on the computer

except when I am walking from one room to another room." Another participant added to this,

by saying "when our Internet is down we're sort of like…we can't do anything."

SharePoint access was handled differently by each department represented at the focus

group sessions. The access was dependent upon the use of SharePoint. For example, some

departments assigned roles to decide whether an employee had access in certain areas of

purchasing, inventory of equipment, or project documentation in contrast to other departments

that granted read-only access to all employees; only a handful of employees having higher level

administrative rights were allowed to design and edit. This type of access structure was reflected

in one focus group participant's comment, "Everybody can look at what's there, at the structure

of the data, but only a handful of people have the power to do anything about it." Table 40

summarizes the content analysis results for research question one.

Table 40

Content Analysis Results for Research Question One

Theme	Sub-Category	Number of Coded Responses*
Digital Equity Factors	Early Exposure to Computers	39
	Demographic Perceptions	23
	Current Computer Experience	40

Note. *Multiple codes per response. The four focus group session responses totaled 707, which included coded and non-coded responses (Appendix I).

Triangulation

Jonsen and Jehn (2009) identified three primary reasons for using triangulation: (1) to reduce bias and increase reliability and validity; (2) to achieve a better understanding of the phenomenon being studied; and (3) to determine the effect of increased researcher confidence with regard to results. But rather than solely confirming the results of the quantitative data, the goal of this study was to obtain a deeper understanding of the data (Flick, Garms-Homolova, Herrmann, Kuck, and Rohnsch, 2012) and "go beyond the knowledge made possible by one approach" (Flick, 2008, p. 4). The researcher moved between the quantitative data results and the digital equity themed categories, comparing and contrasting, until the findings were fully understood (Rampersad & Troshani, 2012).

For research question one, triangulation was used to understand to what extent and under what conditions digital equity factors influenced predictors of behavioral intention to use SharePoint in the higher education workplace. First, a survey questionnaire was used to reveal the digital equity factors (i.e., gender, race, SES, and computer experience) of participants. These surveys produced useful quantitative data which were used as moderators in multiple regression analysis. These analyses produced relationships among UTAUT constructs and the moderators.

The researcher then needed qualitative data to understand the experiences and perceptions of employees with regard to how these digital equity factors impacted acceptance and use of SharePoint in the higher education workplace (Flick et al., 2012). The qualitative data was collected through semi-structured focus group sessions, from which descriptive data was derived. Through content analysis, themes and descriptive responses were obtained. This qualitative data provided deeper context around whether digital equity factors influenced intention and use.

Finally, quantitative and qualitative results were compared. For research question one, quantitative data revealed gender and job position, as moderators, were statistically significant. Overall there were twenty-three responses related to demographic perceptions in the focus group sessions. Some participants reported gender as not having any impact on acceptance or use of technology. For example, one female participant stated, "I don't think it [using SharePoint] has anything to do with, gender or race. I think it—in my case at least it's work driven." This was supported by a male participant from another focus group session who stated, "It's far more unit-driven than any of those factors." In contrast, a male participant felt gender might be a contributing factor, he responded:

> Some of my friends and I use more advanced stuff or more geeky software like SVN, we have our own servers for collaboration and stuff … that stuff might be affected a little bit by gender. So my current advisor is a woman, she has like a, you know, shared server for the lab and stuff like that, but it's not super sophisticated, but my previous advisor who was a man—I don't think that was the only contributing factor. He was like a super geek, so he had set up his own server and website and all that kind of stuff, but might partly be gender, I don't know.

The qualitative results showed focus group participants referenced SES in the context of the disparity between affluent schools and high poverty schools. SES was also made reference to in the context of better education equaling higher salaries and subsequently greater adoption. Higher SES was also equated with having more computer experience. This was shown by one focus group participant's comment: "People who have had just generally more experience with computers, which often tend to be the higher socioeconomic class, tend to be more comfortable … they know generally how stuff tends to work." Quantitative results revealed one component of SES (job position) to be significant in relation to behavioral intention to use SharePoint in the higher education workplace.

Computer experience was more widely discussed in focus group sessions, with forty coded responses in this sub-category. Survey participants first provided a self-reported rating in

the questionnaire of their computer skills. The ratings ranged from "poor" to "excellent," with over 95 percent of participants rating themselves "good" or higher. The results from qualitative data suggested that computer exposure in K-12 did not make a difference in computer experience or skills. Access to computers in K-12 was limited to certain classrooms and individuals, with most teachers not fully utilizing the technology. Focus group participants reported computers were used primarily in the library to look up information or in gifted and specialized classrooms (i.e., computer class). This was in contrast to current computer experience, where 100 percent of focus group participants reported having access to a computer at work and using the computer for a large variety of tasks every day.

Qualitative data also provided increased knowledge as to how and why SharePoint access was provisioned in departments. Some departments granted access to all employees by default, while others granted access to specific projects only. For example, a project manager was granted administrative rights to SharePoint and he was then responsible for granting permissions to the project team. Overall, SharePoint access was distributed based on employee roles, from a read-only level to design and edit, with the IT staff or project manager provisioning access the majority of the time. Table 41 summarizes the results between quantitative and qualitative analysis for research question one.

Table 41

Major Results from Quantitative and Qualitative Analysis: Research Question One

Quantitative Results (N=390)	Qualitative Results (N=18)
Gender (female) significantly (negatively) moderated effort expectancy on behavioral intention	Gender was referenced as being both a factor and non-factor in acceptance and use by focus group participants
Gender does not significantly moderate performance expectancy or social influence on behavioral intention	
Job position (faculty) significantly (negatively) moderated social influence on behavioral intention	Two participants referred to acceptance and use as being work-driven and unit-driven
Job position does not significantly moderate performance expectancy or effort expectancy on behavioral intention	
Race, individual income, level of education, and computer experience are not significant moderators of performance expectancy, effort expectancy, or social influence on behavioral intention	Focus group participants commented higher SES individuals were more comfortable with technology, they were better educated and had higher salaries, leading to better technology adoption
	Participants had mixed feelings whether computer exposure in K-12 helped them in the workplace
	Younger participants had more access to computers in school as compared to older participants
	Access to computers in K-12 was limited to certain classrooms or individuals
	Disparity noted between affluent schools and high poverty schools
	SharePoint access was granted based on employee's role or project involvement
	SharePoint permissions were provisioned by IT staff or project manager

Research Question Two

Quantitative Results

To what extent and under what conditions does workplace learning climate affect

predictors (i.e., performance expectancy, effort expectancy, and social influence) of intent to use

a knowledge sharing technology (SharePoint) in the higher education workplace?

The purpose of this research question was to explore how employees' perceptions of

workplace learning climate affected their intent to use a knowledge sharing technology,

specifically SharePoint, in the higher education workplace. To measure this, several multiple

regression analyses were used to test whether performance expectancy, effort expectancy, and

social influence significantly predicted behavioral intention to use SharePoint in the higher

education workplace as moderated by two components of workplace learning climate (i.e., WL1

and WL2). Hierarchical multiple regression analyses in SPSS enabled the researcher to compare

the overall model before and after incorporating the moderating variables.

Performance expectancy and workplace learning climate. A multiple regression

analysis was conducted to examine whether performance expectancy significantly predicted

behavioral intention to use SharePoint in the higher education workplace as moderated by WL1.

The results of the regression in Step One indicated that performance expectancy and WL1

explained 26 percent of the variance ($p < .001$). After WL1 was added as a moderator in the

second step, the interaction significantly predicted behavioral intention to use SharePoint

($\beta = .430$, $p < .05$), explaining 26.7 percent of the variance. This created an increase in the

variance of 0.7 percent in the overall model. Table 42 presents the results of this testing.

Table 42

WL1 as Moderator of Performance Expectancy-Behavioral Intention Relationship

					Overall Model			
Predictors	B	SE B	β	*p*	Total R^2	ΔR^2	F	*p*
Step One:								
PE	.739	.063	.512	.000***				
WL1	-.019	.058	-.015	.739	.264	.260	69.323	.000***
Step Two:								
PE	.293	.210	.203	.165				
WL1	-.439	.197	-.330	.027*				
PE*WL1	.100	.045	.430	.027*	.273	.267	48.334	.000***

*Note. *p* < .05; **p* < .01; ***p* < .001.

A multiple regression analysis was conducted to examine whether performance expectancy significantly predicted behavioral intention to use SharePoint in the higher education workplace as moderated by WL2. The results of the regression in Step One indicated that performance expectancy and WL2 explained 35.4 percent of the variance (*p* < .001). WL2 was added as a moderator to performance expectancy in the second step; however, this interaction was not significant and did not predict behavioral intention to use SharePoint. Table 43 presents the results of this testing.

Table 43

WL2 as Moderator of Performance Expectancy-Behavioral Intention Relationship

					Overall Model			
Predictors	B	SE B	β	*p*	Total R^2	ΔR^2	F	*p*
Step One:								
PE	.592	.062	.410	.000***				
WL2	.412	.055	.322	.000***	.357	.354	107.404	.000***
Step Two:								
PE	.481	.105	.333	.000***				
WL2	.136	.216	.106	.530				
PE*WL2	.060	.045	.258	.186	.360	.355	73.327	.000***

*Note. *p* < .05; **p* < .01; ***p* < .001.

Effort expectancy and workplace learning climate. A multiple regression analysis was conducted to examine whether effort expectancy significantly predicted behavioral intention to use SharePoint in the higher education workplace as moderated by WL1. The results of the regression in Step One indicated that effort expectancy and WL1 explained 8.3 percent of the variance ($p < .001$). Only effort expectancy significantly predicted behavioral intention ($\beta = .289$, $p < .001$). WL1 was added as a moderator to effort expectancy in the second step of the regression; however, this interaction was not significant and did not predict behavioral intention to use SharePoint. Table 44 presents the results of this testing.

Table 44

WL1 as Moderator of Effort Expectancy-Behavioral Intention Relationship

Predictors	B	SE B	β	p	Total R^2	ΔR^2	F	p
					Overall Model			
Step One:								
EE	.444	.075	.289	.000***				
WL1	-.089	.064	-.067	.169	.088	.083	18.638	.000***
Step Two:								
EE	.334	.250	.217	.183				
WL1	-.204	.257	-.154	.428				
EE*WL1	.025	.054	.115	.644	.088	.081	12.472	.000***

Note. *p < .05; **p < .01; ***p < .001.

A multiple regression analysis was conducted to examine whether effort expectancy significantly predicted behavioral intention to use SharePoint in the higher education workplace as moderated by WL2. The results of the regression in Step One indicated that effort expectancy and WL2 explained 24 percent of the variance ($p < .001$). Both effort expectancy and WL2 significantly predicted behavioral intention ($\beta = .200$ and $\beta = .410$, $p < .001$). However, after adding WL1 as a moderator to effort expectancy in the second step of the regression, the

interaction did not predict behavioral intention to use SharePoint. Table 45 presents the results of this testing.

Table 45

WL2 as Moderator of Effort Expectancy-Behavioral Intention Relationship

Predictors	B	SE B	β	p	Total R^2	ΔR^2	F	p
						Overall Model		
Step One:								
EE	.307	.070	.200	.000***				
WL2	.525	.058	.410	.000***	.244	.240	62.333	.000***
Step Two:								
EE	.171	.117	.111	.143				
WL2	.207	.226	.162	.362				
EE*WL2	.066	.045	.289	.147	.248	.242	42.379	.000***

Note. $*p < .05; **p < .01; ***p < .001$.

Social influence and workplace learning climate. A multiple regression analysis was conducted to examine whether social influence significantly predicted behavioral intention to use SharePoint in the higher education workplace as moderated by WL1. The results of the regression in Step One indicated that social influence and WL1 explained 29.5 percent of the variance ($p < .001$). After adding WL1 as a moderator in the second step of the regression, the interaction significantly predicted behavioral intention to use SharePoint ($β = .466, p < .05$); however, the variance remained the same at 29.5 percent. Table 46 presents the results of this testing.

Table 46

WL1 as Moderator of Social Influence-Behavioral Intention Relationship

					Overall Model			
Predictors	B	SE B	β	*p*	Total R^2	ΔR^2	F	*p*
Step One:								
SI	-.160	.057	-.120	.000***				
WL1	.758	.061	.538	.000***	.291	.295	79.281	.000***
Step Two:								
SI	.281	.219	.199	.200				
WL1	-.523	.170	-.394	.002**				
SI*WL1	.106	.047	.466	.024*	.300	.295	55.128	.000***

*Note. *p* < .05; **p* < .01; ***p* < .001.

A multiple regression analysis was conducted to examine whether social influence significantly predicted behavioral intention to use SharePoint in the higher education workplace as moderated by WL2. The results of the regression in Step One indicated that social influence and WL2 explained 36.4 percent of the variance (*p* < .001). Both social influence and WL2 significantly predicted behavioral intention (β = .424 and β = .318, *p* < .001). However, after incorporating WL2 as a moderator to social influence in Step Two of the regression analysis, it did not predict behavioral intention to use SharePoint. Table 47 presents the results of this testing.

Table 47

WL2 as Moderator of Social Influence-Behavioral Intention Relationship

Predictors	B	SE B	β	*p*	Total R^2	ΔR^2	F	*p*
						Overall Model		
Step One:								
SI	.598	.060	.424	.000***				
WL2	.406	.055	.318	.000***	.367	.364	112.119	.000***
Step Two:								
SI	.502	.093	.356	.000***				
WL2	.200	.164	.156	.224				
SI*WL2	.051	.038	.201	.182	.370	.365	75.492	.000***

Note. *p < .05; **p < .01; ***p < .001.

Workplace learning climate factors and PE, EE, and SI. A multiple regression

analysis was conducted to test whether performance expectancy, effort expectancy, and social

influence significantly predicted behavioral intention to use SharePoint in the higher education

workplace as moderated by both the workplace learning climate factors (i.e., WL1 and WL2) in

the model at the same time. The results of the regression in Step One indicated that performance

expectancy, effort expectancy, social influence, and workplace learning explained 43.9 percent

of the variance (*p* < .001). Performance expectancy, social influence, WL1, and WL2

significantly predicted behavioral intention. When incorporating WL1 and WL2 as moderators in

Step Two of the regression, the interaction between WL1 and EE significantly predicted

behavioral intention to use SharePoint (β = -.536, *p* < .05); and the variance increased slightly to

44.3 percent. Table 48 presents the results.

Table 48

Workplace Learning Climate Factors as Moderators to Performance Expectancy, Effort Expectancy, and Social Influence-Behavioral Intention Relationship

					Overall Model			
Predictors	B	SE B	β	*p*	Total R^2	ΔR^2	F	*p*
Step One:								
PE	.330	.071	.229	.000***				
EE	.094	.067	.061	.159				
SI	.468	.062	.332	.000***				
WL1	-.169	.052	-.127	.001**				
WL2	.363	.054	.284	.000***	.447	.439	61.988	.000***
Step Two:								
PE	.074	.250	.051	.768				
EE	.462	.241	.301	.056				
SI	.551	.217	.391	.012**				
WL1	.217	.244	.163	.375				
WL2	-.086	.239	-.067	.719				
WL1*PE	.061	.052	.265	.242				
WL2*PE	.003	.060	.011	.965				
WL1*EE	-.116	.051	-.536	.024*				
WL2*EE	.067	.044	.295	.127				
WL1*SI	-.033	.049	-.146	.500				
WL2*SI	.029	.050	.116	.558	.458	.443	29.090	.000***

Note. $*p < .05$; $**p < .01$; $***p < .001$.

Qualitative Results

Theme: Workplace learning climate. Three primary categories were generated from the focus group data in the context of workplace learning climate, including management factors, peer factors, and personal factors. The focus group sessions addressed questions which included: what factors enhance or constrain workplace learning, how do you learn in the workplace, to what extent are technology changes communicated to employees in your department/unit, to what extent do your workplace learning experiences affect your acceptance of a knowledge sharing technology in the workplace, and to what extent do you think workplace learning plays a factor in acceptance and use of SharePoint on campus?

Management factors. The focus group sessions discussed management factors and management pressure related to support of SharePoint. This category included three sub-categories: communication, administrative, and supervisor support. These categories incorporated topics including communication strategies used for technology change, topics regarding decisions distilled through a hierarchical flow, and topics relating to support for technology from management, other employees, or supervisors. The general consensus from the focus groups was that management did not ask employees about incorporating a new technology into their departments, but expected employees to accept change and learn the technology with little to no notice. Once administration made a decision for new technology, people were forced to change. Most frequently the notice of change was received in the form of email communication. Sometimes the email included general how-to information, but in most cases it did not. One participant, who was an IT person, commented on the installation of new technology in the department, "Once we get it running then it sort of becomes the user's problem because we can't be experts in everything everybody runs." This same participant also stated, "We'll warn them this is coming, but we're not going to do anything." The reason behind this was stated as the department was too large to provide that level of support for everyone. In comparison, one participant commented management did send its department to training, but training is received too far in advance to be useful, so that once the new technology was installed he no longer knew how to use it.

It is important for supervisors to provide time to learn technology and to support training, both independently and organizationally. One participant commented he would be willing to work with SharePoint if there were support from everyone running it, adding that without that "it's useless." One example was given by a participant in which Human Resources came in to

assist with a new technology tool and noted the assistance from Human Resources was "incredibly positive." Others in the focus group session agreed that such assistance would be a positive reinforcement of the importance of the new technology. Thus, the general consensus from the focus groups was that if you were not encouraged to learn and learning was not made a priority by management, then learning how to do things using different or new technology was less likely to happen.

Peer factors. "Peer factors and pressures" comments were focused on topics around specific campus or departmental culture in conjunction with how knowledge was expected to be shared. There was no uniformity in knowledge sharing according to the focus group participants. This was a common theme across all the focus group sessions. Labs, units, departments, and colleges all operated independently; therefore collaboration was very inconsistent. In most cases, knowledge sharing was taking place via technology tools outside of SharePoint, like Box, wikis, email, and file shares. In some departments workspaces had been designed for collaboration and knowledge sharing, with employees sitting in close proximity to each other in open spaces. In other departments, employees were using headphones and not talking to each other. An example of this was seen in one participant's comment, "Everybody's got their headphones on and nobody's talking to each other anymore."

Employees that left the organization leave a gap in knowledge. An example one of the participants gave was that of an employee who had been with the University for twenty-seven years and handled all the intricate issues in the department once she was gone, so was that organizational knowledge. None of this information was ever recorded or documented. This was similar to a quote from another participant, specifically regarding SharePoint, "Quick! You're retiring; tell me everything you know about SharePoint before you leave." Focus group

participants also highlighted that employees may not know questions to ask or whom to ask. This has prompted some departments to begin better documenting procedures. Thus, there was a great deal of pressure applied to individual learners to step in quickly after one person left.

Personal factors. The category of personal factors included five sub-categories: change, tools, training, time, and learning styles. These sub-category discussion topics centered on technology changes, technology tools used for collaboration, training provided for technology in the workplace, time as a factor in the workplace for learning, and how learning was facilitated along with how employees wanted to learn. Technology changes were not done systematically across departments. Focus group participants noted people were on their own and did not have a choice in changes rolled out. One participant commented, "I'm not going to be happy about it, but I need stuff," in response to being asked how workplace learning experiences affected acceptance of a knowledge sharing technology in the workplace. Several participants were already using other technology tools, besides SharePoint, for collaboration including Basecamp, Google docs, and Dropbox.

Time to learn new technology and practice using it was the single greatest factor that constrained workplace learning. Focus group participants agreed ample time was not given to learn new technology before being assigned jobs related to using it. One participant stated, "It's trial by fire" when referencing a job given to him to complete using SharePoint. Several focus group participants commented even when training was provided, they did not have enough time to practice what they learned. Individual workloads were already taxing. Another participant commented that just taking the time to write a request for training was time-consuming, detracting from completing her work. This was in contrast to one participant who had the "luxury of time to actually learn a skill before…applying it" when a new technology was introduced in

the department. Another participant reported his department had allocated a specific amount of time and funding to each employee for training. Trying to find time to learn new skills and get the job done were challenging for employees on a personal level.

Adding to these challenges were different learning styles. All four focus group sessions spent a considerable amount of time discussing learning styles. The list of different learning styles compiled from these discussions was lengthy. They included visual learning aids, up-to-date resources, and access to knowledge bases. One department assumed people came in and knew how to use the new technology; they were given the technology and told "here you go." While other focus group participants mentioned reading books, self-study, and hands-on learning as their preferred methods of workplace learning. However, the most common learning style discussed by focus group participants was talking to peers. It was common practice to have "hallway" conversations, to knock on office doors, or have "over-the-shoulder" conversations. Examples of this were revealed via these statements by focus group participants: "I can come down and show you real quick how to do it," and "Hey, do you have any idea how to do this?" In contrast, one participant commented that the abundance of information added to learning difficulty, "Learning in general is hard because there is information all over the place, and it can take a long time just to find it."

Table 49 summarizes the content analysis results for research question two.

Table 49

Content Analysis Results for Research Question Two

Theme	Sub-Category	Number of Coded Responses*
Workplace Learning	Management Factors	7
	Peer Factors	30
	Personal Factors	89

Note. *Multiple codes per response. The four focus group session responses totaled 707, which included coded and non-coded responses (Appendix I).

Triangulation

For research question two, triangulation was used to understand to what extent and under what conditions workplace learning climate factors influenced predictors (i.e., performance expectancy, effort expectancy, and social influence) of behavioral intention to use SharePoint in the higher education workplace. This triangulation included first investigating the results of multiple regression analysis (i.e., quantitative data) and then focus group sessions (i.e., qualitative data).

The DLOQ consisted of a framework of questions targeted towards seven factors of workplace learning culture, including individual, team, and organizational level questions. These questions were created to measure quantitatively an organization's learning climate. As a result of the factor analysis, the seven factors were reduced to two factors for this study—WL1 and WL2. WL1 consisted of questions combined from all seven factors, as identified in the original DLOQ framework, and WL2 consisted of only one dimension. The multiple regression analysis revealed a negative significant relationship between effort expectancy as moderated by WL1 and behavioral intention to use SharePoint in the higher education workplace. Whereas all other workplace learning climate moderation effects were not significant.

The qualitative data provided deeper context around workplace learning climate factors. In contrast to the quantitative data, which provided only frequencies ranging from "almost never" to "almost always," the qualitative data provided an in-depth look at how the individual, team, and organizational level DLOQ questions compared to the management, peer, and personal factors identified in the focus group sessions. First, understanding employees' interactions and perceptions of management provided insight into how new technologies were introduced into the workplace along with management's expectations on staff. For instance, employees were not asked about technology changes, but rather in many instances forced by administration to change. These changes were primarily communicated via email. The importance of positive reinforcement and support from management was noted to be lacking in the focus group responses. This was also confirmed by the low number of overall responses (seven) in the focus group sessions related to management factors.

Qualitative data also provided a deeper view into the different cultures that existed across departments and how employees shared knowledge with one another. The lack of uniformity across campus was identified as an issue by one focus group participant, who stated "I think that failure to find uniformity, to be able to define a system, blocks more technology on this campus than anything else." Decentralization is highly valued. This was confirmed by a focus group participant who stated, "We value our decentralization here very highly." There was no consistency in collaboration or in the use of knowledge sharing technology tools across departments. One focus group participant remarked that everyone uses the free stuff and each department uses something different. In fact, knowledge sharing processes were either poorly documented or not documented at all; therefore, existing employees had the added pressure of quickly learning new technologies after retiring employees left the organization.

Finally, understanding employee learning styles and how learning was facilitated across departments in the organization and how often, were important to thoroughly address research question two. The challenges of different learning styles and absence of time to learn something new were noted in the qualitative data as impediments to knowledge sharing technology acceptance and use. "Over-the-shoulder" learning, or learning between employees, was the most common method mentioned by focus group participants to learn new technologies in the workplace. The qualitative data confirms what the quantitative data revealed, which was 66.4 and 63.1 percent of employees, respectively, as "almost never" having people help them use SharePoint or be given adequate time to learn SharePoint. Table 50 summarizes the results between quantitative and qualitative analysis for research question two.

Table 50

Major Results from Quantitative and Qualitative Analysis: Research Question Two

Quantitative Results (N=390)	Qualitative Results (N=18)
WL1 significantly (negatively) moderated effort expectancy on behavioral intention	Poor documentation and knowledge sharing strategies led to the need to learn quickly new technologies
	No consistency of knowledge sharing processes across organization
	Most common learning style among employees was between each other
WL1 did not significantly moderate performance expectancy or social influence on behavioral intention	Change instituted by management with poor communication to staff
	Lack of positive reinforcement and support from management
WL2 did not significantly moderate performance expectancy, effort expectancy, or social influence on behavioral intention	Lack of time and support for training are challenging to employees

Research Question Three

Quantitative Results

Which moderator (digital equity factors or workplace learning climate factors) would influence better the use of a knowledge sharing technology (i.e., SharePoint) in the higher education workplace?

The purpose of this research question was to identify the more reliable moderator, between workplace learning climate and digital equity factors, in predicting use of SharePoint in the higher education workplace. To do so beta coefficients were first examined to compare the relative strength of the significant moderating predictors from multiple regressions. Second, a multiple regression analysis was conducted to examine whether digital equity or workplace learning climate factors, when examined together, better influenced the use of a knowledge sharing technology in the higher education workplace.

Digital equity factors. In the multiple regressions, gender (female) was the strongest moderator to effort expectancy ($\beta = -.453$) in predicting employees' behavioral intention to use SharePoint in the higher education workplace. Job position (faculty) was the second strongest moderator to social influence ($\beta = -.299$). These results are summarized in Table 51.

Table 51

Standardized Beta for Significant Digital Equity Moderator in Multiple Regression

UTAUT Construct	Moderator	β	Dependent Construct
Effort Expectancy	Gender (Female)	-.453	Behavioral Intent
Social Influence	Job Position (Faculty)	-.299	Behavioral Intent

Workplace learning climate. In the multiple regressions, WL1 was the strongest moderator to both performance expectancy and social influence ($\beta = .430$ and $\beta = .466$) in

predicting employees' behavioral intention to use SharePoint in the higher education workplace.

These results are summarized in Table 52.

Table 52

Comparison of Standardized Betas for WL1 Moderators in Bivariate Regression

UTAUT Construct	Moderator	β	Dependent Construct
Performance Expectancy	WL1	.430	Behavioral Intent
Social Influence	WL1	.466	Behavioral Intent

In the multiple regression with both WL1 and WL2 being considered simultaneously, WL1 was the stronger moderator to effort expectancy ($\beta = -.536$) in predicting employees' behavioral intention to use SharePoint in the higher education workplace. These results are summarized in Table 53.

Table 53

Standardized Beta for Significant WL Moderator in Multiple Regression

UTAUT Construct	Moderator	β	Dependent Construct
Effort Expectancy	WL1	-.536	Behavioral Intent

UTAUT model. A multiple regression analysis was conducted to examine whether digital equity or workplace learning climate factors significantly predicted behavioral intention to use SharePoint in the higher education workplace. To do this, significant moderators from digital equity and workplace learning climate (Tables 39 and 48) were analyzed together in the UTAUT model. The results of the regression are summarized in Table 54.

Table 54

Gender, Job Position, and WL1 as Moderators of Performance Expectancy, Effort Expectancy, and Social Influence-Behavioral Intention Relationship

Predictors	B	SE B	β	*p*	Total R^2	ΔR^2	F	*p*
							Overall Model	
Step One:								
PE	.412	.073	.286	.000***				
EE	.098	.071	.064	.165				
SI	.516	.065	.366	.000***				
WL1	-.091	.054	-.068	.093				
Gender								
Female	-.037	.141	-.010	.794				
Job Position								
Faculty	-.495	.174	-.119	.005**	.393	.384	41.395	.000***
Step Two:								
PE	.405	.073	.280	.000***				
EE	.444	.214	.288	.039*				
SI	.605	.074	.429	.000***				
WL1	.078	.211	.059	.712				
Gender								
Female	1.23	.566	.349	.031*				
Job Position								
Faculty	.502	.447	.121	.262				
WL1*EE	-.037	.045	-.171	.407				
Female*EE	-.284	.124	-.387	.023*				
Faculty*SI	-.315	.133	-.247	.018*	.411	.397	29.465	.000***

*Note. *p* < .05; **p* < .01; ***p* < .001.*

Qualitative Results

Three categories were generated from the focus group data in the context of technology acceptance, including personal factors and environmental factors affecting adoption as well as technology use. The focus group sessions discussed questions including how SharePoint was being used, what participants liked most and least about SharePoint, what barriers were encountered when using technology at work, whether SharePoint was being used for knowledge sharing, and what factors influenced employee adoption of SharePoint?

Theme: Technology acceptance.

Personal factors affecting adoption. Personal factors affecting adoption of SharePoint in the higher education workplace were discussed at length in the focus group sessions. Seven sub-categories were created in this category including performance expectancy, effort expectancy, ease of use, behavioral intention, perceived challenges and benefits of SharePoint, awareness, and perceived uses of SharePoint. Topics ranged from the extent to which an individual believed that using knowledge sharing technology would help attain benefits of job performance to the perceived ease of use of such tools. Additionally, topics centered on intent to use SharePoint as well as the anticipated challenges and barriers presented by SharePoint followed by SharePoint awareness and perceived uses of this knowledge sharing technology tool.

Performance expectancy. The extent to which employees believed SharePoint would help them attain benefits in job performance was discussed in two of the focus group sessions. Two focus group participants commented they never were told what benefit SharePoint would be to them in the workplace. One participant commented, "I don't know that there's any unique service on SharePoint that I'm missing that would significantly improve my work." Another participant questioned the value of becoming a SharePoint resource in the higher education work environment, because industry pays more for that type of resource.

Effort expectancy and ease of use. Ease of use was noted by several focus group participants when discussing tools, other than SharePoint, that were used in their respective departments. Basecamp was noted to be an easy-to-use, lightweight collaboration tool, that at least one participant in every focus group session was familiar with and had used in his department. Two participants commented that SharePoint would have to be easy to use and more effective than the current tool being used in order for adoption to be successful. However, the

unknown about the ease of use of SharePoint was prevalent in one participant's comment, "It's

probably going to be useful … I don't know yet."

Behavioral intention. The behavioral intention sub-category for personal factors affecting

adoption focused on employees' intention to use or not use SharePoint in the workplace. Having

a clearly defined purpose for the use of SharePoint was a common conversation and important

factor for adoption amongst the focus group session participants. Without understanding what

the knowledge sharing technology could do and its purpose, the participants' consensus was that

behavioral intent would be low. Some participants had bad first experiences using SharePoint

and vowed never to use it again, while others were more hesitant or never considered using

SharePoint for collaboration and knowledge sharing. In comparison, one participant was "game

to try anything new."

Perceived challenges and benefits. There were two aspects of SharePoint challenges and

benefits derived from the four focus group sessions: (1) personal; and (2) environmental. The

personal challenges and benefits were those that individual employees perceived impact them.

Challenges attributed to adoption of SharePoint on a personal level were discussed in each focus

group session. The "initial learning curve is high" was a challenge noted by multiple focus group

participants, including one IT professional. Several focus group participants did not know where

to start with SharePoint; one participant noted this was not necessarily on a technical level but on

a knowledge level. "Without using SharePoint all the time, it becomes a barrier," commented

another participant. The challenges noted by focus group participants were on both ends of the

spectrum for those that had been using SharePoint and those that had not used it at all. This can

be seen in the quote by one participant who stated, "Seems to be very, very polarizing, where

you're either an early adopter or you're never going to touch it, and there's nobody in the middle."

On the other hand, benefits were also discussed in the focus group sessions. Easy collaboration, powerful and unique features and functions, integrated platform, and the ability to create individual web pages were all benefits noted by participants. The environmental challenges and benefits will be discussed in the next category.

Awareness and perceived uses of SharePoint. Awareness of SharePoint at the university was a common comment by focus group participants. Some had never heard of SharePoint being available to university employees, while others had heard of SharePoint but did not know whether their departments were using it. Lack of awareness was a barrier for SharePoint; according to one participant's comment, "If no training or awareness of what you're taking on, becomes a barrier."

Environmental factors affecting adoption. Social influence, facilitating conditions, general technology support, design, SharePoint support, challenges and benefits, and awareness-raising efforts were all sub-categories included under environmental factors affecting adoption. These sub-category topics centered on the extent to which others influenced use of technology, the degree to which the organization had the necessary infrastructure for the technology including general IT support and SharePoint support, the design of technology including SharePoint, the benefits and challenges of SharePoint, and the extent to which SharePoint was known or understood in the higher education workplace.

Over nineteen comments were made by focus group participants related to social influence, facilitating conditions, technology support, and SharePoint support. All participant comments supported the need for a solid IT and SharePoint support base behind the SharePoint

technology to ease adoption. This was evidenced by comments such as, "Structure makes it work," or "Support base makes it [SharePoint] easier to accept." One focus group participant noted her department hired a new IT staff member that had former experience as a SharePoint Administrator; while that was not the person's primary job duty now, it was someone of whom others could ask questions if obstacles arose.

Another factor affecting adoption of SharePoint, according to the focus group participants, was the design of SharePoint. Participants noted several issues with SharePoint design that they perceived as factors, including difficult navigation, lack of intuition in organization, difficulty of uploading files, inability to find bookmarked site collections, difficulty in branding, and being a poor platform for external collaboration (outside the university). On the other hand, positive items were also noted with SharePoint design including organizational tools very intuitive, ease of permission setup, ease of creating workflows, and accessibility to all kinds of people.

In addition to personal challenges and benefits mentioned earlier, environmental challenges and benefits were also discussed in the focus group sessions. In all forty-five comments were made over the course of the four sessions in the context of challenges and benefits to SharePoint in the higher education workplace. This included awareness-raising efforts. Several participants found the compatibility issues with Macs to be the biggest challenge with SharePoint. Others felt development was too time consuming and required too much overhead, with the cost being too much for the benefit. The fact that SharePoint was good for many things, but not great at one thing, created a challenge, according to one participant. This was confirmed by another participant who said, "As far as I can tell it can do everything, which is both a plus and a minus." This was further confirmed by one participant who stated flexibility

was a benefit and also something negative. While some individual challenges were mentioned, including poor configuration, disappearing permissions, and no backing by departments, several participants agreed it was an acceptable solution for a variety of different things. One of these was the "out-of-the box" tie-in to Microsoft Office.

Just as in the personal challenges section earlier, awareness-raising efforts were a barrier in SharePoint adoption as an environmental factor. SharePoint was not well known; one participant was unaware this type of service was offered and another participant did not understand how SharePoint could meet his departmental needs.

Technology use. In an effort to measure how much SharePoint was being used, the current uses were discussed in the focus group sessions. Based on the focus group discussions, SharePoint was being used differently across the campuses. Varied uses ranged from being a repository for budget expenditures, preserving project documentation, patent information, and external review documentation to being a departmental intranet portal. A few focus group participants also mentioned their involvement with SharePoint at other organizations, including using SharePoint as a cloud server and as a collaboration tool amongst Big Ten schools. In contrast, one focus group participant noted that the Urbana campus does not recognize the non-existence of broadband in the work they do for the university. This participant commented,

> The reality that a lot of people on campus don't recognize yet is that a lot of places we work, the broadband is virtually nonexistent, and so you can't really use technology to its fullest extent, because if you go out into the fields and are working with someone, you don't have connectivity. And we all have iPads, and it was kind of funny when they bought them for us, because they said "'*Oh, you can just go to McDonalds anywhere.*"' Well I'm telling you, some of my communities—I have an entire county where not—

there's not a McDonalds in it, you know, so connectivity even in our offices in some of

our counties we have difficulty.

Table 55 summarizes the content analysis results for research question three.

Table 55

Content Analysis Results for Research Question Three

Theme	Sub-Category	Number of Coded Responses*
Technology Acceptance	Personal Factors Affecting Adoption	24
	Environmental Factors Affecting Adoption	47
	SharePoint Uses	10

Note. *Multiple codes per response. The four focus group session responses totaled 707, which included coded and non-coded responses (Appendix I).

Triangulation

For research question three, triangulation was used to understand which moderator

(digital equity or workplace learning climate factors) best influenced predictors of behavioral

intention to use SharePoint in the higher education workplace. Nathans, Oswald, and Nimon

(2012) suggested researchers consider additional measures when working with beta coefficients

in multiple regression analysis. Therefore, when answering research question three, results were

not reliant solely on the beta weight. Data was compared and contrasted between quantitative

and qualitative results.

The multiple regression analysis conducted for research question three identified gender

(female) and job position (faculty), as moderators, to be statistically significant on effort

expectancy and social influence, respectively. This was a result of combining all significant

moderating factors from research questions one and two into the UTAUT model at the same

time. As a result, WL1 was no longer a significant moderating factor on behavioral intention to use SharePoint in the higher education workplace.

Furthermore, the answer to the third research question was the result of a cumulative effect. Because participants were not specifically asked to rate which moderator had the biggest impact on their acceptance and use, either in the online survey or focus group sessions, the convergence of quantitative and qualitative data from research questions one and two was important to help answer this question. One hundred twenty-six coded responses were related to workplace learning, whereas one hundred two responses were related to digital equity factors.

Guided by theory, the qualitative data from research question three provided an additional eighty-one coded responses as context of the perceived and actual personal and environmental factors affecting employee adoption. This data provided a richer understanding of the UTAUT constructs, including performance expectancy, effort expectancy, social influence, facilitating conditions, behavioral intention, and use behavior. The quantitative data revealed most employees were unsure whether they would use SharePoint in the next six months, with only 3.3 percent choosing "strongly agree" to use SharePoint on a regular basis. Focus group sessions also identified actual use cases to help the researcher understand how and why employees were utilizing SharePoint. Tables 56 and 57 summarize the results between all three research questions.

Table 56

Comparison of Quantitative Analysis: Research Questions One, Two, and Three

Research Question One Quantitative Results	Research Question Two Quantitative Results	Research Question Three Quantitative Results
390 survey responses	390 survey responses	390 survey responses
Gender (female) significantly (negatively) moderated effort expectancy on behavioral intention	WL1 significantly (negatively) moderated effort expectancy on behavioral intention	Performance expectancy and social influence significantly predicted behavioral intention; effort expectancy did not
Gender did not significantly moderate performance expectancy or social influence on behavioral intention	WL1 did not significantly moderate performance expectancy or social influence on behavioral intention	Facilitating conditions significantly predicted use behavior
Job position (faculty) significantly (negatively) moderated social influence on behavioral intention	WL2 did not significantly moderate performance expectancy, effort expectancy or social influence on behavioral intention	Behavioral intention predicted use behavior
Job position did not significantly moderate performance expectancy or effort expectancy on behavioral intention		Gender (female) significantly (negatively) moderated effort expectancy on behavioral intention
Race, individual income, level of education, and computer experience were not significant moderators of performance expectancy, effort expectancy, or social influence on behavioral intention		Job position (faculty) significantly (negatively) moderated social influence on behavioral intention
		WL1 does not significantly moderate effort expectancy on behavioral intention

Table 57

Comparison of Qualitative Analysis: Research Questions One, Two, and Three

Research Question One Qualitative Results	Research Question Two Qualitative Results	Research Question Three Qualitative Results
102 coded responses	126 coded responses	81 coded responses
Gender was referenced as being both a factor and non-factor in acceptance and use	Poor documentation and knowledge sharing strategies led to the need to learn quickly new technologies	High initial learning curve to using SharePoint
Two participants referred to acceptance and use as being work-driven and unit-driven	No consistency of knowledge sharing processes across organization	Lack of continual use of SharePoint created efficiency issues
Participants had mixed feelings whether computer exposure in K-12 helped them in the workplace	Most common learning style among employees were between each other	SharePoint design was revealed as both intuitive and non-intuitive
Younger participants had more access to computers in school as compared to older participants	Technology change instituted by management with poor communication to staff	Lack of awareness and benefit to department
Access to computers in K-12 was limited to certain classrooms or individuals	Lack of positive reinforcement and support from management	Use cases varied across campuses from simple collaboration to complex business processes
Disparity noted between affluent schools and high poverty schools	Lack of time and support for training were challenging to employees	
Participants commented higher SES individuals were more comfortable with technology, they were better educated and had higher salaries, leading to better technology adoption		
SharePoint access was granted based on employee's role or project involvement		
SharePoint permissions were provisioned by IT staff or project manager		

Summary of Results

The present study involved several steps to deduce conclusions whether digital equity and workplace learning factors influenced employees' acceptance and use of SharePoint in the higher education workplace. This was a viable topic of study, as the University of Illinois recently rolled out a SharePoint shared service across its three campuses. This study could provide needed information to facilitate user acceptance and use of the knowledge sharing tool. In this study a thorough literature review was presented and discussed, giving emphasis to the importance of knowledge management; knowledge sharing and knowledge sharing technologies; SharePoint; digital equity; workplace learning; and the UTAUT model. An extended UTAUT model was also discussed, creating a new conceptual framework, whereby digital equity and workplace learning climate factors would be evaluated as moderators to the original UTAUT constructs (i.e., performance expectancy, effort expectancy, and social influence) on acceptance and use behavior. To accomplish this investigation, a mixed-methods approach (using quantitative data first and qualitative second) was completed.

Quantitative Data

This data analysis first included testing the UTAUT model constructs as predictors of behavioral intention to use SharePoint in the higher education workplace without any moderation effects. Behavioral intention was then examined as a predictor of use behavior. The generated results were congruent with the original study conducted by Venkatesh et al. (2003). In both, performance expectancy and social influence had an influence upon the behavioral intention to accept and use a technology. Additionally, behavioral intention significantly predicted use behavior in both. In this study social influence had the strongest contribution (Table 26). Effort

expectancy, however, did not show any significance with regard to behavioral intention toward technology acceptance.

In the second step, moderators were introduced to the UTAUT model, specifically digital equity and workplace learning factors. When digital equity factors (i.e., gender, race, SES, and computer experience) were added to the model as moderators to the original UTAUT constructs, the results did not show a significant relationship with performance expectancy, effort expectancy, or social influence on prediction of behavioral intention. When all digital equity factors were added as moderators to the UTAUT model at the same time, the results were different. The results of the regression indicated that gender (female) and job position (faculty) significantly predicted behavioral intention to use SharePoint; however, the variance had very little change.

Next, each of the workplace learning climate factors (i.e., WL1 and WL2) was added to the UTAUT model as moderators to the original constructs; the results showed performance expectancy and social influence moderated by WL1 had a positive and significant relationship. Variance increased from 26 to 26.7 percent for PE*WL1 but remained the same for SI*WL1 at 29.5 percent. The results for performance expectancy and social influence remained as a positive and significant relationship in both cases. However, WL2 did not significantly moderate any of the UTAUT constructs, and WL1 did not significantly moderate effort expectancy. However, when incorporating WL1 in Step One of the multiple regression analysis for effort expectancy, effort expectancy had a positive and significant relationship with behavioral intention. The same result occurred when adding WL2 in Step One with effort expectancy. When both workplace learning factors were added as moderators to the UTAUT model at the same time, the results also differed. The results of the regression indicated that the interaction between WL1 and effort

expectancy significantly (negatively) predicted behavioral intention to use SharePoint and the variance increased slightly.

Prior to the introduction of all significant moderator variables, the data analysis and comparison of standardized betas revealed effort expectancy as moderated by WL1 was the strongest predictor of behavioral intent to use a knowledge sharing technology in the higher education workplace. Effort expectancy, moderated by gender (female), was the second highest contributor. However, after incorporation of significant digital equity and workplace learning moderators into the UTAUT model at the same time, the regression indicated that the interaction between effort expectancy and gender (female) and the interaction between social influence and job position (faculty) significantly (negatively) predicted behavioral intent to use SharePoint; and the variance increased from 37.5 percent to 39.7 percent. After all models were evaluated, improvement of the UTAUT model existed with the addition of two digital equity factors as moderators.

Qualitative Data

Focus group session data was coded, tested for inter-coder reliability, and recoded based on consensus of a primary and secondary coder. Themes, categories, and sub-categories were identified for digital equity factors, workplace learning climate factors, and technology acceptance. Over three hundred responses were coded by the researcher in focus group sessions that directly addressed the three research questions, with a total of over seven hundred responses being received overall. The raw qualitative transcripts can be viewed in Appendix I.

Triangulation

Triangulation of data was important in the present study to obtain a deeper understanding of the extended UTAUT model and to answer fully the research questions. Triangulation

included comparing and contrasting quantitative results and qualitative results, with the goal of using the qualitative data to explain the quantitative results. After a thorough review of the data, two factors of digital equity were revealed to be the strongest quantitative factors influencing predictors of behavioral intention on use of SharePoint in the higher education workplace (i.e., gender and job position); while workplace learning climate factors revealed a larger number of coded responses in the focus group sessions. The qualitative data provided more sustenance to explaining to what extent and under what conditions digital equity and workplace learning influenced acceptance of a knowledge sharing technology in the higher education workplace.

CHAPTER 5—DISCUSSION AND CONCLUSION

To reveal the relationships among digital equity factors, workplace learning, and technology acceptance toward SharePoint, three research questions were investigated. Results were based upon data retrieved from the three campuses of the University of Illinois. For these questions, two new moderators were examined: digital equity (i.e., individual) factors and workplace learning climate (i.e., organizational) factors using an extended UTAUT model framework. The results of this mixed-methods study suggested that both digital equity and workplace learning climate factors moderated the relationships of performance expectancy, effort expectancy, and social influence with behavioral intention to use SharePoint in the higher education workplace. In this chapter, the larger context surrounding these results, implications for researchers and practitioners, and suggestions for future research are presented.

The discussion consists of four sections. First, the researcher discussed the main constructs of the UTAUT model. Second, the individual and organizational moderator variables that were hypothesized to influence specific relationships (i.e., digital equity and workplace learning) within the UTAUT were discussed. Third, conclusions to the research questions were drawn from the discussion. Finally, contributions to research and to practice were identified along with a notation of future research.

Findings

UTAUT Constructs

The UTAUT constructs consisted of performance expectancy, effort expectancy, social influence, and facilitating conditions. It is important to discuss the findings of these constructs to provide a foundation for the results of the research questions.

Performance expectancy-behavioral intention. While performance expectancy was recognized as the most important construct in user acceptance by Venkatesh et al. (2003), it had the second strongest contribution in the present study (β = .305). Performance expectancy scale items were measured in the online survey by job usefulness, ability to accomplish tasks more quickly, increasing productivity, and increasing chances of getting a raise in relation to SharePoint. The findings for performance expectancy were anticipated and its significance as a predictor of behavioral intention was supported by prior research. Anderson et al., (2006) used the UTAUT model to address tablet PC usage among fifty faculty members in the U.S., and found that performance expectancy and voluntariness of use were the most important factors predicting use behavior for new technology. The UTAUT model was further validated by Abushanab and Pearson (2007) in their study on the determinants of Internet banking adoption in Jordan. They reported performance expectancy was the strongest contributor to explaining the variance in behavioral intent to use technology (Abushanab & Pearson, 2007). Several other researchers also applied the UTAUT model and found performance expectancy to be the most significant factor in predicting employee intent to use technology from prepayment systems to communications systems (Moghavvemi, Salleh, Zhao, & Mattila, 2012). The results from the present study suggested that perceived usefulness was essential to employees' acceptance and intention to use SharePoint in the higher education workplace.

Employers should find ways to increase employee performance expectancy in efforts to improve acceptance and use of SharePoint in the workplace. This was supported by focus group participants' comments, such as, "I have never heard the big win that SharePoint is getting us;" "They never said, '"We're moving to this. It is going to gain us…"'" and '"I don't know that

there's any unique service on SharePoint that I'm missing that would significantly improve my work.""

This study did not look at one specific function or feature of SharePoint use. Focus group participants revealed many uses for SharePoint across a variety of departments at the University of Illinois. Some uses included budgeting workflows, supporting intranet portals, handling service data management, tracking project management, and serving as a knowledge base or document repository. Another participant stated, "We submit our requests for expenditures…it goes through SharePoint…and a couple of days later we get whatever we ordered." While another participant added SharePoint was used for "collaborative space to work on projects together, to sort documents by project."

The fact that the SharePoint shared service was still relatively new at the University of Illinois could factor into performance expectancy being a significant predictor of acceptance and use. One focus group participant remarked, "If you become a SharePoint expert, you can make a lot more money in other places very quickly." Another added, "I mean, we do have plenty of people who want to be in higher ed because they want to be in higher ed, but it is a resource worth money." They were indefinite about whether becoming knowledgeable in SharePoint made sense if there were no opportunities for a "real-life benefit" (Venkatesh et al., 2003). Overall, this result indicated that University of Illinois employees' intentions to use SharePoint were positive.

Effort expectancy-behavioral intention. Effort expectancy scale items included: ease of use, clear and understandable interaction, easy to learn, and ease of operating SharePoint. The stronger the measures of ease of use, of how the user interacts with the interface, and of its cost effectiveness, the more likely it was that effort expectancy affected employee behavioral

intention. While effort expectancy was positively associated with behavioral intention (β = .080), it made little contribution to the variance and was not a significant predictor in the UTAUT model for prediction of acceptance to use a knowledge sharing technology in the higher education workplace. The evidence in this study was not consistent with other studies (Gao & Deng, 2012; Huang & Qin, 2011; Wong & Dioko, 2013; Yamin & Lee, 2010) which showed a significant effect between effort expectancy and behavioral intention. Focus group participants who were SharePoint users noted several benefits to SharePoint. One user stated, "It's simple to tie in a Microsoft-centric office...it can be a great tool." While other SharePoint users remarked, "I don't see problems in SharePoint," and "It's probably going to be useful."

Each of the four focus group sessions yielded different SharePoint challenges related to effort expectancy. One participant commented, "I can't get to a point where it's actually functional and useable…can't quite understand what's going on." This response was met by laughter from the other participants, suggesting they were in agreement with the statement. Other participants stated, "It is too expensive, either in expertise or in time or developing your own expertise;" "I can't figure it out;" and "Sites are complicated."

Social influence-behavioral intention. Social influence was the strongest contributor to behavioral intent to use SharePoint in the higher education workplace in this study (β = .372). Social influence in this context can be defined as the degree to which employees perceive that important individuals believe they should use SharePoint. Social influence was the most complex construct and "subject to a wide variety of contingent influences," according to Venkatesh et al. (2003), p. 452.

Social influence has been identified in several studies as a strong predictor in technology intent and use behavior. Mohd, Ahmad, Samsudin, and Sudin (2011) reported social influence

had the most significance when related to technology acceptance in a case study on ubiquitous computing in university industry. Glass and Li (2010) found social influence to be a stronger predictor than ease of use for instant messaging adoption.

Based upon the mean of social influence of 3.39 in the present study, the majority of respondents neither disagreed nor agreed that management and the organization would support them in the use of SharePoint. Neither were they convinced that important others believed they should use SharePoint. Some examples of this were discussed in the focus group sessions. One participant stated, "If you don't have support in your unit to put a SharePoint site up, then you don't have a SharePoint site to work with." Another participant discussed her struggle with management support, stating "[We] fought the battle for six months to get it supported and going." That department never got the support and the result was the use of a different tool. Another participant discussed feelings of embarrassment when asking questions of skilled co-workers related to new technology as a barrier. Realizing that social influence was the most important construct in employees' acceptance of a knowledge sharing technology in the workplace is crucial for employers to understand.

Facilitating conditions-use behavior. Based on the original UTAUT model, this study did not test facilitating conditions as a predictor of behavioral intention but rather on use behavior (Venkatesh et al., 2003). Empirical results from the Venkatesh et al. (2003) study showed that facilitating conditions had a direct influence on usage. In the present study facilitating conditions had a significant impact on use behavior, accounting for 14.6 percent of the variance.

Facilitating conditions measured access and knowledge necessary to use SharePoint, compatibility with other systems, and availability of technical support. According to one

participant, even though employees have access "Most people probably don't know it [SharePoint] exists." Further focus group comments indicated that support behind technology was not always available and had an impact on intention to use SharePoint. One participant stated, "If you don't have someone to run the SharePoint server, then it's of no value to anybody." Another participant stated, "It's the support base that makes it [SharePoint] easier to accept." One participant stated when deploying SharePoint for his users he was not "doing a whole lot of support." He responded with "Okay, here you go, here's your permissions, good luck, we'll answer questions insofar as we can, but our level of support is 'here you go good luck.'" This same participant noted he (the administrator) did not even fully understand SharePoint and was trying to figure out what it should be used for.

Behavioral intention-use behavior. This study through regression analysis found that there was a direct effect between behavioral intention and eventual use of SharePoint in the higher education workplace. The intent to use in this study was shown by the positive influence the UTAUT constructs had on behavioral intention to use SharePoint at the University of Illinois. Additionally, under 24 percent of survey participants strongly disagreed to use SharePoint in the next six months. This indicated that the majority of employees at the University of Illinois were willing to accept and therefore use SharePoint as a knowledge sharing technology tool. This was aligned with several studies that considered intention to use as the main indicator of usage of an information system (Chiao-Chen, 2013; Davis et al., 1989; Moghavvemi et al., 2012; Venkatesh et al., 2003), while Wu and Du (2010) identified system usage as the primary indicator of technology acceptance.

This acceptance and use was further explained by qualitative data. Personal and environmental factors impacting behavioral intention, as well as actual SharePoint usage, were

identified by focus group participants. Therefore the qualitative data provided not only the factors related to the intention to use, but also examples of actual usage by employees of the knowledge sharing technology tool. When approached with a new technology to use, one focus group participant commented, "If it ended up being more cumbersome than our previous process or something, that would be the only thing that would make me not accept it." Another department moved to SharePoint by necessity where there was no forethought into acceptance of a new technology. The focus group participant stated, "It was a forklift, kind of '"let's get everything off this old system and get it going on SharePoint."'" This was further confirmed by another respondent who stated, "If there's a mandate, I guess people will use it, if there's a requirement."

While voluntariness of use was dropped as a moderator in the extended UTAUT model, some departments, according to the focus group participants, were enforcing a mandate, specifically for using SharePoint for project management. This was explained by one focus group participant who stated, "The project management office has all of their templates and everything stored on [a] SharePoint site, so anytime you start working on a new project you have to go in there." Another participant noted how his position required him to work with SharePoint on a regular basis, when he responded,

> Our department has a production website with SharePoint, and a production space and a
> development space. We also, as the IT for our unit, support other academic areas
> that…have SharePoint or want to use SharePoint….I also use SharePoint as part of the
> data center shared service, and…with the…budgeting office….So I'm…in it practically
> every day.

Other focus group participants questioned that without a mandate, whether anyone would use it.

Moderating Variables

Digital equity and workplace learning climate factors were incorporated into the UTAUT model as moderating variables to performance expectancy, effort expectancy, and social influence.

Digital equity factors. This study revealed that digital equity factors as individual moderators (i.e., race, gender, SES, or computer experience) did not have a significant moderating influence on the relationships between performance expectancy, effort expectancy, or social influence and behavioral intention and use of SharePoint in the higher education workplace. However, the results of digital equity factors as a group showed that gender (female) and job position (faculty) had a significant (negative) moderating effect with effort expectancy and social influence, respectively, on behavioral intention. The results from the present study with regard to gender were consistent with the original UTUAT model, where Venkatesh et al. (2003) found gender to moderate effort expectancy. Venkatesh et al. (2003) suggested that men were more highly tasked-oriented than women, making this more salient to men. Venkatesh and Morris (2000) found that men are more strongly influenced by their perceptions of usefulness, whereas women were more influenced by perceptions of ease of use. These perceptions were also identified by Gefen and Straub (1997) when they examined gender in email-system utilization. Moreover, according to several studies gender differences result from a social role, not inherently biological (Al-Shafi & Weerakkody, 2007; Alkhunaizan & Love, 2013; Dwivedi & Lal, 2007; Venkatesh et al., 2003). Gender was identified by some focus group participants in this study to possibly have an influence on behavioral intention to use SharePoint.

Gender and education level have been discussed individually in several recent scholarly articles as moderating variables to technology acceptance. Alkhunaizan and Love (2013)

identified gender as a one of three demographic variables (besides age and education level) that commonly have a statistical effect on technology acceptance and use. Mohammed, Nor Shahriza, and Mohamed (2014) found gender to moderate the relationship between ICT use and support for search and sharing. However, in their study on m-commerce usage, Alkhunaizan and Love (2013) identified gender and education level as not having an effect, noting women do not exhibit different shopping behaviors than males. Jaradat and Al Rababaa (2013) also found no significance with gender as a moderating variable on acceptance and use of m-commerce technology in Saudi Arabia. The current study suggested gender significantly (negatively) moderated effort expectancy, which implied at higher levels of ease of use, men had a higher behavioral intention to use SharePoint in the higher education workplace.

Regarding the moderating effects of job position on social influence, this study indicated a significant (negative) effect on behavioral intention. Khelil and Affes (2013) stated social influence was the individual decision to accept and use new technology which was influenced by surrounding people. Faculty were less likely than other job positions (i.e., Academic Professional, Civil Service, and Other) to accept and use a knowledge sharing technology, like SharePoint, in the workplace. The focus group sessions revealed that faculty were less aware of SharePoint. This is consistent with previous studies. Nistor, Baltes, and Schustek (2012) identified moderate faculty intention to use a knowledge sharing technology based on the technology being newly initiated and not well established. Kowta Sita and Chitale (2012) identified lack of information dissemination by the academic organization as a key finding in faculty acceptance and use of knowledge sharing strategies. One faculty member that participated in the University of Illinois focus group session stated, "I don't think I've ever encountered the term SharePoint." This same faculty member asked for additional information

on the university-shared service near the end of the focus group session. Successful introduction

of new technologies for faculty is important so they are aware of the benefits it will provide them

(Anderson, Schwager, & Kerns, 2006).

Furthermore, faculty may not have anyone with authority over them that deems using a

knowledge sharing technology as important. Faculty are becoming more involved in knowledge

management processes, thus they are seeking more support from their universities in terms of

development and support of these new knowledge sharing technology tools (Wu & Abdous,

2013). One faculty participant commented, "SharePoint is not well-known." Another faculty

member stated, "I'd never heard of SharePoint being available to U of I people." A focus group

participant added,

> How many people aren't using SharePoint because one, they're not aware that the service
>
> is offered; and two, if they are aware the service is offered, they're not aware of how this
>
> can meet a particular need that they have.

Overall, the digital equity factor findings in this study are limited. With no digital equity

metrics or prior research available in the context of technology acceptance in the workplace, this

study was reliant on demographic questions and open-ended focus group questions to determine

if digital equity factors influenced acceptance and use of a knowledge sharing technology in the

higher education workplace. While gender and one component of SES, job position, were found

to have significant results, digital equity factors as a group, as identified in the K-12 literature,

did not. However, the significance of gender and job position provided insight into the question

asked at the beginning of this study with regards to whether or not promotion of digital equity

factors stop at formal education. It is important to note that while the settings between formal

education and the workplace environment are different they can be compared to one another. For

example, focus group participants commented on faculty's lack of awareness and knowledge about SharePoint. This is similar to teachers' being unaware of how certain technologies can help them or not having the knowledge and skills to use the technology. Additionally, a female focus group participant felt acceptance and use was not gender-related, but rather work driven, which was supported by a male focus group participant. Thus digital equity factors are more than control variables in which further investigation in the context of the workplace is warranted.

Workplace learning climate. The DLOQ survey instrument was developed in the 1990s (Watkins & Marsick, 1993) based on seven core components of a learning organization. Since its beginning, this survey instrument's frequency of use has increased substantially (Song, Chermack, & Kim, 2013). In the present study two factors (i.e., WL1 and WL2) were identified after EFA. The results showed WL1 consisted of responses from all seven of the categories; while WL2 consisted of one category, continuous learning. One of the items that appeared in WL1 was also categorized as a factor of continuous learning. This could be attributed to a variety of reasons. First, because EFA with a minimum factor loading of 0.70 was used, CFA was not used, thus limiting the number of item-to-factor analysis. Second, there is high multicollinearity of the DLOQ instrument (Watkins and O'Neil, 2013). Watkins and O'Neil (2013) stated, "The learning culture is conceptualized as a collective result of all seven dimensions…." (p. 141) and was intentionally designed to be interrelated. Finally, continuous learning was a broad, and key, category that encompassed continuous learning opportunities at an individual level as well as at the aspirational organizational level (Huang, Rode, & Schroeder, 2011; Mohammad, 2011). Two questions in the DLOQ questionnaire specifically referred to SharePoint in the context of continuous learning at an individual level: 1) *In my organization, people help each other learn to use Microsoft SharePoint in their job*, and 2) *In my organization, people are given time to*

support Microsoft SharePoint learning. Therefore, these two questions targeted solely perceptions from employees that were aware of SharePoint.

This study found that WL1 had a significant positive moderating effect on the relationship between social influence and behavioral intention. The total variance changed for this moderation; however the adjusted variance remained the same (29.5 percent) as that without the interaction. Because social influence and workplace learning both have a social context, it was not surprising that there was a strong correlation between the two (Wang, 2011). Wang (2011) identified four fundamental elements of a workplace learning environment: the learner, learning content, social context, and other learning stakeholders. This showed that it was not the technology itself, but rather the social aspect, that was important in behavioral intention to use a knowledge sharing technology in the higher education workplace.

Management, peer, and personal factors identified from focus group sessions supported these findings. Focus group participants felt that the more supervisors and administration supported technology, the more likely employees were influenced to accept and use it (Table 50). Providing opportunities for training and allowing the time to get the training and then practice what was learned were the most important issues noted by focus group participants. A focus group participant commented, "If I've got to wait two years to get the training, that's not going to work." Another participant commented, "If your workload is too high you're not going to have time to learn something new." However, there was an expectation by management of IT professionals that was also identified in the focus group sessions. One focus group participant, who was an IT professional, stated, "You're an IT professional; you should be able to figure out software." On the DLOQ seven-point Likert scale, the most commonly chosen answer for

questions related to WL1 were "sometimes" and "frequently," except for the questions related to being given time and resources for training, where the most common selection was "rarely."

Identifying peers for knowledge sharing and collaboration was also a key contributor to acceptance and use. Wang (2011) defined the workplace learning environment as a "knowledge society that builds upon community of practice" (p. 194). These informal communities (Wang, 2011) allowed knowledge sharing and interaction between learners. Spitler (2005) identified positive interaction with peers increased intention to use software. The importance of interaction with peers was reflected in the present study in several focus group participants' comments including, "Right now the knowledge sharing is 'you figure out who knows it and you ask them where the information is,' because it is all over the place," and "There's no formal knowledge sharing, it's kind of … find the people that know the answer, and then lots of times people don't know the answer … there's a lot of futility in trying to find the right answer."

The most common method by which focus group participants learned of new technology was by asking other employees and working with other colleagues (Table 50). One of the focus group participants in the present study explained how colleagues often asked for help by giving this example, "Hey can you come over here and help me, because I know that you've used this before. Can you come show me what to do?" Another participant commented, "Meetings aren't where you actually learn stuff, it's just wandering down the hallway talking to people." In the same focus group session, another participant stated, "You learn how to use it by knocking on doors." Peer relationship functions are becoming more prevalent in the literature with regard to knowledge sharing. Peroune (2007) identified peer relationships as being available to a wider range of individuals, providing a "safe environment for individuals to achieve a sense of

expertise, equality, and empathy, which is lacking in traditional mentoring relationships" (p. 245).

This study also found that WL1 had a significant positive moderating effect on the relationship between performance expectancy and behavioral intention. This relationship was not as strong as the relationship for WL1 moderating social influence and behavioral intention; however, with a β equal to 0.430 it was not far behind. The adjusted variance increased from 26 to 26.7 percent when this interaction was introduced into the regression model.

The interaction between workplace learning and performance expectancy was noted in the focus group sessions (Table 50). Participants frequently discussed change, other technology tools, training, and time when asked about constraints they faced in accepting and using SharePoint in the workplace. A focus group session participant comment emphasized this, "If I don't know what SharePoint can do for me, why would I bother using it?"

However, the moderating effect between WL1 and effort expectancy revealed a negative impact on behavioral intention. While effort expectancy did not have a significant impact on behavioral intention when examined prior to adding moderators, when including both WL1 and WL2 as moderators to the model at the same time a significant (negative) impact was noted with WL1 (β = -536). Employees' perceptions of management, peer, and personal factors contributed to this outcome. Simply put, the unknown of what SharePoint was and could do for participants may have created this uncertainty about ease of use.

Summary

The UTAUT model was a solid framework to base this study on as the results were in alignment with previous studies using this framework. The extended UTAUT model demonstrated a framework for integrating traditional digital equity factors, as identified in the K-

12 literature (i.e., gender, race, SES, and computer experience), and workplace learning climate factors into one model. Specifically, in the context of acceptance and use of knowledge sharing technology in the higher education workplace. After testing digital equity and workplace learning climate factors as moderators in the extended UTAUT model, the results revealed a refined extended UTAUT model. The refined extended UTAUT model incorporated two digital equity factors (i.e., gender and job position) and one workplace learning component (WL1) into its framework (Figure 8).
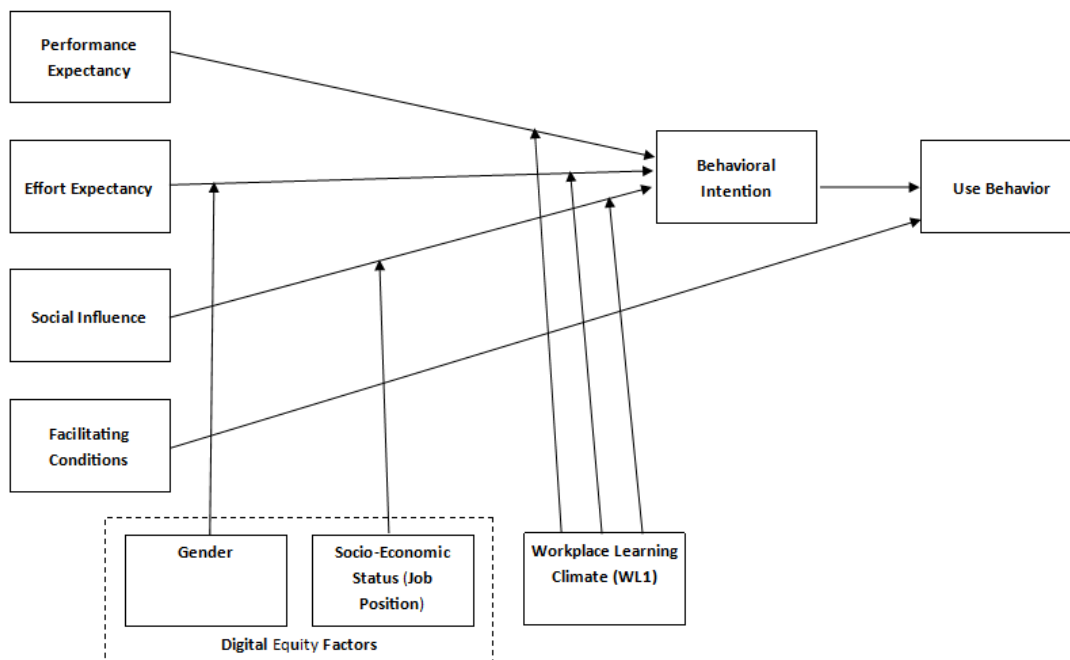
Figure 8. The Refined Extended UTAUT Model. This figure illustrates the significant external moderators, gender and job position (i.e., digital equity factors) and WL1 (i.e., workplace learning climate factors), from the tested extended UTAUT model.

In this study, social influence was the strongest predictor of behavioral intention and was supported by prior research (Glass & Li, 2010; Mohd et al., 2011). Performance expectancy was the second strongest predictor in this study and was also supported by prior research (Abushanab & Pearson, 2007; Anderson et al., 2006; Venkatesh et al., 2003). Through regression analysis there was a direct effect between behavioral intention and use behavior. Next, after incorporating the traditional digital equity factors identified in the K-12 literature (i.e., gender, race, SES, and computer experience) and workplace learning climate factors as moderators into the extended UTAUT model, the results showed components of each moderator were significant. Gender and job position (from digital equity factors), and WL1 (from workplace learning climate factors) had significant moderating effects on behavioral intention to use a knowledge sharing technology

in the higher education workplace. These moderator findings were consistent with prior research (Gefen & Straub, 1997; Venkatesh et al., 2003; Wang, 2011).

Conclusion

The goal of this study was to examine a modified UTAUT model, incorporating two new moderators—digital equity and workplace learning—to the context of understanding employees' acceptance and use of a knowledge sharing technology (i.e., SharePoint) in the higher education workplace. A mixed-methods approach was used with an online survey questionnaire comprised of multiple survey instruments (i.e., DLOQ and UTAUT), demographic information, and focus group sessions. The results of each of the three research questions are summarized below.

Research Question One

In an effort to address the question of whether the same digital equity issues impacting formal education also influenced acceptance of knowledge sharing technologies in the workplace, four factors of digital equity identified in the K-12 literature were examined as moderators to the UTAUT framework. These individual level factors (i.e., gender, race, SES, and computer experience) were investigated to prepare organizations to create better strategies to increase knowledge sharing among employees within the higher education workplace. When examining under what conditions and to what extent these digital equity moderators impacted acceptance and use, both quantitative and qualitative data were compared and contrasted.

The regression results and discussion suggested that when the digital equity factors identified in this study were tested as a group, only gender (female) and job position (faculty) had a significant (negative) moderating impact on behavioral intention to use SharePoint. Individual analysis of each digital equity factor yielded no significant results. While the results from the present study with regard to gender were consistent with the findings from the original

UTUAT model (Venkatesh et al., 2003) where gender significantly moderated effort expectancy, more recent literature did not find gender to be a significant moderator (Mohamed, Nor Shahriza, & Mohamed, 2014). And while focus group participants suggested gender was a significant factor in employees' acceptance and use of SharePoint in the higher education workplace, the qualitative data fell short in fully explaining why females did not perceive SharePoint as easy to use and vice versa for males.

On the other hand, the significant (negative) moderating effect of job position (faculty) on social influence was more duly explained in the qualitative data. Lack of perceived awareness and understanding of the technology tool's purpose were key findings in faculty's acceptance and use. Because there was a shortage of literature which discusses faculty in the context of successful knowledge management approaches (Wu & Abdous, 2013), these findings were important to begin to understand faculty's behavioral intention and use of knowledge sharing technologies in the higher education workplace. Additionally, these findings provide employers with vital information aimed at creating strategies for implementing new knowledge sharing technologies, in the context of gender and job position inequality, to increase employee acceptance in the workplace.

Digital equity in the context of formal education (K-12) was prevalent in prior literature; however, in the context of the workplace it was not. There remains a lack of theoretical models, metrics, and empirical research on digital equity in the workplace. While individual factors of digital equity such as age, educational background, and training have been discussed in relation to acceptance of technology (Lerouge et al., 2006; Porter & Donthu, 2006; Quazi and Talukder, 2011; Rogers, 2003), how these digital factors impact users' acceptance and use as a whole has not been researched. The findings from this study attempted to address all these items.

Research Question Two

This study found that workplace learning climate played a crucial role in the acceptance and use of SharePoint in the higher education workplace. Specifically, when workplace learning factors were examined individually, WL1 positively moderated performance expectancy and social influence on intent to use a knowledge sharing technology (i.e., SharePoint) in the higher education workplace. However, when workplace learning variables were examined as a group (i.e., WL1 and WL2) there was a negative moderating effect of WL1 on effort expectancy. Employees felt that if they worked in an environment that promoted a positive workplace learning climate, as demonstrated by a combination of the seven factors of workplace learning identified in the DLOQ (i.e., continuous learning, inquiry and dialogue, team learning, embedded system, empowerment, system connection, and strategic leadership), they were more likely to accept and use SharePoint in the higher education workplace.

This study provided empirical evidence on the role workplace learning climate has on technology acceptance in an organization. This was achieved by incorporating workplace learning climate factors as moderators into the UTAUT framework. This area was lacking in prior research. Prior research focused on conditions that made workplace learning possible (Kyndt et al., 2009), whereas the current study focused on workplace learning climate factors that made technology acceptance and use possible. As was also noted from prior literature, the higher education workplace learning climate is very complex due to the many academic units and cultures that exist (Holyoke et al., 2012). In this study, qualitative data provided contextual information in helping to explain to what extent and under what conditions workplace learning climate factors affected predictors of intention to use SharePoint in the higher education workplace.

Research Question Three

Research question three addressed which moderator (digital equity factors or workplace learning climate factors) would better influence the use of a knowledge sharing technology (i.e., SharePoint) in the higher education workplace. The results for this question came about as a triangulation effect. First, the strongest digital equity factors were compared by their beta coefficients (Table 51). Second, workplace learning climate factors were reviewed, including the strongest moderators in bivariate regression and in multiple regression (Tables 52 and 53). Lastly, a multiple regression analysis was conducted to examine digital equity and workplace learning climate factors in the same regression model (Table 54). Prior to combining the moderators into one regression, workplace learning was the stronger moderator of behavioral intention and use of SharePoint. However, results after combining the moderators into one regression analysis suggested digital equity factors (i.e., gender on effort expectancy and job position on social influence) to better influence the use of a knowledge sharing technology in the workplace than workplace learning climate factors.

Focus group participants provided over 700 total responses, with in excess of 300 being coded responses. Of those, 102 were related to digital equity factors, 126 related to workplace learning factors, and 81 related to technology acceptance and use. Comments related to technology acceptance and use provided context on the UTAUT constructs as predictors, and also provided SharePoint use cases at the University of Illinois.

<div align="center">

Contributions to Research

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Knowledge has been identified as the most important strategic resource in organizations today (Morteza, Shafiezadeh, & Mohammadi, 2011). Researchers have made many advances in understanding knowledge management and knowledge sharing processes (Bansler & Havn,

2003; Han & Anantamula, 2007; Hendriks, 1999; Mladkova, 2007); however, knowledge

sharing technologies have been implemented in organizations in an effort to improve employees'

knowledge sharing skills and those technologies are not being used (Alavi & Leidner, 2001).

This study provided two primary contributions to this body of research to understand why these

technologies were not being used: (1) an example of the extended UTAUT model integrating

individual (i.e., digital equity) and organizational (i.e., workplace learning) moderator variables

into the framework; and (2) revealed a refined framework for reviewing digital equity factors and

workplace learning climate influencing knowledge sharing technology acceptance and use in the

higher education workplace. These contributions help to fill the gaps identified in the literature

and created a path for future investigation by researchers (Cooke & Greenwood, 2007; Kyndt et

al., 2013; Moody et al., 2003).

First, the UTAUT model was augmented to include moderator variables that had not been

studied in the context of knowledge sharing technology (i.e., digital equity and workplace

learning). This study provided an application of this model in a new context. As mentioned

earlier in Chapter 2, Venkatesh and colleagues (2003) encouraged researchers to test moderating

influences to obtain a clearer understanding of users' acceptance to technology. Furthermore,

individual and organizational factors were identified by Masrek et al. (2007) as significant to

users' technology acceptance in the workplace. Therefore, this augmentation allowed the

researcher to examine whether digital equity factors (i.e., individual) or workplace learning

climate factors (i.e., organizational) influenced performance expectancy, effort expectancy, and

social influence as predictors of acceptance and use of a knowledge sharing technology (i.e.,

SharePoint) in the higher education workplace. Each of the factors was examined as an

individual moderator as well as with its respective group. This hierarchical method provided an

in-depth look at how each factor impacted technology acceptance and use in the higher education workplace. This also provided transparency in the methodology. Additionally, this contribution to research provided a refined framework that researchers can use for future research to investigate how digital equity factors and workplace learning climate factors impact other emerging knowledge sharing technologies within the workplace, whether academia or business.

Second, technology acceptance and use was impacted by digital equity and workplace learning climate factors in the higher education workplace. Prior to this study, digital equity in the workplace had been overlooked in the literature; therefore this study provided quantitative as well as contextual analysis of how digital equity impacted technology acceptance and use in the workplace. Gender and job position were identified as significant (negative) moderators to effort expectancy and social influence, respectively, in the UTAUT model. However, the other factors of digital equity were not statistically significant. The development of a digital equity scale is needed to evaluate further the relationship between these individual level factors with respect to technology acceptance and use. In regard to workplace learning climate factors impacting technology acceptance and use, this study provided support for those as moderators. An important contribution is the fact that the two surveys (i.e., DLOQ and UTAUT) worked well together. Workplace learning climate factors significantly moderated performance expectancy and effort expectancy.

Contributions to Practice

It is important to investigate continually emerging knowledge sharing technologies and their acceptance and use in the workplace. This study provided many practical contributions for employers wanting to implement a knowledge sharing technology, like SharePoint, in their organizations. SharePoint is fast becoming one of the most commonly used knowledge sharing

and collaboration tools by organizations, yet there is little research available. From challenges and barriers to perceptions of employees to the importance of a strong workplace learning climate, this study offered insights into successful acceptance and use practices. This study provided an example of an implementation across three campuses at the University of Illinois, along with a view of challenges and benefits through the lens of online survey participants and focus group sessions.

This study demonstrated that performance expectancy, effort expectancy, and social influence were all strong determinants of SharePoint acceptance and use by employees of the University of Illinois. Employees believed that using SharePoint would help them perform better in their jobs. While employees already using SharePoint found it easy to use, non-users were more skeptical. Employees were also influenced to use SharePoint by the opinions of their colleagues (Khelil & Affes, 2013). Additionally, this study showed individual level characteristics (i.e. digital equity factors) had a strong (negative) moderating effect on constructs of behavioral intention to use a knowledge sharing technology in the higher education workplace.

Future Studies

There are several areas suggested for future research. Additional analyses were run on several of these proposed future study items (Appendix J). These are the areas in which this research could be used as a foundation for future studies.

First, in reference to digital equity, creation of a scale would be very beneficial to measure digital equity factors in the workplace. This type of scale could be utilized in K-12, the workplace environment, and other contexts as well. Additionally, as workplace learning climate factors become more important to the acceptance and use of technology in organizations,

examining digital equity factors as moderators to workplace learning climate factors might provide deeper insight into the phenomenon of behavioral intention and use behavior. Digital equity factors could also be tested as determinants, instead of moderators, in the UTAUT model. Second, adding workplace learning as a construct to the UTAUT model, rather than as a moderator, and then testing as a predictor to both behavioral intention and use behavior may show workplace learning climate factors can stand alone as a determinant. Third, focus on one specific feature of SharePoint to compare consistently use behavior results between samples. In conjunction with this, one specific group or department could be observed for in-depth analysis of acceptance and use of specific features. Furthermore, campuses could be compared to one another. Lastly, individual and organizational level moderators could be incorporated into the same regression. After a full model regression, digital equity factors appear to have significance as moderators; however, this would need to be tested more thoroughly due to the number of moderator variables entered into the regression at the same time.

Limitations of Study

The following limitations are noted for this study:

1. The results and their implications come from individual employees employed in different departments at one Midwestern public university. These results may not be generalizable to organizations outside of a university setting.

2. The extended UTAUT model may not be applicable to all types of knowledge sharing technologies and technological contexts (Hester, 2011).

3. While SharePoint is being utilized in departments and colleges across the University of Illinois to increase knowledge sharing and communication, the assumption was it was not a mandate for knowledge sharing. Therefore, voluntariness of use was removed as a

moderating variable from the extended UTAUT model. However, this should be

reconsidered as the focus group results revealed some departments did have a mandate on

use and the present study did not control for this.

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APPENDIX A

Informed Consent Statement for Online Survey

Title of Project: How Digital Equity and Workplace Learning Influence Acceptance of a Knowledge Sharing Technology in the Higher Education Workplace

Responsible Principal Investigator: Dr. Sarah McCarthey

Other Investigator: Julia Hart, Doctoral Student

You are invited to participate in a research project to investigate the influence of digital equity and workplace learning factors on user acceptance of a knowledge sharing technology (Microsoft SharePoint) in the higher education workplace. You will need to complete an online survey via a secure web site consisting of the Learning Organization Culture survey, the Unified Theory of Acceptance and Use of Technology (UTAUT) survey, along with demographic information which takes approximately 15-20 minutes to finish. The researcher is Julia Hart and the supervising faculty member is Dr. Sarah McCarthey of the Curriculum and Instruction Department at the University of Illinois at Urbana-Champaign.

All collected data will be used for academic publications and future grant proposal writing. No personal information will be disclosed during the dissemination process. Your identity will be anonymous, and your responses will be coded in a manner that will not identify you, or connect the answers to you. Individuals that choose to participate in the online survey will have the option to enter into a $99 Amazon gift card drawing. One winner will be selected randomly from online survey participants. The gift card can be picked up or mailed to the winner.

You also have the *option* at the end of this survey to sign up to participate in a focus group session. This focus group will meet for approximately 90 minutes on the University of Illinois Urbana-Champaign campus at a date and time to be determined. If you are from UIC or UIS, participation will be by a video conference call using Lync. Individuals that participate in the focus group session will have the option to be entered into an additional $99 Amazon gift card drawing. One winner will be selected randomly from focus group participants. The gift card can be picked up or mailed to the winner.

Your participation in this project is completely voluntary, and you are free to withdraw at any time and for any reason without penalty. There are no right or wrong answers. By participating there is no foreseeable risk to you. Your choice to participate or not will not impact your job. You are also free to refuse to answer any question(s) you do not wish to answer.

If you have any questions about this research project, please contact Julia Hart via email at hartja@illinois.edu. If you have any questions about your rights as a research participant, please contact the Institutional Review Board Office, 217-333-2670, or email irb@illinois.edu Sincerely,

Julia Hart (hartja@illinois.edu)
Doctoral Student, College of Education, Curriculum & Instruction Department
University of Illinois at Urbana-Champaign

Sarah McCarthey (mccarthe@illinois.edu)
Professor, College of Education, Curriculum & Instruction Department
University of Illinois at Urbana-Champaign

If you have read and understood the above information and voluntarily agree to participate in the research project described above, please follow the instructions below to proceed. By providing the consent you affirm that you are 18 years or older.

   (1) Print out a copy of this consent for your records.
   (2) Click the Next button below to proceed to the survey.

If you have read and understood the above information and decide **not** to participate in the research project described above, please click the Exit button to leave the survey.

This survey will be available on _____ through _____ at 12 p.m. The survey can be accessed at [URL].

The following are the questions and ratings system used. Please read each item carefully and completely. Fill in the response that best describes your own beliefs, attitudes, and views. We are interested in your perception of how things are at this time.

(1) Learning Organization Culture: Dimension of Learning Organization Questionnaire
   Questions are based on a 7-point Likert scale with response options ranging from *Almost Never* (1) to *Almost Always* (7)

Individual Level
   1. In my organization, people help each other learn to use Microsoft SharePoint in their job.
   2. In my organization, people are given time to support Microsoft SharePoint learning.
   3. In my organization, people are rewarded for learning.
   4. In my organization, people give open and honest feedback to each other.
   5. In my organization, whenever people state their view, they also ask what others think.
   6. In my organization, people spend time building trust with each other.

Team Group Level
   7. In my organization, teams/groups have the freedom to adapt their goals as needed.
   8. In my organization, teams/groups revise their thinking as a result of group discussions or information collected.
   9. In my organization, teams/groups are confident that the organization will act on their recommendations.

Organization Level
10. My organization creates systems to measure gaps between current and expected performance.
11. My organization makes its lessons learned available to all employees.
12. My organization measures the results of the time and resources spent on training.
13. My organization recognizes people for taking initiative.
14. My organization gives people control over the resources they need to accomplish their work.
15. My organization supports employees who take calculated risks.
16. My organization encourages people to think from a global perspective.
17. My organization works together with the outside community to meet mutual needs.
18. My organization encourages people to get answers from across the organization when solving problems.
19. In my organization, leaders mentor and coach those they lead.
20. In my organization, leaders continually look for opportunities to learn.
21. In my organization, leaders ensure that the organization's actions are consistent with its values.

(2) Acceptance Levels Towards Knowledge Sharing Technology (Microsoft SharePoint)
Questions are based on a 7-point Likert scale with response options ranging from *Strongly Disagree (1) to Strongly Agree (7)*

Performance Expectancy
1. I would find SharePoint useful in my job.
2. Using SharePoint enables me to accomplish tasks more quickly.
3. Using SharePoint increases my productivity.
4. If I use SharePoint, I will increase my chances of getting a raise.

Effort Expectancy
5. My interaction with SharePoint would be clear and understandable.
6. It would be easy for me to become skillful at using SharePoint.
7. I would find SharePoint easy to use.
8. Learning to operate SharePoint is easy for me.

Social Influence
9. People who influence my behavior think that I should use SharePoint.
10. People who are important to me think that I should use SharePoint.
11. The senior management of this organization has been helpful in the use of SharePoint.
12. In general, my organization has supported the use of SharePoint.

Facilitating Conditions
13. I have the access necessary to use SharePoint.
14. I have the knowledge necessary to use SharePoint.
15. SharePoint is not compatible with other systems I use.
16. A specific person (group) is available for assistance with SharePoint difficulties.

Behavioral Intention to Use
17. I intend to use SharePoint in the next 6 months.
18. I predict I will use SharePoint in the next 6 months.
19. I plan to use SharePoint in the next 6 months.

20. I use SharePoint on a regular basis.

(3) Demographics & Behavior

1. Gender:
   Male   Female

2. Your age:
   18-21   22-25   26-30   31-40   41-50
   51-60   61 or over

3. Your race:
   American Indian/Alaska Native   Asian   Black/African American
   Native Hawaiian/Other Pacific Islander   White   Two or More Races
   Other

4. Your ethnicity:
   Hispanic/Latino   Not Hispanic/Latino

5. Your job position (choose one):
   Academic Professional   Faculty   Civil Service   None of the Above

6. Number of years employed at the University of Illinois:
   Less than 1 year   1-5 years   6-10 years
   11-15 years   More than 16 years

7. Campus you are employed by (choose one):
   University of Illinois Urbana-Champaign   University of Illinois at Springfield
   University of Illinois – Chicago   University Administration
   Other

8. Your highest level of education completed:
   Did Not Complete High School   High School/GED   Some College
   2-Year College Degree (Associates)   4-Year College Degree (BS, BA)
   Master's Degree   Doctoral Degree   Professional Degree (MD, JD)

9. Your individual income:
   Less than $19,999 $20,000-$39,999 $40,000-$59,999
   $60,000-$79,999 $80,000-$99,999   Over $100,000

10. How often do you use a computer?
    Never   A few times a month or less   Once a week
    Every day or two   Several times a day

11. How much access did you have to computers in K-12 education?
    Never   Rarely   Sometimes

Often   Always

12. Do you have regular access to a computer at work?
            Yes   No

13. Do you have access to a computer at home?
            Yes   No

14. How would you rate your current computer skills?
            Poor   Fair   Good   Very Good   Excellent

15. Usage of Microsoft SharePoint
            Never   A few times a month or less   Once a week
            Every day or two   Several times a day

16. Usage of any collaboration technology
            Never   A few times a month or less   Once a week
            Every day or two   Several times a day

17. How long have you used Microsoft SharePoint?
            Less than 6 months   Greater than 6 months   Not at all

18. Do you have access to use Microsoft SharePoint in your department?
            Yes   No

19. To what extent do you feel knowledgeable using Microsoft SharePoint?
            Not knowledgeable   Slightly knowledgeable
            Somewhat knowledgeable   Moderately knowledgeable
            Extremely knowledgeable

Entry for $99 Amazon Gift Card

I would like to be entered into the random drawing for a $99 Amazon gift card
            Yes   No
            If yes, click here [URL will take participant to separate page] to provide your
            contact information (name, email, and phone). This contact information will be
            kept separate from the online survey questionnaire and not connected to your
            responses in any manner. The winner will be contacted within 24 hours after the
            survey has closed. Arrangements for winner to pick up or have the gift card
            mailed to him/her will be made at that time.

I am interested in participating in a focus group session.
            Yes   No
            If yes, you will be contacted with further details on the date, location, and time.
            This contact information will be kept separate from the online survey
            questionnaire and not connected to your responses in any manner. After

participating in a focus group interview you will have the option to be entered into another $99 Amazon gift card drawing.

(Note: This option will be available for those who choose to get into the drawing for the gift card, as they will not be able to return to the survey once they have chosen this option. If they do not choose to participate in the drawing but want to participate in a focus group, they will see the question below and will provide their contact information then.)

Focus Group Participation

I am interested in participating in a focus group session.
Yes   No
If yes, click here [URL will take participant to a separate page] to provide your contact information (name, email, and phone). You will be contacted with further details on the date, location, and time. This contact information will be kept separate from the online survey questionnaire and not connected to your responses in any manner. After participating in a focus group interview you will have the option to be entered into another $99 Amazon gift card drawing.

Thank you for your participation and interest in this educational survey.

APPENDIX B

Informed Consent Letter for Focus Group Session

Title of Project: How Digital Equity and Workplace Learning Influence Acceptance of a Knowledge Sharing Technology in the Higher Education Workplace

Responsible Principal Investigator: Dr. Sarah McCarthey

Other Investigator: Julia Hart, Doctoral Student

You have voluntarily elected to participate in a focus group to investigate further the influence of digital equity and workplace learning factors on user acceptance of a knowledge sharing technology (Microsoft SharePoint) in the higher education workplace. This study will contribute theoretically to the body of knowledge management research and also has practical implications. By providing organizations with this valuable information, they will be better prepared to implement a knowledge sharing technology into their environment. The researcher is Julia Hart and the supervising faculty member is Dr. Sarah McCarthey of the Curriculum and Instruction Department at the University of Illinois at Urbana-Champaign.

There is no cost to the volunteer to participate in the focus group. The focus group will consist of 6-8 people with the session lasting 90 minutes. The first 10-15 minutes will consist of a welcome, then the focus group will be conducted for the remaining time. During the focus group the moderator, Julia Hart, will generate a discussion to gain more specific and detailed information on digital equity, workplace learning, and user acceptance of technology (specifically SharePoint). The focus group will be audio-taped. First names only will be used during the discussion. At the conclusion of the session, you will have the option to enter to win a $99 Amazon gift card. One winner will be selected randomly after all five focus groups have met. The gift card can be picked up or mailed to the winner.

All collected data will be used for academic publications and future grant proposal writing. No personal information will be disclosed during the dissemination process. Your identity will be anonymous, and your responses will be coded in a manner that will not identify you, or connect the answers to you. Only the researchers will have access to the audio tapes used in the focus groups. If there is any information obtained in connection with this study that can be identified with you, it will be disclosed only with your permission. While the researchers for this study have every intention to protect confidentiality of the participants in the focus group discussion we cannot guarantee other participants will maintain this confidentiality.

Your participation in this project is completely voluntary, and you are free to withdraw at any time and for any reason without penalty. There are no right or wrong answers. By participating there is no foreseeable risk to you. Your choice to participate or not will not impact your job. You are also free to refuse to answer any question(s) you do not wish to answer.

If you have any questions about this research project, please contact Julia Hart via email at hartja@illinois.edu. If you have any questions about your rights as a research participant, please contact the Institutional Review Board Office, 217-333-2670, or email irb@illinois.edu.

Sincerely,

Julia Hart (hartja@illinois.edu)
Doctoral Student, College of Education, Curriculum & Instruction Department
University of Illinois at Urbana-Champaign

Sarah McCarthey (mccarthe@illinois.edu)
Professor, College of Education, Curriculum & Instruction Department
University of Illinois at Urbana-Champaign

By signing below you agree that:

- I am 18 years of age or older.
- I have read and understand the above consent form and voluntarily agree to participate in this study.

You will be given a copy of this consent form for your records.

_____   _____

Signature of Participant   Date

Definitions:

- Digital Equity
    "Everyone in our society has equal access to technology tools and has the knowledge and skills to use them" (National Institute for Community Innovations, 2001)
- Workplace Learning
    "All training and development activities related to the workplace, outside of formal education" (Li et al., 2009)

Digital Equity

- In what areas and to what extent did you have access to computers in K-12? (How were computers/Internet used in the classroom in K-12? Did teachers use them? Students? How were they used? For what subjects?) Do you think you had sufficient access to computers while in school (K-12)? At home? Explain your response.

- How well did these experiences in K-12 prepare you to use technology?

- In what areas and to what extent do you think that gender, race, socioeconomic status, and/or computer experience impact your adoption and use of SharePoint in the workplace now? In the future? Please provide examples to support your response.

- How do you typically use the computer at work?
  - Has access to computers at home impacted your learning at work?

- Do you have access to use SharePoint at work? If so, what type of access and what do you use it for? (i.e. primary functions)

- Does everyone in your department/unit have access to SharePoint? How is access decided?

- Does SharePoint help share knowledge in your department/unit? At your campus? Why or why not?

- To what extent and how often do you encounter any obstacles when accessing SharePoint (i.e. computer type, browser, permissions, access)?

Workplace Learning

- What factors enhance or constrain workplace learning? Provide an example.
  - Individual factors (i.e. skill, knowledge, attitude/belief, fear)
  - Organizational factors (i.e. job satisfaction, technology acceptance, training opportunities, culture)

- How do you learn in the workplace? How does your workgroup facilitate learning?
  - Is technology used? If so, what type and to what extent?
  - Is there employer support? If so, please explain.
  - Do you prefer self-study? If so, what type and to what extent?

- To what extent are technology changes communicated to employees in your department/unit?

- How do your workplace learning experiences affect your acceptance of a knowledge sharing technology in the workplace?

- To what extent do you think workplace learning plays a factor in acceptance and use of SharePoint on campus? Please explain.

User Acceptance of a Knowledge Sharing Technology

- Describe how knowledge sharing takes place in your department/unit.

- Tell me about where, when, why and how you use SharePoint.

- What do you like the most about SharePoint? What do you like least? Please explain your selections.

- What barriers have you encountered trying to use technology at work?

- What barriers have you encountered in terms of getting the technology training you want and/or need?

- Do you see SharePoint as a useful tool for knowledge sharing for departments/units on campus? Why or why not? What are the challenges?

- What factors do you think influence whether employees adopt and use SharePoint as part of their job?

- Is there anything else you would like to share?

APPENDIX C

Suggested Changes to Online Survey Questions and Focus Group Questions

Pilot Study
February 12, 2014

Online Survey Questions

- Move definitions to focus group section only. Do not seem to have relevance to survey questions and may cause confusion. The terms digital equity and workplace learning are not directly used.
- DLOQ:
  - #17 – What is 'outside community'?
- UTAUT:
  - Headings may be confusing – should they be included? If so, do they need further clarification?
  - #13 – Change 'resources' to 'access'
  - #11 – Change 'business' to 'organization'
  - #12 – Change 'the' organization to 'my' organization
  - Under Behavioral Intention
    - #17, #18, #19 – appear to be very similar – should this be 1 question?
- Demographics:
  - Add 'and Behavior' after Demographics label
  - Be consistent on number of measures and similar measurements (i.e., low to high, number of categories, same wording if possible if similar measures - #10, #11, #14, #18 specifically)
  - #7 – Change 'college' to 'campus' and add 'University Administration' as a choice
  - #3 – Verify races are what the University uses for reporting
  - #15 – Unclear what Knowledge Sharing Technology means – suggestion to change to 'collaboration' technology
  - #17 – Remove 'permissions' and leave 'access', change to a Yes/No question
  - #10 & #19 – Use same scale for easier data analysis and consistency for participants
  - Move #19 before #15 – Chronological (logical) order

Focus Group Questions

- **Digital Equity**
  - Combine last 2 questions into 1 question
  - #4 – Change 'at the University' to 'at your campus and/or all 3 campuses'
  - Combine K-12 questions into 1 or 2 questions – felt there were too many – also felt they would take much more time then total time allotted for session
- **Workplace Learning**
  - Add 'fear' to individual factors

- **Technology Acceptance**
  - o Next to last question change 'why' to 'do' and add 'why or why not' to end
- **Other Comments**
  - o Make sure anonymous choice is obvious, especially in the transition to the screen in WebTools that takes participant to fill out information for either focus group or incentive.
  - o Order focus group questions from most to least important in case all questions are not gone through during session

APPENDIX D

IRB Approval

UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN

Office of the Vice Chancellor for Research

Institutional Review Board
528 East Green Street
Suite 203
Champaign, IL 61820

November 13, 2013

Sarah McCarthey
Curriculum and Instruction
308 Education Bldg
1310 S. Sixth St
M/C 708

RE: *How Digital Equity and Workplace Learning Influence Acceptance of a Knowledge Management Tool in the Workplace*
        IRB Protocol Number: 14123

Dear Dr. McCarthey:

Thank you for submitting the completed IRB application form for your project entitled *How Digital Equity and Workplace Learning Influence Acceptance of a Knowledge Management Tool in the Workplace*.   Your project was assigned Institutional Review Board (IRB) Protocol Number 14123 and reviewed. It has been determined that the research activities described in this application meet the criteria for exemption at 45CFR46.101(b)(2),(4).

This determination of exemption only applies to the research study as submitted. **Exempt protocols are approved for a maximum of three years.** Please note that additional modifications to your project need to be submitted to the IRB for review and exemption determination or approval before the modifications are initiated.

We appreciate your conscientious adherence to the requirements of human subjects research. If you have any questions about the IRB process, or if you need assistance at any time, please feel free to contact me or the IRB Office, or visit our website at http://www.irb.illinois.edu.

Sincerely,

Belinda Adamson, Human Subjects Research Coordinator, Institutional Review Board

c: Julia Hart

UNIVERSITY OF ILLINOIS
AT CHICAGO

Office for the Protection of Research Subjects (OPRS)
Office of the Vice Chancellor for Research (MC 672)
203 Administrative Office Building
1737 West Polk Street
Chicago, Illinois 60612-7227

Approval Acceptance
Exemption Determination

November 15, 2013

Sarah McCarthey, PhD
College of Education: C&I
308 Education Building
1310 S. 6th street
Champaign, IL 61820
Phone: (217) 244-1149

RE: Research Protocol # 2013-1137
        "How Digital Equity and Workplace Learning Influence Acceptance of a
        Knowledge Management Tool in the Workplace"

Dear Dr. McCarthey:

Your research protocol was reviewed on November 15, 2013.

The UIC Office for the Protection of Research Subjects (UIC OPRS) recognizes the University
of Illinois, Urbana-Champaign (UIUC) as the IRB of Records for this research. This was
determined based on the Reciprocal Agreement in places between the UIC IRB and the UIUC
IRB.

We wish you the best as you conduct your research. If you have any questions or need further
help, please contact me at (312) 355-2908 or the OPRS office at (312) 996-1711. Please send any
correspondence about this protocol to OPRS at 203 AOB, M/C 672.

Sincerely,

Cynthia C. Tom-Klebba, M.A., CIP
Associate Director
Office for the Protection of Research Subjects

Intercampus IRB Authorization Agreement

1. IRB #1 at the University of Illinois at Urbana-Champaign (FWA# 00008584) and IRB # 1 at the University of Illinois at Springfield (FWA# 00013968) enter into this Intercampus Institutional Review Board Authorization Agreement providing for review and continuing oversight by UIUC IRB #1 of the following UIS human subjects research ("Research"):

    Name of Research Project: How Digital Equity and Workplace Learning Influence Acceptance of a Knowledge Management Tool in the Workplace
    Name of Principal Investigator: UIUC/Sarah McCarthey IRB# 14123
    Sponsor or Funding Agency:
    Award Number, if any: _____
    Other information: _____

This agreement applies to the described Research only and to no other research in which UIS may be engaged now or in the future.

2. **Request to Consider Alteration to or Waiver of HIPAA Authorization.** ☐ **Check if applicable.** The Research may require UIS researchers to use or disclose *protected health information* ("PHI") as defined by the Health Insurance Portability and Accountability Act ("HIPAA") and its regulations. Pursuant to 45 CFR §164.512(i), UIS requests that UIUC IRB #1 approve either an alteration to, or waiver, in whole or in part, of the HIPAA authorization required for UIS's use or disclosure of PHI for the Research.

3. **UIS Representations.** UIS represents that it: (a) shall remain responsible for ensuring compliance with UIUC IRB #1's determinations, with the terms of UIS's OHRP-approved FWA, and with all laws governing the Research; and (b) shall immediately report to UIUC IRB #1 in writing upon becoming aware of any new or continuing noncompliance with any relevant contract, law or institutional policy governing the Research, including but not limited to human subject protections, conflicts of interest, and research misconduct. UIS's obligation to report under 3(b) is in addition to, and in no way replaces, a principal investigator's duty to report any matters such as unanticipated problems involving risks to subjects and others. UIS shall make all such reports to the Director of UIUC IRB #1.

4. **UIUC Representations.** In performing its review and continuing oversight of the Research, UIUC IRB #1 represents that it shall: (a) comply with the requirements of the Common Rule as codified in regulation; (b) meet the human subject protection requirements of UIS's OHRP-approved FWA; (c) follow written procedures for reporting its findings and actions to appropriate officials at UIS; and (d) make available to UIS upon its request relevant minutes of UIUC IRB #1 meetings.

5. **Notice of Agency Action.** Each IRB will immediately report to the other if any oversight agency or organization initiates any action or investigation that may adversely affect the Research.

6. **Record Retention.** Each IRB shall keep this document on file for no less than six years after completion of the Research and shall provide a copy of it to OHRP upon request.

This agreement is effective on the last date below and expires on the date the Research is closed by UIUC IRB #1.

For UIUC:
By: _____   Date: __12-3-2013__
UIUC FWA Signatory Official

For UIS:
By: _____   Date: __11.21.13__
UIS FWA Signatory Official

APPENDIX E

Addendums to IRB Approval

Dear Julia and Sarah:

This message serves to supply UIUC IRB approval for minor modifications being made to your exempt application <IRB 14123 - How Digital Equity and Workplace Learning Influence Acceptance of a Knowledge Management Tool in the Workplace>. The modifications involve supplying updated versions of both the survey and focus group protocol (adding and deleting questions to each). The amendment was documented satisfactorily and does not affect the exempt status of your application.

You are now free to use the revised survey and focus group protocol as needed - Ron

IMPORTANT NOTICE:
Effective immediately, the revised IRB-1 Form (version dated, 04/08/2013) or the revised Exempt Application form (version dated, 04/08/2013) are required for all new submissions. Please go to http://irb.illinois.edu to access the new forms

Ron Banks, MS, CIP
Human Subjects Coordinator
UIUC Institutional Review Board
Suite 203, MC-419
528 E. Green
Champaign, IL 61820
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Dear Dr. McCarthey and Ms. Hart,

This message serves to convey UIUC IRB approval for the minor modifications being made to your exempt study *"How Digital Equity and Workplace Learning Influence Acceptance of a Knowledge Management Tool in the Workplace"* (IRB# 14123). The modification is having DMI provide a representative sample of employees, including staff and faculty, at the University of Illinois on all three campuses via Web Tools. UIC and UIS will provide there representative samples to UIUC-DMI which will the combined lists. DMI-UIUC will create a group in Web Tools. An email announcement with a link to a survey requesting participation in the study will then be sent out to this group.

Please retain this email for your records.

Please contact me if you have questions.

Sincerely,

Belinda

****

Belinda Adamson, BS, MEd, CIP
Human Subjects Research Coordinator / Institutional Review Board
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APPENDIX F

Qualitative Codebook

Abbreviation	Code	Definition	Example(s) from text
Theme 1: Digital Equity			
Category – Early Exposure to Computers			
HA	Home Access	Topics around computer access at home and access while in K-12 and what computer was used for (excludes current home access)	"it didn't exist"
K12	K-12 Computer Access	Topics around K-12 computer access in school (includes name and location of school, type of computers used, how computers were used by students and teachers)	Oregon Trail "not heavily integrated into all of our classes" "The teachers didn't know how to use them…usually for grade book entry"
PAR	Parents' Skill Level/Use	Parents' use of computers or access to computers at home (when participant was in K-12)	"My father had a PC…" "Both of my parents were faculty at SIU"
PREP	Preparation	Topics around how K-12 access prepared participant for later technology use	"it probably changed the way I interacted in schoolwork and homework and research"
Category – Demographic Perceptions			
AGE	Age	Age reference	"younger people are quicker to adapt" "it could be my old age that I'm a little cynical"
GEN	Gender	Gender reference	"in K-12 there weren't a lot of girls that were in the technology classes"

Abbreviation	Code	Definition	Example(s) from text
SES	SES	Topics around income, education, and/or job position	"with higher SES class you're more likely to have been exposed to all of these things"
RACE	Race	Race reference	"there weren't a lot of non-Caucasians either"
Category – Current Experience with Computers			
USE	Work Computer Uses	Topics around computer uses at work – what the computer is being used to do	"Emailing people" "checking Facebook"
SPACCESS	SharePoint Access at Work	Topics around whether or not have access to SharePoint at work, who is given access, and/or what is the access for or what does it allow	"Within Engineering IT, technically everyone has access"
INT	Internet Access	Internet access when in K-12 and what Internet was used for (includes current Internet access)	"I remember at home dialing into CompuServ for homework and getting access to encyclopedias"
Theme 2: Workplace Learning			
Category – Management Factors			
COMM	Communication	Topics around communication strategies used for technology change	"we had human resources come in and assist us"
ADM	Administrative	Topics around decisions that come through a hierarchical flow (i.e., administration)	"not by the technology itself, but by the decision-making processes that brought the technology into being"
SUPVSUPP	Supervisor Support	Topics around support for technology from management, other employees, or supervisors	"if you don't have a supervisor who says…"
Category – Peer Factors			

Abbreviation	Code	Definition	Example(s) from text
KS	Knowledge sharing	Any reference to knowledge sharing	"we have a wiki where all our internal knowledge is supposed to go"
CAM	Campus	Topics around specific campus/department and their culture	"if you don't have support in your unit to put a SP site up, then you don't have a SP site to work with"
Category – Personal Factors			
CHA	Change	Topics centered around how technology changes are communicated and received	"Nobody has incentive to switch over to SP probably"
LS	Learning styles	Topics around how learning is facilitated in the workplace and how people want to learn	"Cindy showed me how to do it…" "Trial by fire…"
TOOLS	Other tools	Other technology tools that are discussed for collaboration (excluding SharePoint)	Basecamp
TRN	Training	Topics around training provided for technology in the workplace	"if you are not encouraged to learn, it's hard to make it a priority"
TIME	Time	Topics around how time is a factor in the workplace for learning	"harder to carve out time" "availability of time"
Theme 3: Technology Acceptance			
Category – Personal Factors Affecting Adoption			
PE	Performance Expectancy	"the extent to which an individual believes that using an information system will help him or her to attain benefits in job performance"	"should I really spend time learning this, because this new thing over here might be more important to, you know future success"
EE	Effort Expectancy	"the degree of ease associated with use of the system, with ease of use becoming	"it's probably going to be useful…I don't know yet"

Abbreviation	Code	Definition	Example(s) from text
		insignificant over a period of time"	
EASE	Ease of Use	Text coded to topics around ease of use of a tool	"it'd have to be easy to use"
BI	Behavioral Intent	"the degree to which an individual has formulated conscious plans to perform or not perform some specific future behavior"	"we'll never use SharePoint again"
AWARE	SP Awareness	Topics around the extent that SharePoint is known or understood in the workplace	"most people probably don't know it exists"
P-SPUSE	*Perceived* SP Uses	Topics around what SharePoint *should* be used for at work (may overlap with actual uses)	
P-SPCB	*Perceived* SP Challenges/Benefits	Topics around the concept of perceived SharePoint challenges/benefits that impact use	"I never heard the big win that SharePoint is getting us"
Category – Environmental Factors Affecting Adoption			
SI	Social Influence	"the extent to which others influenced how they should use technology"	"like you're too embarrassed to ask"
FC	Facilitating Conditions	"degree to which a person believed an organization had the necessary organizational and technical infrastructure to handle the technology in place"	"if you don't have someone to run the SharePoint server, then it's of no value to anybody"
TECHSUPP	Technology Support	Topics around support for technology from IT staff	"it's the support base that makes it easier to adopt"
DES	Design of Systems	Topics around the design of technology systems (including software such as SharePoint)	"we just don't have a uniform system"

Abbreviation	Code	Definition	Example(s) from text
SPSUP	SharePoint Support	Text coded to topics around whether or not there is SharePoint support in the workplace and what that is or is not (excludes other IT support)	"our level of support is here you go, good luck"
SPCB	SharePoint Challenge/Benefits	Topics around the acknowledged challenges/benefits of SharePoint in the workplace	"simple to tie in a Microsoft centric office"
Category – Technology Use			
SPUSE	SharePoint Uses	Topics around what (i.e., business process) SharePoint is being used to do	

APPENDIX G

DLOQ Survey Reponses

DLOQ Survey Question	Frequency (Percent)						
	Almost Never	Rarely	Occasionally	Sometimes	Frequently	Usually	Almost Always
Q1-In my organization, people help each other learn to use Microsoft SharePoint in their job	66.4%	13.1%	7.7%	6.7%	2.6%	1.3%	2.3%
Q2-In my organization, people are given time to support Microsoft SharePoint learning	63.1%	15.1%	6.7%	6.4%	4.4%	2.3%	2.1%
Q3-In my organization, people are rewarded for learning	12.3%	11.3%	9.7%	23.3%	15.1%	11.3%	16.9%
Q4-In my organization, people give open and honest feedback to each other	3.8%	6.7%	14.4%	19.2%	22.8%	21.0%	12.1%
Q5-In my organization, whenever people state their views, they also ask what others think	3.6%	6.4%	11.0%	27.4%	25.4%	16.7%	9.5%
Q6-In my organization, people spend time building trust with each other	4.6%	11.0%	12.1%	25.1%	20.5%	13.6%	13.1%
Q7-In my organization,							

DLOQ Survey Question	Frequency (Percent)						
	Almost Never	Rarely	Occasionally	Sometimes	Frequently	Usually	Almost Always
teams/groups have the freedom to adapt their goals as needed	5.6%	5.1%	7.7%	25.9%	21.0%	21.3%	13.3%
Q8-In my organization, teams/groups revise their thinking as a result of group discussions or information collected	4.6%	3.8%	7.4%	25.6%	28.2%	18.2%	12.1%
Q9-In my organization, teams/groups are confident that the organization will act on their recommendation	6.4%	12.1%	16.4%	29.2%	17.2%	11.5%	7.2%
Q10-My organization creates systems to measure gaps between current and expected performance	14.1%	15.6%	12.8%	22.1%	18.5%	10.5%	6.4%
Q11-My organization makes it lessons learned available to all employees	9.7%	12.8%	15.1%	23.8%	15.6%	12.6%	10.3%
Q12-My organization measures the results of the time and resources spent on training	17.9%	22.3%	10.8%	21.3%	12.1%	9.0%	6.7%
Q13-My organization recognizes							

DLOQ Survey Question	Frequency (Percent)						
	Almost Never	Rarely	Occasionally	Sometimes	Frequently	Usually	Almost Always
people for taking initiative	8.2%	8.2%	13.3%	21.8%	20.3%	15.1%	13.1%
Q14-My organization gives people control over the resources they need to accomplish their work	6.4%	6.4%	11.8%	21.5%	17.9%	22.8%	13.1%
Q15-My organization supports employees who take calculated risks	10.8%	12.8%	16.4%	26.2%	15.6%	13.3%	4.9%
Q16-My organization encourages people to think from a global perspective	9.7%	10.3%	9.2%	18.7%	21.8%	17.7%	12.6%
Q17-My organization works together with the outside community to meet mutual needs	6.7%	8.5%	11.8%	23.6%	21.3%	17.9%	10.3%
Q18-My organization encourages people to get answers from across the organization when solving problems	5.6%	5.6%	10.0%	22.3%	23.6%	18.7%	14.1%
Q19-In my organization, leaders mentor and coach those they lead	8.5%	13.8%	11.0%	17.7%	20.8%	15.9%	12.3%

DLOQ Survey Question	Frequency (Percent)						
	Almost Never	Rarely	Occasionally	Sometimes	Frequently	Usually	Almost Always
Q20-In my organization, leaders continually look for opportunities to learn	4.1%	7.9%	12.6%	18.7%	21.3%	21.8%	13.6%
Q21-In my organization, leaders ensure that the organizations actions are consistent with its values	5.1%	6.2%	9.7%	19.5%	20.3%	20.0%	19.2%

APPENDIX H

UTAUT Survey Responses

UTAUT Survey Questions	Frequency (Percent)						
	Strongly Disagree	Disagree	Disagree Slightly	Neither Disagree or Agree	Agree Slightly	Agree	Strongly Agree
Q1-I would find SharePoint useful in my job	6.2%	4.9%	2.8%	57.7%	9.5%	11.5%	7.4%
Q2-Using SharePoint enables me to accomplish tasks more quickly	7.9%	4.6%	2.3%	68.5%	5.4%	8.5%	2.8%
Q3-Using SharePoint increases my productivity	8.2%	5.4%	1.0%	69.0%	6.4%	7.7%	2.3%
Q4-If I use SharePoint, I will increase my chance of getting a raise	22.8%	13.3%	1.5%	58.7%	1.8%	1.5%	.3%
Q5-My interaction with SharePoint would be clear and understandable	5.4%	3.8%	1.8%	63.8%	8.7%	14.1%	2.3%
Q6-It would be easy for me to become skillful at using SharePoint	3.3%	2.6%	2.6%	48.7%	12.3%	20.3%	10.3%
Q7-I would find SharePoint easy to use	3.6%	2.6%	4.1%	58.2%	11.5%	14.6%	5.4%
Q8-Learning to operate SharePoint is easy for me	3.1%	1.0%	4.6%	67.4%	7.2%	12.3%	4.4%
Q9-People who influence my behavior think							

UTAUT Survey Questions	Frequency (Percent)						
	Strongly Disagree	Disagree	Disagree Slightly	Neither Disagree or Agree	Agree Slightly	Agree	Strongly Agree
that I should use SharePoint	17.4%	10.8%	1.8%	60.0%	5.4%	3.3%	1.3%
Q10-People who are important to me think that I should use SharePoint	17.4%	10.5%	2.1%	61.3%	4.1%	3.6%	1.0%
Q11-The senior management of this organization has been helpful in the use of SharePoint	18.5%	9.5%	1.5%	61.8%	4.6%	2.3%	1.8%
Q12-In general, my organization has supported the use of SharePoint	16.9%	10.3%	2.3%	57.9%	4.9%	5.1%	2.6%
Q13-I have the access necessary to use SharePoint	17.9%	12.1%	3.1%	41.8%	4.9%	12.1%	8.2%
Q14-I have the knowledge necessary to use SharePoint	19.7%	13.1%	5.6%	32.8%	8.5%	13.3%	6.9%
Q15-SharePoint is not compatible with other systems I use	4.4%	9.7%	3.3%	72.8%	3.3%	4.1%	2.3%
Q16-A specific person (group) is available for assistance with SharePoint difficulties	11.3%	9.2%	2.8%	61.0%	6.2%	6.7%	2.8%
Q17-I intend to use SharePoint in the next 6 months	23.8%	16.9%	4.9%	37.2%	5.4%	6.4%	5.4%
Q18-I predict I will use							

UTAUT Survey Questions	Frequency (Percent)						
	Strongly Disagree	Disagree	Disagree Slightly	Neither Disagree or Agree	Agree Slightly	Agree	Strongly Agree
SharePoint in the next 6 months	22.6%	17.4%	4.6%	34.9%	6.9%	7.4%	6.2%
Q19-I plan to use SharePoint in the next 6 months	23.8%	19.7%	3.3%	35.6%	4.6%	7.2%	5.6%
Q20-I use SharePoint on a regular basis	53.1%	13.8%	2.6%	20.5%	3.8%	2.8%	3.3%

APPENDIX I

Raw Qualitative Data from Focus Group Sessions

Focus Group Session One: March 17, 2014

(Moderator 1) We'll go ahead and get started. Um, we have one more person, so we'll see if-if they come or not. So good afternoon. Thank you for coming, all of you. Um, I'm [Moderator 1]; I work at the Graduate College across the street, um, and this is [Moderator 2], and I'll let you pronounce your last name [Moderator 2], because—

(Moderator 2) [name]

(Moderator 1) And she's going to be my, uh, co-moderator today and try and take, uh, notes. I am recording the whole session too, so just so you know, in case—we're going to try and get a lot of it written, but we might miss some of it, so… Um, I kind of have some notes here to follow off of. So kind of some of the guidelines for the session—uh, there are no wrong answers, but different points of view, so feel free to share your point of view, whether, um, you know, even if it's the same as somebody else or, you know, if it differs, either way. And I'm interested in negative comments as well as positive comments, so if you have something negative you want to share, that's helpful. Um…we're also—I don't have anybody joining on the phone that I'm aware of. This one person might be calling in on the phone, so that's why I went ahead and called into Lync just in case that they do join the session. All of you that have come today are e—are eligible to be entered into a $99 gift card drawing, in addition to the one that if you might have signed up for the online survey, and if you're interested in that I'll pass out a little piece of paper later and you can fill that out and it'll go into a drawing. So when I'm done with all the focus groups, right now it looks like, um, I'll be having four focus group sessions, but if I get more people interested I might have more than that. So I'm looking at probably first, mid—mm, second week of April probably where I'll finish up with the focus group sessions. Most of them we're doing this week, so…

So what I wanted to do is just take a minute, because I don't know if everybody knows each other. Just, um, maybe just, you know, your name and maybe, um, what department you work with and what your, um, knowledge level is with SharePoint or how often you've used SharePoint or something like that, just real basic, brief… So, um, I'll start. So I'm, like I said, [Moderator 1], and I work at the [college], and obviously my dissertation is on SharePoint, and, um, I was the technical lead and the project manager for the SharePoint shared service that went, um, was implemented across all three campuses. So while I'm not, I don't think, the expert in SharePoint, I probably have a little bit more knowledge than a lot of folks on campus because of that role. So that's me.

(Participant 1) I'm [Participant 1]. I work at the [department]. Uh, I got survey reminders and I took one, and I have no idea what SharePoint is, so I was like "I'll do the focus group too and hopefully learn more."

(Participant 2) I'm [Participant 2]. I work with [department]. I've used SharePoint as a collaboration tools amongst other Big Ten schools, hosted by Ohio State, and then as the SharePoint, um, option became available on campus, [department] has moved their—what we call our intranet to SharePoint, um, pretty much wholesale from an older system that was—that needed to be retired. So I have usage experience, and being an IT professional I have knowledge from what I see in industry, but I'm not an expert user.

(Participant 3) I'm [Participant 3], and I work at the [college] and the [organization]. I've also worked in the [organization] [unintelligible] I've worked with SharePoint [unintelligible]...mixed results.

(Participant 4) And I'm [Participant 4]. I work upstairs in the [office], and I don't think I've ever used SharePoint. You know, I don't really know what it is other than maybe like sort of like a server, how you can upload things and then download and you can share, but I don't think I've ever personally used it. [inaudible]

(Participant 5) I'm [Participant 5]. Uh, I'm a tech manager with the [office], so we deal with the patents and licensing and stuff like that. I've been here for two years [unintelligible] with a company by the name of [unintelligible] page administrator for a SharePoint—we called it Shareways, so our site [inaudible] wasn't a network administrator but the site administrator, so I think I've got a pretty good understanding of how SharePoint is—SharePoint is supposed to work. We don't have any functionality at the university [inaudible].
(Moderator 1) Okay, okay. So.

(man) [Moderator 2]?

(Moderator 1) [Moderator 2], [unintelligible] [Moderator 2]?

(Moderator 2) Sure! I am in the [college], and I also work in the [college], and I have no experience with SharePoint, but I do use heavy technology, just not SharePoint.

(Moderator 1) Yes, [Moderator 2] and I have taken several classes together, so she was very, uh, nice to volunteer to help me out today, and for all my sessions actually, so that's great. So I know that my—the online survey was kind of vague. I-I had some questions about "What exactly are you trying to get at with this—with these questions?" So I'm looking at how digital equity and workplace learning influence users' acceptance of a knowledge-sharing technology in the workplace, and the knowledge-sharing technology that I'm looking at is SharePoint. So there's kind of three main components. There's the digital equity, which, um, I'll give you a definition of what digital equity is—everyone in our society has equal access to technology tools and has the knowledge and skills to use them. So that's what digital equity is. It's a little—if you've ever heard of digital divide, where people don't have computers, and so there is a digital divide. Digital equity is like the next level, so you have the tools but you don't know how to use them, or you don't have access to use them. So that's kind of the difference between digital—a real simple difference. Um, you could go on for hours about the two. Then workplace learning is all training and development activities related to the workplace outside of formal education, formal

education meaning K-12 for my study. So workplace learning is like how you're learning in your workplace. What your perception is of workplace learning is kind of what I'm looking at.

(Participant 4) Like if they send you to a training seminar [inaudible]

(Moderator 1) Right, or if you do online training, or do they even allow you to go to training, you know, that kind of thing.

(Participant 4) [inaudible]

(Moderator 1) Right. So if you think back to some of the questions that you might have answered on the online survey, the kind of deal with those perceptions of how well does your organization allow you to do those things, and so it's a per—a perception of workplace learning. So we've got the digital equity, the workplace learning, and then the acceptance of technology, which is the knowledge-sharing technology, or SharePoint in this case. What my goal is, for-for my dissertation, is to take the word SharePoint out, and you could put any kind of collaborative tool, any kind of collaborative technology in that spot, and, uh, and it would still be—it would be the similar results. So while you might not have used SharePoint—and neither of you have really used it—I think your feedback is important because there's other components of this, so…so that's—does that help explain a little bit?

(Participant) Mm-hm.

(Moderator 1) Okay, and feel free, if you have questions as we go along… So with that said, there are three sections to the—to the, uh, three sections to the focus group questions—the digital equity, workplace learning, and knowledge, or the technology. We'll try and get through these as fast as we can, hopefully not more than 90 minutes, so try and get it in—within the hour, but we'll see. It depends on how much you have to say. So I'll just start the questions, and you talk am—you know, talk amongst yourself. If you have questions about it, let me know. So the first one is with digital equity, and I'll just break it up. It's got multiple questions, but I'll read the whole thing first and then we can take it apart. And if you want pa—does anyone want paper to write some things down? I just thought about that. Here, let's just, um, tear off—and I should have thought about that. You want a couple pieces, sheets.

(Participant 5) I can write small.

(Moderator 1) Because you might want to jot notes down. And I have plenty more if you need more, so [unintelligible] that out there. There's pens. So, in what areas and to what extent did you have access to computers in K-12, so like how are computers used in the classroom? I know a lot of that's dependent on age sometimes, but did teachers use them, students? How were they used? For what subjects? Those are the kind of things I'm looking at. So did you have sufficient access to these tools? So kind of the K-12 experience overall.

(Participant 4) I'll start. For me, I was born in 1969—

(Moderator 1) Can you talk louder too, [Participant 4], just because I have a—

(Participant 4) Sorry.

(Moderator 1) Maybe I'll move this a little bit to the center.

(Participant 5) [unintelligible]

(Moderator 1) Those aren't working.

(Participant 4) I was born in 1969, so I started my K-12 experience before the-the big computer, uh, I guess wave of personal computers and all that, and I remember when I was in-in grade school and we would [inaudible], my parents bought a Radio Shack TRS-80 computer. I must have been in maybe 5th or 6th grade, and I learned how to make it play music, and so I thought that was really fun, but there weren't any formal classes in using computers until I got to high school, and my senior year in high school I took a-a basic [inaudible] class on programming [inaudible]. And then, um, yeah, so that's my K-12 experience with—

(Moderator 1) So you actually took programming classes in high school?

(Participant 4) One.

(Moderator 1) Okay.

(Participant 4) And that would have been in '86 or '87.

(Participant 3) Mine's much easier. [inaudible] well before computers. We had—the computers were what I came down here to see [inaudible] and air conditioning, all that, and punch cards and that, and I came down here after I graduated down here as an undergrad [inaudible] programming work [inaudible].

(Participant 2) My experience started about 7th grade with PLATO, because it-it wasn't a school [unintelligible], it was make-your-own-access at that point—

(Moderator 1) Okay.

(Participant 2)—because, uh, where I was going to school down in [city], I didn't have the opportunity of taking computer-oriented courses until, uh, sophomore year in high school, and there was nothing-nothing below that. There was no, uh…I think there may have been some Apple II computers starting to go into, uh, elementary at that point, but they were few and far between, so I predate the-the evolution quite a bit.

(Participant 1) Uh, I had lots of computers in K-12. I think in 2nd or 3rd grade we started—mainly computer classes were like Oregon Trail. I don't remember any constructive learning about it, and I think Mavis Beacon t—Beacon Typing and stuff, and then, uh, I think later in grade school we did some sort of basic, um, class with the coding, but it was already kind of older, like you could tell it was a little more outdated, so I never actually utilized that [unintelligible] for

anything, and by the time I got to high school we had no computer classes, because I think it was just assumed people would come in with that knowledge. And so we had Macs and PCs in our library to do stuff.

(Moderator 1) What about you [Participant 5], [unintelligible]?

(Participant 5) Yeah, the extent of mine was a TI-99/4A in high school. It was a $300 piece of equipment when McDonald's burgers were $0.19 and gas was $0.25 a gallon. So—

(Moderator 1) Oh the days [laughing]

(Participant 5) [laughing] They didn't exist. It was something brand new. Handheld calculators, uh, was like gold.

(Moderator 1) Yeah.

(Participant 5) And that was a situation where, you know, very few people—one in a hundred, one in a thousand—had a calculator. People couldn't afford them.

(Moderator 1) So at the time, thinking of all your scenarios—and well, some of you didn't have it at all—but do you think the computer access was sufficient in school, maybe… I mean—

(Participant 4) I think when I was going to school you didn't need it really, because not a whole lot of education, or at least learning, took place via computers, because they weren't, I mean—

(Moderator 1) It wasn't the tool of choice.

(Participant 4) It wasn't the tool of choice, and it was—people hadn't really begun to learn what they were capable of doing, interacting with them, except like you said, with the mainframe and [inaudible] things like that, so… and that was the early 80s. I'm sure people were doing other stuff [inaudible].

(Moderator 1) And some of you mentioned that you had some at home, I think. [Participant 2], you said—

(Participant 2) Yeah—

(Moderator 1) –Did-did any of you have computers at home?

(Participant 2) We had an Apple II at home my sophomore year in high school, and both my parents were faculty at [university], so—

(Moderator 1) Okay.

(Participant 2)—it was something they wanted to have for their—a resource to have at home. At the time there wasn't—I mean, teaching—[university] was a leader in teaching with computers,

so at the t—still in the early 80s, it was still very immature science of how to utilize computers to teach, beyond typing and word processing and such. Uh, you had to be someplace near the hotspots to-to get something more than just the basic stuff.

(Moderator 1) [Participant 1], did you have computers at home?

(Participant 1) Yeah, I c—I was trying to think—I don't actually remember not having one. I mean, I'm sure there was a time, but I mean, we—I remember even when I was younger my mom would help me type up papers, learn to type, and Where in the World is Carmen San Diego was huge. I'm pretty sure I devoted most of my childhood to that game. So, you know, but not the kinds of, you know—those are games, right—

(Moderator 1) Right.

(Participant 1)—we didn't—and then I remember, uh, it was even before, uh, AOL, like a Netscape or something, and you could chat, preliminarily, with strangers [laughing], like thinking back, like "Oh yeah, that happened."

(Moderator 1) Okay.

(Participant 4) My parents had an Apple II. They bought it, I think, when I was a junior or a senior in high school. My youngest brother is the one who ended up using it the most, because he played, I think, uh, World of Warcraft or Diablo, I don't know, whatever [inaudible] computer games were [inaudible]. He's six years younger than me, so…

(Moderator 1) So for those of you that used technology in K-12, how-how well do you think those experiences prepared you for technology after formal education?

(Participant 1) I feel like I am practically almost a digital native, right, so I don't—you know, I think that, just that being ubiquitous was like the kind of preparation, but I mean, over the three different schools I went to K-12, you know, the-the—it's hard to evaluate because the software—the hardware and software were all getting more sophisticated, so it's hard to tell like which, like, lessons prepared me [unintelligible], but I just kind of—because it was always there to use.

(Moderator 1) Mm-hm.

(Participant 2) What we did in school did not do much for that, because there was electronic data processing, card jobs and simple-simple things that aren't done anymore, and they're no longer considered computer skills at this point, so, um, but because of it, um, my outside-of-school interests thrived. If I hadn't had that as a place to do it, it probably—it would have come slower.

(Moderator 1) Okay.

(Participant 5) Have you read *The World is Flat*?

(Moderator 1) I have not.

(Participant 5) He's got a [unintelligible]—it's written by Friedman—he's got a very nice summary of technology as a development from the time you and I grew up and a little later [unintelligible], but it's just—it's really interesting history on how the world changed, and it talks about computers and how [unintelligible]. It's quite interesting.

(Moderator 1) Yeah.

(Participant 4) I developed my computer skills when I was still in college, because that was when they came out with the Windows interface, and I spent a lot more time learning [inaudible] that game minesweeper.
[all laughing]

(Participant 4) So it was little things like that that helped. I mean, even my mom, to this day, she has more trouble with [inaudible] than I [inaudible], so…

(Moderator 1) Okay. I'll move on to a couple more questions here. So part of digital equity, some of the factors involved in digital equity are gender, race, socioeconomic status, computer experience ,and, if you remember, again, those are some of the questions that were asked on the survey, you know, your income and things like that, to kind of feed into this variable. So in what areas and to what extent do you think these things impact your adoption and use of SharePoint in the workplace now, or they will impact in the future? If you have any kind of examples that you can think of, and-and maybe not…

(Participant 3) I have to ask you to restate that question.

(Moderator 1) Yeah. So I guess, just do you think that gender, race, socioeconomic status and computer experience impact one's adoption and use of SharePoint in the workplace? Or can you see ways or…

(Participant 4) Yeah, I can see some ways, at least right now. I can see that age more so than any of the other socioeconomic—well age isn't really socioeconomic. Younger people are more quick to adapt, and I think even a higher socioeconomic—at least a higher pay grade maybe, in your—in the types of jobs that [unintelligible] maybe—

(Moderator 1) So you're thinking the people that make a higher income would adopt SharePoint easier.

(Participant 4) Yeah.

(Moderator 1) Okay.

(Participant 4) But it might be more of a job-related factor [inaudible].

(Participant 3) In my case it's far more unit-driven than that, than any of those factors, because if you don't have support in your unit to put a SharePoint site up, then you don't have a SharePoint site to work with, and I went through that battle and didn't succeed at that, and [unintelligible]—

(Moderator 1) From those factors.

(Participant 3) –race or gender had to do with [unintelligible].

(Participant 2) [unintelligible] agree with you totally. [unintelligible] if you don't know it exists, you can't access it, doesn't matter—

(Participant 3) Somebody who will—somebody who will administer it.

(Participant 2)Yeah.

(Participant 3) I mean, you have to have somebody that'll support the site other than just, you know, sitting at your desk. You have to have wide adoption after that, but we didn't get past the support piece, so I don't know [inaudible].

(Moderator 1) No, that's good.

(Participant 4) I think that once it becomes available, and if you do have somebody to support it and there is a need for it, then there might be a little bit of a variance in who uses it more quickly and who, um…and I'm not sure if that's an age or a gender thing, but it might be a-a personal experience with maybe your support, early adopters versus people who would take longer to try and do things in general.

(Participant 3) Much more to do with that than [inaudible].

(Participant 4) Right.

(Participant 3) My experience in my office is there are people who are slow to learn, and I'm [unintelligible] the oldest person in my offices, so—and I'm one of the first to adopt technologies, always have been, and-and I don't think it has to do with pay grade either [inaudible] high pay grades that don't know how to turn on their computers.

(Participant 4) [laughing] That's true.

(Participant 5) You know, I think one of the issues really is that the university provides an internet link, so when you pop up, your homepage is going to be some university site, and SharePoint really isn't much different from that. You know, it-it's a site that you can pop—that an individual department can populate. So if you don't have access to that, and logging on you don't have—somebody goes to Yahoo or Google, they could easily just as go to a SharePoint site as their homepage to understand where those materials are. It just—it doesn't exist as a resource—

(Moderator 1) Okay.

(Participant 5) –from what I can tell right now.

(Participant 2) I don't see it as being, for most of those areas, as being any different from, you know, math or science, or what have you. I mean, those have their impacts that are gender-related, and we see it in race as well. Socio—I think socioeconomic status—drives most of that, and one thing with socioeconomic status—if you live in a more affluent home, the computer is more likely to be an appliance that's just there. It's kind of expected, there's no mystery around it, your parents use it, it—there—it's not new or uncommon. It's not just a game machine, right? I-i—they may use it for different things. And the other thing is if you're more—the more affluent you are the more likely it is your friends in your peer group will have different kinds of things out in their homes, so you will learn the skill of being able to adapt to different kinds of tools. If your friend has a Mac you learn a little bit of that. You play—you have an Xbox, when you have a PlayStation, you become—you are adaptable, and so I think that's a-a feature that makes it easier to take up a new piece of technology and use it.

(Participant 1) I was thinking about that in the context of my workplace. Sometimes embracing a new technology, or even track changes in Word can be tricky for some people, so having either someone that they can go to that they feel comfortable with or someone that they know can even explain it is really like the lynchpin to have, because if you want to use Dropbox but you don't feel—like you're too embarrassed to ask, or you don't care enough to—you know, that's the—I feel like I see that a lot in my workplace.

(Participant 2) Yeah, and that may go to cultural behavior too. If your parents are comfortable with technology and you've grown up in a world where they—you can interact with them on that, then you're much more comfortable with technology.

(Moderator 1) Mm-hm, definitely.

(Participant 4) And like you said too, it could be a-a personality thing, because some people are more adventurous than others, just in general, and more willing to try new things and…so I don't know. That's not socioeconomic, that's just human…

(Moderator 1) Personality.

(Participant 4) Personality.

(Moderator 1) So how—if you could just briefly say—how do you primarily use your computer here at work? What are you primarily doing on the computer at work?

(Participant 3) Email, meetings. That's the majority of the time spent on the computer.

(Participant 4) I run a lot of [unintelligible] programs, pulling data from, um, the data—the university's data warehouse, and [unintelligible] warehouse. I do a lot with Excel, formatting and-and putting tables together. Less, uh, writing reports in Word or anything like that, or putting

together slides for a presentation. I don't do a whole lot of that. And of course email, and, um…certainly the internet for information, um, going to other schools, going to the, um, a shared—there's a group of schools that share data amongst themselves—going to that website, pulling down data from there and uploading data to that.

(Moderator 1) So very data-intensive.

(Participant 4) Very data-intensive.

(Participant 5) I think my case is the same thing—heavy on email and scheduling, but we also have a, uh, intellectual property management database that we have to access, and so when I need legal documents they're in there, our patents are in there, all the different prosecution histories are in there, so that's a—it's a big database that is managed, and [unintelligible] have access to it. The interesting thing is the f—the-the documents in—there are some in that database and some in a SharePoint database, and so we use SharePoint as a file system, and it's got all the—all the folders and subfolders, like you do a Dewey decimal system kind of categorization, things duplicated for thousands of records, and subfolders are never used. So you've created this architecture that's totally useless, and just...why would you do that? And SharePoint, I know what the capability of SharePoint is, you know. We can't figure it—we can't get it to that point where it's actually functional and useable and [inaudible] being in a [unintelligible] university, I just can't quite understand what-what-what's going on.
[others laughing]

(Moderator 1) Which kind of leads into the next question, is do you have access to use SharePoint at work, and if so, what do you use it for?

(Participant 5) So one of the projects was we're looking at a new database to replace the current one that we have because it's dying, and so we went to [unintelligible] and we had a team between us in [city], and I set up a SharePoint team. So we had [unintelligible] for the data so we weren't constantly emailing all the reports and all the [unintelligible] stuff, and so everybody knew when the schedules were going to be, where are the documents for it. And what I couldn't tell though, is SharePoint has a feature that you can monitor who is accessing the data; that's not turned on. So I couldn't even tell wh-whether anybody even looked at that [unintelligible], had no clue. So, you know, that's one of the things you want to do, is if you have a tool that's put out for people, and if they're not using it, the first thing you can—SharePoint can tell you that, but if it's not turned on, that's really not a lack of—it's a lack of knowledge, right? You can't fix a problem…

(Participant 4) So what you'd need, really, would be somebody to make sure that it's fully functional [inaudible] for what you want to use it, and that people actually know how to use it.

(Participant 5) Oh yeah, mm-hm.

(Participant 4) [inaudible] you want them to use it.

(Participant 5) Yeah, there's quirks about it. I mean, checking out if you—you know about checking in and checking out documents, and you could—we have somebody who did it a few years ago. They thought they were saving documents, and they didn't know how SharePoint [unintelligible], and they lost several hundred documents, and [unintelligible] said we'll never use SharePoint again, from that experience.

(Moderator 1) Yeah. You have those anti-Microsoft people too, in general.
[all laughing]

(Participant 4) They can be [unintelligible].

(Moderator 1) Yeah, and that's fine, that's…

(Participant 4) Like any-any software, any product...

(Participant 3) I do similar—heavy email, heavy meetings, and I also do data mining and [unintelligible] and communication, and also a couple of databases for different aspects of my work, and they're antiquated databases, and I tried, maybe 3 years ago, to get SharePoint going so we could set up a database [unintelligible] in an office. There are about five of us that needed to have access to various [inaudible], and for a couple of projects, we were doing major sort of re-doing things, and a lot was…and fought the battle for 6 months to get it supported and going and just, you know, other peoples' SharePoint sites that didn't meet our needs. Nobody seemed to know how to make it meet our needs, and so we [unintelligible] on that, and basically collaborations like that I have gone through Google Docs or something simple that's—that is in fact equitably available, universally, to everybody, and without a lot of training and craziness that goes on with SharePoint. I'm real familiar with it, but I don't like it, and wouldn't-wouldn't use it, because it's a resource hog like most of Microsoft stuff is. Some things you can't avoid; things you can, I do.

(Participant 2) We're using it for our intranet now, and we actually went through a process, because our previous, uh, intranet was a content—a first-generation content management system. So we had to replace it because it was outdated and not supported anymore. We went through a process of looking at several content management tools to see which one we could use best, and SharePoint won, um, in comparison to the other tools that we had, mostly because of its connectivity to other Microsoft tools. It simplified certain things that—uh, it appealed to some of our staff to make that stuff easier. And a few years previously, we were looking for a collaboration tool, and we looked at all the things that were out there, and SharePoint didn't win, because it was—I guess the simplest way to put this, it was too geared towards software developers and project managers. It appealed to that kind of mindset which is, you know, list of tasks and organize things and checked-in/checked-out stuff, and I mean, [department], we have a lot of people who don't have that, um, kind of mindset. We have a wide variety of personalities and approaches and, you know, you couldn't get some of the more creative, people-centered folks to engage in a tool that was so organized, for lack of a better word.

(Moderator 1) So for those of you that are kind of, sort of—and I know you tried to use SharePoint but you're not, so mainly, I guess, for [Participant 5] and [Participant 2]—does everyone in your department have access to SharePoint, and if so, how is access decided?

(Participant 5) It depends on what you mean by access.

(Moderator 1) So they have—access would mean they—I would—I differed with—I couldn't decide if I wanted to use the word "access" or "permissions." So I'm thinking about more on a permissions base, but access is more of a general term. I mean, how do you determine who has permissions? Is it just based on there's a certain project, and so part of this project, or is it because every employee—if it's your intranet, I'm assuming everyone has access to an intranet site or…

(Participant 5) Well, I think the answer is "no" in terms of the question that you're asking, which is yes, everybody can look at what's there, at the structure of the data's there, but only a handful of people have the power to do anything about it.

(Moderator 1) Okay.

(Participant 5) So everybody-everybody is a view-only kind of user, and a few people are people who can make things out of SharePoint that they want to make them. So I'd say no, not everybody can, uh—the way we determined is-is based on the people who change data on the intranet the most frequently were given access to control their own destiny there, and that's just a handful of folks out of 700 employees.

(Moderator 1) Okay.

(Participant 2) We have about 30, somewhere around 30 in our office, and everybody has access to SharePoint, but you would not know the difference between SharePoint and a normal, uh, directory and folder.

(Moderator 1) So they-they might not realize they're accessing SharePoint.

(Participant 2) You would never know they're using—they would never know they're using SharePoint.

(Participant 4) So if [office] is using it in that way, then I wouldn't know—I could be using it and not know, but I really don't know about [unintelligible] and everybody have designed for the [office], because we have, you know, the J Drive, which is that share drive, and then a different drive with more security limitations.

(Moderator 1) Only because I happen to—used to work in [office], I know that you don't.

(Participant 4) Okay.

(Moderator 1) But-but you could do it, set it up in such a way that it appears as a file share, and so people would never—and a lot of times they—that's done, I think, because people who have had bad experiences with SharePoint, but that's the way—what the department's using, so it's kind of a way to get around, to make sure they still use it, sometimes. But, um…okay. Um, does SharePoint help share knowledge in your department or unit at your campus? Why or why not? So do you think that share—that SharePoint is a knowledge-enabler or is a knowledge-sharing technology, or do you view it as something other than that?

(Participant 2) Yeah, I would say yes, as our internal employee website. Employees get information out of it, and different departments use it in ways that they need to use it, so yes, yes it does.

(Participant 5) Yeah, for u—it's not because it's not used—it's not being used the way it should be. So I mean, in the event that we could very easily turn it into an intranet for us and really get out the education materials and just promote the exchange of ideas, but it just won't do it. We don't have the access, as I understand, within the department to really [unintelligible].

(Moderator 1) And we've kind of touched on-on some of these are a little bit overlapping, but to what extent and how often do you encounter obstacles when accessing SharePoint, like computer type, browser permissions, access? Um… is it, I guess, you know, one way to look at this question is, um, do you encounter more—I think [Participant 3]'s kind of alluded to that—more problems than it's worth using, or do you, you know—

(Participant 3) You don't have—if you don't have someone to run the [chuckling]—run the SharePoint server, then, you know, to set things up, is fluent in doing that part of it, then it's of no value to anybody; you can't use it. So no, it's not useful to us because we don't have—at this point.

(Moderator 1) Is [college]—they're not on the shared service, are they? They're—you're talking about setting their own—

(Participant 3) They have their own IT.

(Moderator 1) Their own, okay.

(Participant 2) It was actually an improvement for us over what we were using before, because things like authentication became easier, because the older system required a—required an extra step of authentication because we couldn't connect it for the campus active directory, so in that sense it's improvement. Also, a lot of our staff, the way they share information is through documents, and it became much easier for people to move documents to the SharePoint structure, so it was an improvement over where we were.

(Participant 5) Do you use the-the metadata features for searching?

(Participant 2) Not-not a lot, no. We-we should, but we—

(Participant 5) Just asking.

(Participant 2)—we don't have…

(Moderator 1) Well I mean, that takes time and, again, somebody to kind of, you know, spearhead that, the training.

(Participant 2) We moved [chuckling]—we moved to SharePoint by necessity, because the system that we were running on, um, was not going to survive a certain technology leap that was coming, thanks to campus, and so it was a forklift, kind of "let's get everything off this old system and get it going on SharePoint." So it's never had the appropriate introduction to the masses as to what they could do with it and what's possible. It's more "How do we turn off this other thing?" And so… I imagine we'll get better at it as time goes one.
(Participant 5) In our case, the only thing we have is our SharePoint is housed in—virtual servers are in Chicago, and through [office], and so anytime we go through there we have to have a login unless you get your system to remember that it's you. So from time to time they'll lose our—so we have to re-log-in to that. It's just your normal—your password, but you still have to log in.

(Moderator 1) But it's that extra step every time.

(Participant 5) Not every time, it's every once in a while it loses it and forgets who you are and you have to re-log-in and get access.

(Moderator 1) Okay. Okay, well good conversation. Have to move onto the next section. So workplace learning, so kind of shift our thinking a little bit. So what factors enhance or constrain workplace learning? So, um, here's some things to think about, like individual factors—knowledge, attitude, beliefs, fear, or—or organizational factors like job satisfaction, technology acceptance, training opportunities, culture. So what factors do you perceive enhance or constrain workplace learning, whether it's individual level or on an organizational level?

(Participant 5) Learning styles is a big thing that I don't—we don't talk about too much, which is, you know, how each person absorbs learning in a different way, in a unique way, and there are major styles that you can see, and choosing the right style or having a multiple option for training or workplace education is important because you're going to have people in the various broad categories.

(Moderator 1) Mm-hm, so learning styles, definitely.

(Participant 4) And I think, um, the job itself, what you're doing, how much of what you're doing depends on-on technology, so somebody maybe who is—works on the grounds in facilities and service may or may not necessarily have as much need for technology access or technology education as somebody who works maybe in the IT department and need to keep up on things that are constantly changing.

(Participant 1) I think sometimes time, too. I mean, we've all done it, where we're like "Nope, let's not update now," you know, because you're just trying to get done what you're needing to

get done, but sometimes like bigger things are at stake. Like we use FileMaker Pro for our internal database, and I think we all kind of realize that it would be great to not use what we use anymore, but the time that goes into maybe making a new base and then teaching everyone how to learn, you know—I think time is a huge factor on that kind of scale.

(Participant 3) I think it—I think [unintelligible] it's important that-that you have a job that you're expected to get done, and if you don't have a superior who says "I want you to take time; we'll cover this," or whatever, while you learn this. [unintelligible] was able to do that [unintelligible] then you're not going to take the time to learn it unless you really really have something really excites you in some way. If you think it's going to make your job a lot easier, you might study it on your own, on your own time, but uh, short of that I think time is-is a huge thing.

(Participant 4) Definitely. I mean, even aside from SharePoint, our office [unintelligible]—

(Moderator 1) Right, just in general.

(Participant 4)—yeah, our office is—they're like "Well if you want to do something, you know, tell us, write up a little short thing why you need it, why it would help," but just taking the time even just to do that, and then taking the time away from what your job is to do that is definitely [inaudible].

(Moderator 1) So—

(Participant 5) I think learning in general's really hard, because there's information all over the place, and it can take a long time just to find it.

(Moderator 1) Mm-hm.

(Participant 5) If it's there. You don't know if it's there. You just don't know—

(Moderator 1) Right. I mean, people will ask me all the time "Where is a good place to get SharePoint training?" or where is—you know, because they don't even know where to start to look.

(Participant 5) Right, they don't know questions to ask or know where to go [inaudible]. When I came in two years ago I sat down with everybody in the office, and they basically told me what they did and told me how I was going to interact with it, and that was the training. It's like "You don't have it written down?" It's all word of mouth, and it sounds like an antique—I mean—

(Participant 1) It totally is.

(Participant 3) [unintelligible]

(Participant 5) We did that thing 3,000 years ago, right? [unintelligible]

(Moderator 1) Right, so that's kind of what's next, is like so how do you learn in the workplace? How does your work group facilitate learning? So like is technology used? Is there employer support? You know, how your departments facilitate learning.

(Participant 4) At least in our department there's—like we all do have our job descriptions and stuff, but—and we're all pretty good at oh, you know, if somebody is an expert in Excel and I'm trying to do something in Excel, I'll know to go to that person and say "Hey, you know, do you have any idea how to do this?" or, you know, so—but then when I first came into the job, it was a lot of "This is what you're supposed to do and this is how you do this particular job," and we've slowly been writing it down and, you know, keep trying to keep updating the pol—the procedures for the different [inaudible]—

(Moderator 1) There is like a knowledge sharing going on then.

(Participant 4) Right, there is—

(Moderator 1) There is some type of—

(Participant 4) And it's—but then there are some things where, well, we have to do this because the office—[office] wants it, and none of us knows what we need to do [laughing], so kind of trying to figure it all out together.

(Participant 3) [unintelligible] my technology learning, I suppose, and most people I see in my office, that takes place through YouTube and Google, frankly, because unless it's a proprietary system here or something that isn't generally available, it's there, you can find it and you can find specific little things that you need for the moment, or certainly there's a lot of "Hey, you know how to do this," you know, "What—how did you do that? [unintelligible]" But in terms of technology, there isn't a lot of formal—like you go to a workshop thing outside of [unintelligible] it's all in little [unintelligible] so you have to get specific training.

(Participant 4) When I first started in 2005, I went to [unintelligible] some of the workshops that they offer on Microsoft [unintelligible]. I think it's…

(Moderator 1) Through [unintelligible].

(Participant 4) Yeah, [unintelligible] or the [office], something like that, [inaudible].

(Moderator 1) But do you feel like generally that there's employer support? There's [university] [unintelligible] departments that generally support you getting training if you need it?

(Participant 2) We do. We support training both independently for specific individuals or as a group. A big part of [department], that's part of the—part of the thing, bringing all the different RA's on campus and starting them up at the beginning of the year. That's a major training task, and it's a difficult job, so it's part of our culture, both internal and in sending people out to give them training.

(Participant 5) So do you—so when you have a new set of RA's come in, you get into the SharePoint site, there's training or policy [unintelligible] all that kind of stuff [unintelligible]

(Participant 2) Not relevant specifically to SharePoint. I mean, they know it—they may know it as a resource. Because they're not—they're paraprofessional staff, so they're not full-time staff, so they don't typically use a lot of the resources that are on the SharePoint site. That's mostly professional staff, but yeah, they're here for essentially three full days of intensive training at the beginning before any of the other students arrive.

(Participant 5) So you have a big training, a lot of training, short period of time, and you're doing [unintelligible]—how long do the RA's usually last?

(Participant 2) Annually; there's a training in the fall right before opening.

(Participant 4) [inaudible] when I was a [inaudible].

(Participant 5) So how do you retain what you've learned, or how do you—how do they retain the four days of training?

(Participant 2) They have to put it into practice right away. That's one-one benefit of doing it right before school starts, because the next week they have floors full of students trying to acclimate, and that's what most of the training is about, helping the students come to campus and start living the life of a college student.

(Moderator 1) So if there is a technology change—all of a sudden we're-we're going to start using SharePoint or something like that—how are those communicated to employees in your department or unit? So does an email just go out? Is there like, you know, a whole training session put together, or is—does anybody know? Does it just happen?
[all laughing]

(Participant 1) Our press is—we have about 40 people and about 5 people in IT, so we usually get an email if something's changing, and then there's usually—if it's a big thing, then when this Lync phone call thing happened, I think—one of the guys in our [unintelligible]—it was optional, you didn't have to go to it, I think you could figure it out on your own, but there was an opportunity, and the-the people in our IT department are pretty much go-to for any technological question, whether it's like "Uh, my printer's not working," or "I'm trying to do something on WordPress and I can't figure out a code," so they're pretty much our go-to people, and that's how they implement a change.

(Moderator 1) So email?

(Participant 1) Usually email, and then follow-up with like an Outlook reminder of "We're going to teach you in the conference room at this time."

(Moderator 1) Okay. Well they're going to give you training, so that's good at least. I mean, they're offering—

(Participant 1) For big things, yeah.

(Moderator 1) Okay.

(Participant 2) I think it depends a lot on scope, how big a change it is. I mean, if it's a more minor—perceived as minor change, it may just be [inaudible], but if it's a more major change, they may bring in key stakeholders and do some—not a focus group, but some work with them individually to get them familiar with it. We depend a lot on people out in the different areas being like the go-to people if there are problems, so we make sure the go-to people, uh, the holders of knowledge in those different offices are-are, uh, trained up so that there's—so that spreads out a little bit more. Like Lync, we had—we sent people to the massive trainings that they were doing through [department], because that was required.

(Participant 5) We would do a—create a [unintelligible] I don't think it would work if we just said "Oh, this is what you're going to use," because people have too many workarounds. They'd just never bother to use it. I [unintelligible] to replace our current system, and that's been going on for a little over a year, and if you'd asked the people when we first started, they'd say "Absolutely no way are we going to change. It's too much work, too much time," and now because of the—I'm not going to say constantly selling it, but constantly understanding where we are, where we can be, where we need to go, that we had buy-in across the board saying "Yeah, we know it's going to be a pain for a period of time, but we're all in this together. We're going to move forward and get the new system." So that's over a year to d—to get—[unintelligible], but people understand we've got to go in this direction; there really is no choice.

(Moderator 1) For Lync?

(Participant 5) No, this was for—we've got a database management system we're replacing, but Lync was—that was—in our office it was trivial, but you know, take away my phones, "Oh, here's your new phone," and okay it works, I don't care, right? And actually it's kind of nice, because you can just look at somebody's—you know, their [unintelligible] and it calls them automatically, and you don't even have to dial a phone anymore.

(Moderator 1) So how do you think your workplace experiences affect your acceptance of SharePoint specifically in the workplace? So kind of based on these experiences that you talked about and the way that you perceive—I mean, how does that affect your acceptance of SharePoint in your—or how would that? Maybe for the ones that don't have it, maybe that would be, you know—

(Participant 4) For me personally, to accept something and use it, I would have to be taught, I would have to have somebody show me "This is how you do it. This is what it's for. Here's a class you can go to." I'm a little bit more hesitant to-to use something new than some people.

(Moderator 1) But your workplace learning experience seems to have been pretty positive based on what you're saying, so—

(Participant 4) Yeah, so there would be someone there to do that.

(Moderator 1) So you might accept—do you think you might accept it easier because you have a perception that "Hey, they are going to provide me some training. Hey, if I need somebody who needs to know how—you know, knows how to do it, they'll let me…" does that make you feel more comfortable?

(Participant 4) Yeah, yeah. Yeah, I would need that support from—

(name) Okay, I'm going to lock you in.

(Moderator 1) Okay.

(name) You can get out, but you can't get back in.

(Moderator 1) Okay [laughing] Thanks [name].

(Participant 4) So yeah, yeah, it's the support base that makes it easier to accept and [inaudible].

(Participant 1) I think that the only thing that would make me maybe react negatively to a new technology being introduced is if it doesn't end up being purposeful. So I'm pretty game to try anything new, and like if you give me a—like you said, looking things up on Google, it's amazing what you can find. "Make Excel do this!" [laughing], and so, you know, I don't know that the integration process would be the problem, just if it ended up being more cumbersome than our o—our previous process or something. That would be the only thing that would make me not accept it.

(Moderator 1) So I know we've kind of touched on this too, but so to what extent do you think workplace learning plays a factor in acceptance and use of SharePoint on campus? I mean, do we think that it plays a factor, yes or no, workplace learning?

(Participant 3) I think it does, because in my opinion SharePoint can be overly-complicated, so if there's not good training and awareness of what you're taking on, it becomes a barrier.

(Participant 5) [unintelligible] If the site's not set up right, it can be a real—it can be a mess.

(Participant 3) Or if it's not set up at all.

(Moderator 1) Right, right.

(Participant 2) But ideally, if you set it up it'd look just like a webpage and nobody'd know.

(Participant 3) I'd be perfectly willing to work in a SharePoint environment if I had—behind it I had the support of everybody running it. I was trying to get it instituted there, and—but unless you have that support, it's useless. It's a—it's—you have to have that behind it, the structure to make it work. If you have that, it can be very [inaudible].

(Moderator 1) And if you had that structure and you had that support, your workplace learning environment you think would—

(Participant 3) Well I-I learn [unintelligible] if I see something like that [unintelligible] probably read three or four books on SharePoint when I was trying to get it going, and was online studying it, and so I—I don't like sitting in workshops [laughing]—

(Moderator 1) Right, I'm a book learner too, so I know [laughing].

(Participant 3)—so that's—that wouldn't be an issue for me. I—it would be for, you know, there are people that need a workshop, that need to sit down and go through step by step and here's how you use this, but I think—I don't think that's insurmountable if you have properly-designed SharePoint site. If you don't, then you have an awkward, uncomfortable user system. If it's not well-designed, it's [inaudible].

(Moderator 1) So let's just go onto the last section, user acceptance of knowledge-sharing technology. So describe how knowledge sharing takes place in your department right now. So, um, like we've touched on a little bit, file shares I guess, you know, IM through Lync. I mean, do you have—and I know housing has some in-house training you're talking about. Is there any other ways that we haven't talked about?

(Participant 2) We use a wiki too.

(Moderator 1) Wiki, okay.

(Participant 2) Which I have a hard time differentiating from a SharePoint type thing.
[all laughing]

(Moderator 1) I didn't hear that! No [laughing]

(Participant 2) Is it a collaboration tool or is it a wiki or is it SharePoint? I-it's all those things, it's just—

(Participant 5) [unintelligible] SharePoint.

(Participant 2) Yes you can! [unintelligible]

(Moderator 1) You can.

(Participant 4) In our office [inaudible] occasional answers on "Here's what so and so does," and, you know, "These reports that we're working on [inaudible]" So with knowledge-share—I think a lot of it is person-to-person more so than…

(Moderator 1) Than d—is it—is it—I guess, yeah, I should say, I mean, do you think that it should be more readily documented, or is it kind of "When [Participant 4] leaves, [Participant 4] just took everything with her," you know, kind of a thing?
[others laughing]

(Participant 4) When I left, when I was getting ready to leave, my boss was like "Okay, write down everything you do and how you do it."

(Moderator 1) I do think that that typically happens a lot in-in departments.
[others agreeing]

(Moderator 1) Okay.

(Participant 5) Yeah, we have someone that's been with the university for about 27 years and handles all—she's handled all the intricate issues that we have, and if there's a problem—you need to learn something, go to her, and she's retiring at the end of April, or end of May—

(Participant 2) I was going to say, 27 years—

(Participant 5) Yeah, I mean, you can't replace her, right? None of that information was ever recorded; there's no place to get it out. So, you know, when she goes, when she walks out that door, we're—all that corporate memory, that—all that how to do things is gone, it's gone.

(Participant 4) Unless you can [inaudible], but yeah…

(Participant 5) You know, you're not—yeah, 27—that's the biggest thing—

(Moderator 1) [Participant 4], we can't remember about last week [laughing]

(Participant 1) It's true!

(Participant 5) It's not setting up the database, it's getting the content. It's the content that takes the time and the energy, and that's the expensive part.

(Moderator 1) I mean, that's the number one thing you'll hear about projects when you're running a project—you don't have time to do all the documentation, right? You know, it's just—and then by the time the project's complete, you don't really remember everything you did, you know [laughing] even though we try really hard. And so it's hard to keep track of all that. So if you were to say what is, um, maybe not [Participant 3] [laughing], but what do you like the most about SharePoint? What do you like the least? Just maybe one thing, if you were to pick something that you would like the best out of SharePoint…

(Participant 5) I like the ability to set up your own personal webpage in SharePoint so you can share it with your colleagues.

(Moderator 1) Okay.

(Participant 5) And so if I wanted to promote, you know, some new technology or search tool or something like that, I could put it on this site and let people go, the people who are interested, go there and use it. Right now, could send an email, they lose it, they forget about it, um, it's a problem. I have users that, um, are part of the, uh, patent search tool that is a subscription base, so it's a password and log-in. what I'd like to do is rotate it every six months, and if I had a SharePoint site I could do that, let them see it, [unintelligible] change the password, the right people can get it, and people who have suddenly gotten it, you know, through—those things get out, that we changed everybody's access [unintelligible]. So it'd just be a really simple way of administering this stuff.

(Moderator 1) Mm-hm. What do you like the most?

(Participant 5) It's—I like that it's, you know, kind of out-of-the-box. It's simple to tie in in a Microsoft-centric office. It's simple to tie in and get some use of it out of the box. And the flip side to that is to make it really something useful and engaging for people, the cost of doing that is too expensive, either in expertise or in time or developing your own expertise, because if you become a SharePoint expert, um, you can make a lot more money in other places very quickly.

(Participant 2) [unintelligible] I mean, industry does not have enough SharePoint resources, and they will pay you for it, so developing it in higher ed is kind of a challenge. I mean, we do have plenty of people who want to be in higher ed because they want to be in higher ed, but it is a—it is a…a resource worth money.

(Moderator 1) That's a really good point. That's a really good point, yeah. So kind of in general, what barriers have you encountered trying to use technology at work, just in general? What kind of barriers do you run into just using technology? Doesn't have to be SharePoint?

(Participant 4) Time to learn the new technologies. Um, [inaudible] like you were saying, the support behind the technology sometimes is not always—

(Moderator 1) Like the buy-in, kind of the buy-in.

(Participant 4) Yes. Um…

(Participant 2) Are you asking on a personal level or an observation—?

(Moderator 1) Either one.

(Participant 2) Yeah…my observation is using technology at work, particularly on this campus, is the focus on implementing new technology is based on the stakeholder that's implementing that technology and not as much on the [unintelligible] user and its impact on them. So the holistic discussion of how to roll this out there and how to make it useful is rarely—rarely occurs, and uh, there's any number of examples we could talk about.

(Moderator 1) If you want to share any, you can. It's up to you.

(Participant 2) Well, I mean, uh. I'll take TEM for example, which was, you know, probably a really good tool for, uh, aggregating all the information about what this campus spends on traveling, which is a valuable thing to do, but it doesn't have anything to do with whether, you know, as a faculty member or a staff member it's easy for you to get your money back when you spend money on travel or food—the process you need to follow to have the campus pay for it. So it was focused on gathering information, the aggregation of that information and a tool to do that effectively. That was focused on the business angle of what that tool was needed for as opposed to how does it serve the overall population.

(Participant 4) That's a good example, because in our office, um, our secretaries [name] and [name] and [name] have gone and learned how to use TEM, whereas the rest of us kind of just were like "Okay, here, you can do this. Can you do this for me now?" [laughing] you know, and they've been wonderful and offered to help us learn how to use it and do it.

(Moderator 1) Because the technology's too clunky or because you couldn't take the time to go learn it in addition to them?

(Participant 2) Clunky is a good word.

(Moderator 1) That's my definition, I would say.

(Participant 4) And because we spend—I mean, for me personally, I go to two conferences a year, so the time it would take me to learn it and to remember it each time far outweighs the usefulness [inaudible].

(Participant 2) It doesn't facilitate, um, you doing things right. It actually helps you go down paths that mean you have to do things over. That's been my experience.

(Participant 3) I think university-wide, uh, I got involved in an attempt to bring better technology to the university in the area of grants and proposals and that sort of thing, and we did this massive RFP and we spent lord knows how many hours on each project, efforts on getting companies in, and declared it incapable of being done, uh, and the reason really that it became incapable of being done was we failed to find a way to make things more uniform across the campus. We were so worried about each, uh, faculty member's thing that they need or want or think they need, that we can't design a system that meets everybody's needs, because they're too—it's too absurd in terms of programming—programs and all, it's all about, you know,[inaudible]. So that, I think, has blocked us from having anything even remotely seeming like a good grants and funding technology system on this campus, and it continues to, even though it's being constructed once again, sort of. Um, I just think that failure to find uniformity, to-to be able to define a system, uh, blocks more technology on this campus than anything else. So we end up using—everybody's using FileMaker Pro or Access or little local databases and things because we can't—we can't get things to tie together, or when we do, we end up building the data warehouse, which is sort of similar to like taking a forklift and just piling a bunch of stuff in an old building and saying "Go find it," because the labels are all a mess, and the columns aren't identifiable, so we just don't have uniform system.

(Moderator 1) Right, and I mean, I think that's what is probably a difference between higher ed and-and, um, corporate.

(Participant 3) Oh yeah.

(Moderator 1) You know?

(Participant 5) Oh yeah.

(Participant 2) Can't afford it in the corporate sector. We value our decentralization here very highly, and for now we've been able to afford to. In some areas we have not been able to afford to—Lync is a good example where we decided we can't afford that anymore, and here's what we're going to do about it, and other people went kicking and screaming with that too. But it's hard—

(Participant 3) [unintelligible] put kind of a familiar [unintelligible] "I'm taking this old Bakelite phone away from you and I'm handing you this new plastic one that looks really similar and you can still pick up the thing and, you know, if you want a headset you can look funny, but you can have something that looks like your old thing, that dials like your old thing." So that, you know, that was really a minor shift for most people. It was a tremendous IT shift, you know, but for most people it was just a phone, and it still is.

(Participant 5) I forgot about that. Yeah, we had the option headphone or phone, [unintelligible] "No, give me the phone."
[others agreeing]

(Moderator 1) Yeah, I took a phone too.

(Participant 4) I found out, because at the time my dog was sick, and Vet Med down at [city] campus was very very unhappy with the implementation of Lync because they're a call center for—and they take lots of calls all at the same time, and Lync is—the implementation of Lync that was being done had trouble with that. They kept losing calls or things like that, and so…

(Participant 3) I know some people that were very happy. I had one professor [unintelligible] say he was very happy about Lync because it allowed him to not sign on, and therefore he no longer had a phone number that could work, and he was thrilled with that because he didn't want anybody to get a hold of him.
[all laughing]

(Participant 3) [unintelligible]

(Moderator 1) Or the people that put "Busy" on all day every day. I'm like "Seriously?"
[laughing]

(Participant 5) [unintelligible]

(Participant 3) It shows him still unknown, and you can still see in there and it says "Presence unknown," so he's never logged in.

(Participant 5) You know, the biggest thing I've had about the lack of a standard is that then you have everyone using the free stuff, right, so this one uses that, this one uses that, and so you have to—now you have to create a login ID for this one and this one, and different passwords, and it's just like "Just let's use one…"

(Participant 3) It's not even free stuff. I mean, you're spending money—this-this unit spends money to develop this thing and this unit spends money to develop this—and it's all the same thing and it can all be one thing, and we just don't—can't figure that out.

(Moderator 1) Just a couple questions left. So, um, what we've—again, by the time we've gotten to this point we've kind of, because of the conversation, touched on some of these, but what barriers have you encountered in terms of getting the technology training you want or need? I know we've talked about you just buy a book or you can go onto Google or…something's falling in the window [laughing]
[unintelligible conversation]

(Moderator 1) I think sometimes animals get in.

(Participant 5) Maybe a raccoon, I don't know.

(Moderator 1) Yeah [laughing]. So are there any other kind of barriers, maybe funding, maybe…?

(Participant 2) Cost.
[agreement from others]

(Moderator 1) Yeah. I mean, that's the first thing that would probably come to mind, of getting a—do you feel like there's anything on a personal level that why you might not get any kind of technology training?

(Participant 5) I think it's the—just the-the concept of just-in-time training, you know, "I need it now and can I get it in that time period? If I have to wait—if I need to do something [unintelligible] I've got to wait two years to get the training; that's not going to work.

(Participant 2) Inertia. I mean, I have staff that we-we planned for training funds for, but it is somewhat dependent on them to determine what they need, what they feel like they need to pursue, and they don't—they don't push, they don't say "This is what I'm going to do," so they don't get it.

(Moderator 1) [laughing] Well they can't [unintelligible], that's a good thing. Do you see SharePoint as a useful tool for knowledge sharing for departments? Why or why not? What are

the challenges? Do you think it's a useful tool for knowledge sharing, or is it more of a document repository?

(Participant 2) Can be.

(Participant 5) Well it can be a great tool, it's just we don't have access to it—

(Moderator 1) Okay.

(Participant 5) –in the functional realm.

(Moderator 1) Okay.

(Participant 4) Well, and our office is—they're digitizing a whole bunch of documents, a bunch of our old, old documents, and I don't know if, you know, SharePoint would be a good thing for them or not. It sounds like it would be, because then you could put them all in this one place and then everybody could have access to them, but I don't think [inaudible]—

(Moderator 1) Well it depends on if you're looking for historical kind of archival, or if you're really wanting some documentation—you know, it depends on what your definition of knowledge sharing is, right?

(Participant 4) Right.

(Moderator 1) Um, and what factors do you think influence whether employees adopt and use SharePoint as part of their job? We talked about having the support and having somebody in the [unintelligible] when you had the questions or to set up the-the environment. Um, are there any other things that we haven't talked about that you could think of that might be factors?

(Participant 5) Yeah, I think it'd have to be easy to use, and it's got to be more effective than what they're currently doing, otherwise they won't [inaudible]—

(Moderator 1) Show them some value, right?

(Participant 5) Yep, yeah.

(Participant 4) And how much they would have the need for it. I mean, if-if all you're doing is, um, let's say entering data, like accounts receivable or something like that, that was your job, would you have a need for SharePoint or for the knowledge sharing software [inaudible].

(Participant 3) I think the two most driven training responses I've seen are the ones where [unintelligible] A, you get the email that says "This will no longer be supported, and it's going to shut down on, you know, April first, so between now and then you have three opportunities to figure out how to use this one," or like you were saying, you have an old decrepit thing that keeps crashing or losing things or becomes really awkward and unmanageable, and they begin—people begin to feel like "Anything's going to be better than this," so you can—you can hand

them just about anything and say "This would be better," and they'll learn it, but I think—I think those are the two most forceful occasions for people to seek training.

(Moderator 1) Is there anything else that you'd like to share, anything that maybe I didn't ask that you think might be relevant to-to the study?

(Participant 2) I'll just repeat that I think how it's set up, um, has to be accessible to different types of individuals. So if you're using it as a collaboration tool, it has to fit—it has to be set up so that it fits the mode of collaboration and the—and the styles of those individuals, because if it's not, it'll become a barrier rather than a tool.

(Moderator 1) Mm-hm. And you're meaning based on an individual—an individual level, or like on a cultural, organizational department level?

(Participant 2) Yeah. I'll just give you an example—we collaborated on our website redevelopment, which was across the organization, and we used a third party to do the development, so the whole group used Basecamp, which is a Web 2.0, easy to use, lightweight collaboration tool, and it got pretty good engagement because it didn't feel like you were going in and creating a Microsoft project plan to use it, right, or a spreadsheet to use it, and so it fit better that-that creative mode that we needed to be in to develop that website. If we had tried to do that with SharePoint kind of out of the box without devoting a whole design person to making the collaboration site feel that same way, it wouldn't—it would have been more like you're reading a spreadsheet, and it wouldn't have been a creative environment.

(Moderator 1) Okay.

(Participant 5) I was kind of curious about you picking a topic of SharePoint and learning, and I just thought it was an interesting—

(Moderator 1) Right, so—

(Participant 5) –connection. I had to scratch my head [unintelligible] understanding what my— what my experience with SharePoint here at the university, as I just didn't quite get the connection.

(Moderator 1) I think I—I'm curious to see what my results are going to show. Um, because it's a higher ed environment, it's a little bit different culture, a little bit different climate, whereas if I did this in a diff—you know, a different scenario, I think some of the digital equity and workplace learning might show something different. I don't know, I mean, I'm just—

(Participant 2) Go over and interview [unintelligible] about their SharePoint [unintelligible] and see—I don't know if they have—

(Moderator 1) Oh yeah, I don't know, [unintelligible]—

(Participant 2)—I mean that's a local, medium-sized company, may use it as their tool.

(Moderator 1) Yeah. I think that, um, my research has shown that there are digital equity factors that do impact peoples' use of technology. Now, nobody has—that I know of, I'm the first person looking at SharePoint with these variables, so it'll be interesting to see how it, um, all plays out. So I'm excited to see. I've had really good response, so that's helpful.

(Participant 5) I kind of figure [unintelligible] use it regularly, because that's where these files are. We don't have the—we don't have the equity, we don't have the access to use it the way it could be used.

(Moderator 1) Right, and I don't know if I would have, maybe if I hadn't been involved with the SharePoint and the shared service across campus if that would have been the technology or the route I would have went for my research, but it's kind of interesting—I'll take my hat off, my dissertation hat off for a minute—and just thinking of the shared service, just talking to all of you and seeing the problems with shared service as-as a general—it's interesting for me as an employee here, um, which…I think the shared service was trying to build that infrastructure and build that support model, and obviously hasn't reached out as far as it should go. So it's a—and I know we talked with you a long time ago and things like that, but it comes down to some of the things we talked about—resources and time and all that. So, but yeah, obviously I'm a SharePoint fan, so [laughing].

(Participant 4) More people might want to use it if they know what it can do. I had no idea even what it can do other than as a—

(Moderator 1) Well there are, just to give you some numbers, there are 180 units or departments across all three campuses using the SharePoint shared service, so there's a lot of people on campus using it now. To what degree, obviously it's very varied—it's varied. A lot of its document repositories, you know, a lot of just file shares, but there are a lot of people using it for some pretty complex workflows too. So it's-it's quite the range of use, so… Well thank you everybody so much for this. I'm going to turn the recording off here.

Focus Group Session Two: March 18, 2014

(woman) [unintelligible]

(Moderator 1) Oh no, that's fine. Okay, I think we'll go ahead and get started. [unintelligible], can you shut that door? And you have to kind of—not slam it, but it'll—it has to like catch, yeah, otherwise it, just like a ghost, opens slowly. So we are being recorded, so does someone—I think it said that in the consent letter, but so this little mic here, so if you can talk loud when you talk, because that's as far of a stretch as I have. So we do have one to two people calling in from [university], so when I see that they pop in on Lync, I'll make sure they can hear us. Right now I can't test it, so hopefully they can hear okay. Um, I do have some sheets of paper in the center, not the little squares but the bigger sheets. If you want to take notes on any of the questions if it helps you to—you know, when I ask a question if it helps you. Um, that's something that came out of the last focus group that was helpful for people, if they needed to write some things down. The little squares are for if you want to enter into the drawing for the additional $99 card at the

end, you can fill out those, so… So thank you everybody for coming. So I don't know everybody here, um, so I thought we could go around and just introduce like our name and what department we're from. So I'm [Moderator 1], and I'm at the [college]. I was at [department], but I've been at the [college] now for about almost a year next month, so…

(Participant 1) I'm [Participant 1] [unintelligible]; I work with the [department].

(Participant 2) I'm [Participant 2] [unintelligible]. I'm a postdoc in [department].

(Participant 3) I'm [Participant 3] [unintelligible]. I work with the [department].

(Participant 4) I'm [Participant 4]. I work with the [department].

(Participant 5) I'm [Participant 5], and I'm with [department].

(Moderator 2) And I'm [Moderator 2]. I'm also a doctoral student in [department].

(Moderator 1) And [Moderator 2] is my co-moderator, so she's the one that's going to be taking all the notes, in addition to us recording it, just in case if that doesn't pick everything up [laughing]. So just kind of some guidelines for the session—there's obviously no right or wrong answers. I'm really looking for your opinions, whether they're negative or positive; I encourage any kind of feedback. Um, the—as a moderator I just want to try and encourage all of you to talk amongst each other, kind of get some conversations flowing. It will probably take the full 90 minutes; the first session did anyway. We have quite a few questions to go through. So just to kind of give you a little bit of overview on my project—so the title might have given you a little bit of idea, but it's still—I had several questions about "What does that mean exactly?" So I'm looking at how digital equity and workplace learning influence a user's acceptance of a knowledge sharing technology in the workplace ,and I'm primarily looking at, uh, the workplace being higher ed, since this is where I work, and the knowledge sharing technology as SharePoint, primarily because SharePoint was rolled out as a shared service across all three campuses about a year and a half ago, and I was also involved in that project, so it just kind of made sense to do my research on something kind of along what I was doing in my everyday work life. Otherwise it would have been really crazy [laughing]. So I have two definitions for digital equity, if you weren't familiar with what that means. It is "Everyone in our society has equal access to technology tools and has the knowledge and skills to use them." So you might be familiar with the term "digital divide," where it's people who don't have access to computers and they give a lot of kids like laptops and computers to kind of bridge this digital divide. Digital equity is kind of the next step past that, so you might have these tools but you don't know how to use them; you don't have the knowledge or the skills or access to them. So it's a little bit of a step past digital divide, just if that helps you understand what digital equity is. Um, workplace learning is "all training and development activities related to the workplace outside of formal education," and when I'm talking about formal education in my research, I'm talking about K-12. So when I'm asking about your perceptions on workplace learning, it's any kind of education or training that you've gotten since K-12, after you were out of those school years. So those are the two factors that I'm looking at and how they influence, um, somebody's acceptance and use of SharePoint in the workplace. So the focus group questions are split up into that same kind of

categories. I have questions on digital equity, questions on workplace learning, and then questions on knowledge sharing technology, so split up that same way. Oh, hold on, sorry, there's a Lync problem. Gotta love Lync right? Give me a second. I'm going to hang up and go back into call; give me one second, sorry about that. It lost the connection or something. Okay, we're back on but there's still nobody on the call, but it lost the connection, so…

So I'll just start with the first question. It has multiple parts and, um, but you can hit any part of the question that you want, answer any part or don't answer. Hopefully you do, but [laughing]…So we're talking about digital equity. So in what areas and to what extent did you have access to computers in K-12? So like how were computers or internet used in the classroom in K-12? Did teachers use them? Students? How were they used, for what subjects, and do you think you had sufficient access to these tools in K-12 if you did have access? Um, so I guess first thing is to what areas and to what extent did-di any of you have?

(Participant 1) It didn't exist.
[all laughing]

(Participant 2) Pretty much.

(Participant 1) We are apparently old.

(Moderator 1) No [laughing].

(Participant 4) I actually took typing, Typing 1 and Typing 2, on a correcting Selectric, so that was the extent.

(Moderator 1) Yeah. Did any of you have computers?

(Participant 5) I remember the days of the Apple 2 E's in elementary school, Oregon Trail. Um, when I got into high school I had the opportunity to take a Pascal programming class. I did not take that, um, but for—I was in newspaper, and so we did all of that on computers. There was, uh, internet access, but it was pretty limited, um, but it was pre everybody had an email address from school, so—but we always had access we needed. It was not heavily integrated into all of our classes though.

(Moderator 1) I was going to say, did any of the teachers use it for any kind of teaching, or…?

(Participant 5) Uh, certain teachers did, but not a lot.

(Moderator 1) Okay.

(Participant 3) We had computer labs. We would use it for word processing. Uh, we were not able to do research on them yet. The [unintelligible] was still pretty new. Uh, [unintelligible] basic programming. Actually, it was BASIC.
[others laughing]

(Participant 3) The teachers didn't know how to use them. Teachers had one, usually for grade book entry and attendance, but they didn't use it to do any lecturing or anything with it.

(Moderator 1) Okay. What about at home? Did anybody have access?
[unintelligible]

(Participant 4) My father had a PC and a [unintelligible] floppy disk, [unintelligible] hard drive, and I did write term papers on it in junior and senior year of high school. And [unintelligible] come over here to the U of I and get on Keynotes, play with [unintelligible]. I'm really dating myself now [laughing].

(Moderator 1) I'm right there with you [laughing].

(Participant 1) We had access through CompuServe. I mean, I remember at home dialing into CompuServe for homework and getting access to encyclopedias and all of that kind of…

(Moderator 1) Okay.

(Participant 2) I had one growing up, had dialup access [unintelligible] in junior high.

(Moderator 1) Okay. So how well did these experiences, for those of you that had computers in K-12, prepare you to use technology? Or do you think it…?

(Participant 1) Well [unintelligible]…I certainly was more prepared to use them for research and typing papers than the people who—it was the shift from people who were used to typing on a typewriter to people who were used to word processing on a computer and doing all of that, and yeah, I think that made a difference.

(Participant 4) I think it definitely helped me to have had the experience working with it, being able to use basic word processing on a PC. I got a job working at NCSA when I was in college, so that's where most of it came in for me.

(Moderator 1) Oh okay, so after the K-12, into your secondary—

(Participant 4) But the fact that I already—I knew at least basic stuff. I mean, this was still, I think, '86 I think is when I started working at NCSA, so things were still very new, you know. We were using Apples.

(Moderator 1) Right. Anybody else?

(Participant 2) I think I took like a summer class in—before my junior year, and that was a little bit of like, uh, you know, word processing and spreadsheets and computers, but I didn't have a PC at school until like sophomore year of college, uh, but I don't think it held me back or anything. Because nowadays I spend almost all of my time on the computer.

(Moderator 1) [laughing] right.

(Participant 2) So either, you know, like an actual laptop or, you know, phones, which are also computers, or tablets. So I'm pretty tech savvy, I think, right now, so…

(Moderator 1) Okay. So in what areas and to what extent do you think gender, race, socioeconomic status and/or computer experience impact your adoption and use of SharePoint in the workplace, and do you have any examples? Or have you thought about it [laughing]?

(Participant 2) [unintelligible] affected my use of SharePoint, because I had no idea that SharePoint was a resource available. Nobody else around me uses it here, so it's never come up, so…

(Moderator 1) Okay, what about technology, collaboration technology in general?

(Participant 2) Right, right, yeah, exactly. So we use other kinds of technology to collaborate, because like Dropbox or Box.net, uh, with some of my friends I use more advanced stuff or more geeky software like [unintelligible] or SVN. Uh, we have our own servers for collaboration and stuff like that. Uh, that stuff might be affected a little bit by gender. So my current advisor is a woman. She has like a, you know, shared server for the lab and stuff like that, but it's not super sophisticated, but my previous advisor who was a man had—but he was also—I don't think that was the only contributing factor. He was like a super geek, so he had set up his own server and website and all that kind of stuff, but it might partly be gender, I don't know. But yeah, so I don't know on the topic of SharePoint, but uh…

(Moderator 1) No, that's okay.

(Participant 2) I think, uh, other collaboration technologies, it does seem like sometimes that men are more likely to use it than women, and I'm sure socioeconomic status matters, but I don't have any specific examples of that being the case.

(Moderator 1) Anybody else have any ideas on—

(Participant 4) My experience with using SharePoint is based solely on projects. If it is a tool that is being used for a project, then I use it. Um, I use a number of other tools as well, like the wiki or Box or Dropbox or, you know, the web, Excel, I mean, any number of different things, Lync. I don't think it has anything to do with, uh, with gender or race. I think it—in my case at least it's work-driven. It has to do with what job needs to be done and what's the best tool to accomplish that job.

(Moderator 1) Okay.

(Participant 1) Maybe getting a bit to the socioeconomic, I think—not just in my experience, but watching people—people who have had just generally more experience with computers, which often tend to be the higher socioeconomic class, tend to be more comfortable, where—and they don't mind poking around, because maybe they know they're not going to completely break things, or they know generally how stuff tends to work. I mean, I don't—I use SharePoint for

projects, I use SharePoint to submit requests for expenditures at work. I don't use it outside of that, but if I log into SharePoint, I know generally, you know, if I see a little triangle next to something I can click on that and it's going to drop down. People who haven't had the exposure to computers or to different kinds of collaboration things get nervous about "I don't know what this means. I'm completely lost in this environment," and-and some of that's just a comfort, and with more exposure comes more comfort, and with higher socioeconomic class you're more likely to have been exposed to all of these things.

(Participant 4) I think it also—it definitely has to do with age as well.
[others agree]

(Participant 4) And if you get to people who are, say, 10 years older than me, then you're going to start finding more and more discomfort with technology as a whole. You get into, like my mother in laws in her mid-80s and can't even figure out how to do voicemail on her cell phone, you know, and that's okay, but that's just the way that she is, and she's never going to learn how to do it.

(Moderator 1) Right.

(Participant 4) So, it's-it's—it is definitely a learning curve, and exposure has a lot to do with it, you know, and I'm also in the position where I can hand my kids my phone and they can do 50,000 things with it that I never knew were possible, so…

(Moderator 1) Right, and we work in IT, right [laughing]—

(Participant 4) Right, [unintelligible] exactly [laughing].

(Moderator 1) Believe me, I feel that everyday myself. It's like "I should know this, but…" Right. So how do you typically use the computer at work, and has access to computers at home, again, impacted your learning at work? So how do you typically use your computer at work right now? What-what kind of things do you do?

(Participant 3) Everything?
[others agreeing]

(Moderator 1) So I mean, that's fine if that's… I mean, you're attached to it like everyone—

(Participant 2) Yeah, basically. I mean, if I'm not in the lab I'm doing stuff on the computer, looking up literature, writing stuff down, you know, emailing people, checking Facebook [laughing].

(Moderator 1) Shame on you! No [laughing].

(Participant 4) Scheduling meetings.

(Participant 2) Yeah.

(Participant 4) Collaborating on work.

(Participant 2) Yeah, all kinds of collaboration stuff is pretty much through the computers, so yeah…

(Moderator 1) Okay.

(Participant 4) Having meetings, talking on the phone.

(Participant 1) [laughing] Talking on the phone.

(Participant 2) Video conferencing, yeah.

(Moderator 1) Especially with Lync now.

(Participant 4) With Lync, answering the phone, yeah.

(Moderator 1) Right. So do you have access to use SharePoint at work? If so, what type of access and what do you use it for?

(Participant 5) Within [department], we submit our requests for expenditures. If we want to buy something, it goes to SharePoint, and then the [department] [office] does their magic, and a couple days later we get whatever we ordered.

(Moderator 1) Okay.

(Participant 4) I also use it for projects. It's a document repository, and we use it as a collaborative space to work on documents together, to sort documents by project. Um, the [office] has all of their templates and everything stored on SharePoint site, so anytime you start working on a new project you have to go in there, and that's where you put your—

(Moderator 1) Is it a mandate to use it?

(Participant 4) Yes, that is the tool that they chose to use.

(Moderator 1) Okay, okay.

(Participant 4) So that's where everything is, and that's where all of the documentation for any project will live, essentially, so requirements, documents, reports, evaluations, all of that stuff.

(Moderator 1) Okay. Do you use it [Participant 3]?

(Participant 3) Currently we don't. I did use it at a different position on campus, and then we used it primarily as a cloud server and to help manage schedules a little bit.

(Moderator 1) Okay.

(Participant 3) We would also sometimes use the share schedules in Outlook, but we had a couple satellite offices that didn't configure well, so we would use SharePoint's calendar for that as well. Currently we use Box instead of SharePoint for our private collaboration.

(Moderator 1) And you're not using it?

(Participant 2) No, no, nobody around me uses it, and I never have even considered using it, I guess, so…

(Moderator 1) Can you expand on why not?

(Participant 2) Uh, I don't know why anybody else doesn't use it, but I think it's just a matter of, uh, Dropbox or Box or the department servers providing file hosting services, being older, being available previous to SharePoint being available. So since those systems are in place, nobody has an incentive to switch over to SharePoint probably.

(Moderator 1) So pre-existing systems that—

(Participant 2) Yeah, I think pre-existing systems as well as sort of the non…I don't know, is SharePoint cross-platform? Can I use it from a Mac?

(Moderator 1) Mm-hm.

(Participant 2) Okay.

(Participant 1) There's some quirkiness with Macs.
[others agreeing]

(Participant 2) So I think for multi-operating-system labs it might be a little bit more difficult, so maybe that's why people haven't started using it, but I think it's mostly just inertia from being, you know, used to or being comfortable with existing systems and not being bothered to search for something else, because their combination of file hosting, either through Box or local file servers, and then email and, uh, whatchamacallit, calendaring through Exchange, that works well enough. So I don't know that there's any unique service on SharePoint that I'm missing that I— that would significantly improve my, uh, you know, uh, work, so…

(Moderator 1) Okay. So does everyone—it kind of sounds like the answer's "yes," but I'll ask [unintelligible] question anyway—does everyone in your department or unit have access to SharePoint, and how is that access decided? It sounds like there's some part of it's a mandate, so like everyone—but is there, depending on certain roles, depending on certain—is there any kind of rules around who has access?

(Participant 5) Different parts of the site are restricted, but generally everyone can log in.

(Moderator 1) And how are the restrictions decided?

(Participant 5) Uh, business roles. So in the [office] there are certain areas for purchasing that are locked down [unintelligible]. They also use SharePoint for some of our inventory of equipment. They lock down sections that—

(Participant 4) And generally the projects, you have to be given access to a specific project site. It's not usually a big deal to get it, but whoever the project manager is on a particular [unintelligible] will set up permissions for a group. I think—I think that it's easier—I know it's easier to see stuff than to get edit access.

(Moderator 1) Right, right. Okay. Do you think SharePoint helps share knowledge in your department here on the campus? Why or why not?

(Participant 5) In my particular group, what we have—within the—it's kind of within the [office] it's been very helpful. We used to have paper copies of stuff going back and forth, and then we couldn't figure out who had a particular paper copy. Well now it's all in SharePoint, and if somebody says, you know, "What was the total cost of installing wireless in [building]?" we have 25 people who can go and look and see what the total cost of that, so it's made the collaboration a lot easier within my particular groups.

(Moderator 1) Do any of you share—using kind of SharePoint site that's not just your department or unit, like a bigger umbrella? Just so that you could give me any kind of insight into campus-wide, if the knowledge-sharing is going on? No?

(Participant 4) I don't think so.

(Participant 1) I don't think so.

(Moderator 1) I was just curious.

(Participant 4) There might have been something in the past, but it's been—I've slept since then, so I don't really remember, I'm sorry.

(Participant 5) Unless another department has someone [unintelligible] one of our projects.

(Participant 4) I was wondering about the IT at Illinois. I think that at some point—

(Participant 5) It was on the wiki.

(Participant 1) Yeah, but I think at some point some of it was on SharePoint too. And that's the thing, is its very confusing when you have all these different tools. It's hard to remember which one…

(Moderator 1) Yeah, I'd agree with that.

(Participant 4) But that was a while ago.

(Participant 2) Yeah, I wonder if departments have sort of, as a department, elected not to use or not elected to use SharePoint, because for [department], maybe for [college] as a whole, we do like vacation logging or leave logging on their own web system, so maybe that's possible through SharePoint, that they have selected not to use. Expense reporting was something that you guys said was possible—

(Participant 4) It's just—well it's an RFE.

(Participant 1) So we used to fill out an Excel spreadsheet and email it to someone and they would place the order. Well now you get the Excel spreadsheet from SharePoint, fill it out and send it to an address which is attached to SharePoint, and then it automatically goes into a queue there, and they can process it and track it through there.

(Participant 2) So is that the same thing as TEM, or is this something different?

(Participant 1) This is different.

(Participant 2) And I've used TEM for like, you know, expense reimbursement kind of stuff.

(Participant 1) Yeah, this is different.

(Moderator 1) Yeah, it's different, because that's a financial expenditure kind of.

(Participant 2) Right, right.

(Participant 1) And that's a completely separate piece of technology.

(Participant 2) Right. And ordering stuff, whenever I've ordered stuff I've just emailed the person at the department who is in charge of procurement and, you know, just told them "Hey, this is the website. I need this much of this item, and use this, uh, you know, account number," and they magically do it, maybe through SharePoint, maybe not, I don't know.

(Participant 5) Yeah, we can't do that, because we have to track exactly what every new thing we order is being used for. We have activities-based costing, so we know if it was something for wireless, we have a code that's just for wireless. So when you fill out your request, it's very detailed.

(Moderator 1) So to what extent and how often do you encounter any obstacles when accessing SharePoint? For instance, we kind of mentioned some of the Mac things, so computer type, browser permissions, access…So do you have any examples or can talk about—

(Participant 4) I had an experience where at one point I had full access to a site and the next day I had none. That was really fun, and nobody could figure out why, but I just—yeah, it would crash every time I tried to do it. So that was probably an anomaly, but it was not fun.

(Participant 1) I've been told that it—I had an attachment I was supposed to send to a SharePoint email address, and they kept saying "We're not getting your attachment." "I'm sending you my attachment," and like "Oh, are you on a Mac?" It tends to strip attachments from Macs. Just send it to us on the side and we'll get it where it needs to go.

(Moderator 1) That's [unintelligible] workflow? Is that—you don't know?

(Participant 1) Yeah, I don't know. And also—and I think this is how they have it set up, but our RFE, uh, worksheet, whatever URL they have, when you click on it on a Mac it just errors out, and you have to trim off part of the URL to get it to download, and if you're on a Windows machine it's just fine, but on a Mac, yeah, you have to hop through some hoops.

(Moderator 1) 2013's supposed to be better, so they say [laughing].

(Participant 4) I find the navigation through a site difficult on SharePoint unless you know exactly where you want to go. Trying to intuit it is difficult.

(Participant 5) And I'm never sure how much of that is our SharePoint instance, that they don't do a very good job of documenting and sending out, like "Here's how it's organized. To do this, you need to do this," but it's very hard to intuit it. And as somebody who's alright in intuiting things most of the time, I find it not easy to navigate.

(Participant 4) Well I mean, I'm supposed to be a usability professional, right—

(Participant 5) It's true!

(Participant 4)—so this is what I'm supposed to know how to do. So if I'm having problems using a tool, I-I tend to think that there's an issue [laughing].

(Participant 3) I have problems updating new versions of a file. So if multiple people were editing the same file, going back, keeping track of those versions, SharePoint was supposed to make that easy, it seems like, but there was a lot of difficulty with that.

(Moderator 1) Were you using check-in/check-out?

(Participant 3) We were using check-in/check-out, making sure that it didn't override a file it wasn't' supposed to or change a name that it wasn't supposed to, and then [unintelligible] would go back, and we're supposed to be able to go back and look at some of the old versions, and that was a difficulty as well.

(Moderator 1) Okay. Okay, very good. Okay, so now we're going to shift to workplace learning, so shift a little bit. What factors enhance or constrain workplace learning? It could be individual factors like knowledge, skills, attitude, fear. It could be organizational factors—culture, training opportunities, um, technology acceptance. So which of these factors, or do any of these enhance or constrain workplace learning, and do you have any examples?

(Participant 5) Um, I think time is a factor.

(Participant 4) I was going to say time is the big one. It's so busy.

(Participant 5) Like if you're given a project, and "Okay, the deadline is two weeks from now, we're going to use SharePoint." If you have an extended period of time, you maybe had time to kind of go through and figure it out, but if you're like "I need to get this task done," I'm not trying to figure out this program; I'm trying to figure out how to do this task.

(Moderator 1) Mm-hm.

(Participant 4) I would absolutely agree with that, and often you don't even have that weeks' time, it's "Oh, okay, you're on this project now, and here, there's documentation on the wiki over here, and then there's other stuff over here."

(Participant 1) Maybe, maybe there's some—

(Participant 4) Yeah, maybe, and then there's more stuff over here on SharePoint, and boom, there you go. And yeah, if you've never used—and that's how I learned how to SharePoint, was trial by fire, right? That's how I think most of us learned most of the software we use, right? [affirmatives from others] [others laughing]

(Participant 5) This is the technology we use. Here you go!

(Participant 2) Service permissions as well. I [unintelligible], and if you have it locked down like [unintelligible] these two tasks, I don't even know anything else that can be done—

(Moderator 1) Okay, that's a good point.

(Participant 2)— [unintelligible] and that's it, and then you tell me later "Oh, it also does this," I'm like "Oh! How do we do that? How do I get access to that?"

(Moderator 1) Right, because if you only have certain permissions, you don't even know other things exist.

(Participant 2) And so some stuff like you guys are talking about with your expenses reports, can email to an address; I had no idea you could email to an email address in SharePoint and give a document, because that was never [unintelligible] to us.

(Moderator 1) Right.

(Participant 1) And I think it helps if you're kind of given a broad overview of "Here's what we're hoping to accomplish with this. Here's how we're using it," instead of just the "Oh, by the way, this is the technology we use. You're on this project, have fun."

(Moderator 1) So kind of along those lines, so how do you learn in the workplace, or how does your work group facilitate learning? So is technology used? Is there employer support? Do you prefer self-study? So just kind of in general, so how do you learn and how does your unit or department facilitate that, or do they?

(Participant 5) "Hey [Participant 5]! Can you come over here and help me, because I know that you've used this before. Can you come show me what to do?" or "[Participant 5] showed me how to do it. I can come down and show you real quick how to do it."

(Participant 4) Yeah, in terms of software there's a lot of that for sure.

(Participant 5) There's a lot of that within [department]. We just kind of teach each other. When we need to learn something we find somebody who knows how to do it and we ask them to come show us [unintelligible].

(Participant 1) "Quick! You're retiring; tell me everything you know about SharePoint before you leave."
[others laughing]

(Participant 4) I actually—okay, the group that I'm currently in was formed three months ago. It got formed like September, October, and it is called [department]. None of the people in this group had any quality assurance or quality control experience, so we spent the first there months studying, learning about quality assurance and quality control and the difference between the two things, and "How can we implement that as part of the process of improvement for [department]?" and all of this. And that was very intentional, and our management supported that wholly. I mean, it was "We need time to learn how to do this and get up and running," and now we're like moving—moved into the second phase where now we're trying to start to apply some of the knowledge that we've gained. Um, I would say that that is very unusual to have been given that opportunity to have that much time to study, and we did a lot of self-study, we did a lot of sharing, and we all read books and then came back and talked about it, read articles and talked with experts and a lot of stuff like that. And we are going to be getting actual formal training in July. Somebody's going to come in and do teaching for us. But that's—in, you know, 20 some years at the university, I would say that's the first time I've ever been given that kind of luxury of time to actually learn a skill before I had to be applying it.

(Moderator 1) That's great!

(Participant 4) Yeah, it's been very interesting. But generally it's "Okay, here, you're doing this now. Go." [laughing]

(Moderator 1) Right, right, right. So that kind of leads right directly into this next question—to what extent are technology changes communicated to employees in your department or unit? Is it "Hey, we have this new technology. Use it tomorrow." You know, or how do they communicate it?

(Participant 1) "We're rolling out SharePoint instead of using the old form. You're going to download the form from here. Make sure you download a new version each time you use it."

(Moderator 1) Do they send an email to say that usually?

(Participant 1) Yeah.

(Participant 4) Yeah. I think a lot of those decisions are—at least, at least within [department]—are done on a department-by-department basis. It's kind of done in isolation. They don't necessarily share those decisions throughout the entire organization.

(Participant 5) Until it's a reality.

(Participant 4) Until it's a reality. So it may be that, you know, like well one group is now using SharePoint for everything and everybody else is still using the wiki. That may well be the way it is, but for some reason this group decided they were going to do SharePoint, and that's the way it is.

(Moderator 1) What about either of you? How do—

(Participant 3) Well one, I'm in an academic unit. It's basically a lot of professors doing their own thing, and it's kind of whatever they decide to—what to do, or they hear someone say "You go do this," and you go do it. So there's no collaboration among—within the school about what we should be using. We will get an email saying that [department] at [college] has these tools available and you can contact them to know more about it, but there's no direction from above about what we should be doing.

(Moderator 1) Okay.

(Participant 2) Yeah, I think that's about right. I think each lab more or less operates as an independent unit, so there isn't necessarily a lot of like uniformity across, uh, individual labs about what technologies they use unless they're collaborating; then they need to scramble to figure out like, you know, what's the common technology that they can use to work together to like write a paper or write a grant, whatever it might be. But department-wide changes do need—do tend to get communicated. So we recently got an email a few weeks ago about the TEM system undergoing some change, and I didn't actually read the email so—because I didn't need to use it, so I'll probably, when I need to use it I'll probably try to look for that email or contact the person in charge like "Hey, wasn't there some recent change in TEM a few months ago? Can you tell me about that again?"

(Moderator 1) Right.

(Participant 2) So yeah, so that's mostly—but I mean, the department, I guess, the technology people do tend to do a good job of communicating if they are changing something. So recently something else changed, [unintelligible] XP stopped being supported.
[agreement from others]

(Participant 1) Not yet, but coming soon!

(Participant 2) Yeah, exactly, so that email went around a little bit. It was like "Oh, we're going to stop supporting XP. Upgrade to, you know, Windows 8" or whatever, which doesn't really concern me because I use Mac, but that email about—I saw that email so, you know [unintelligible] doing a decent job of like communicating the big changes.

(Participant 5) [unintelligible]

(Participant 1) It is! It is a win.

(Participant 2) Our lab recently upgraded from its old server or old like external shared hard drive to a new hard drive, or an old computer to a new computer, and you know, it's like there was a lab-wide email saying "Hey, you know, make sure you have backed up all of you data and, you know, sorted it and labeled it or whatever so that, you know,10 years from now if somebody needs to look at it and you're gone we can still make sense of what's going on."

(Moderator 1) Okay.

(Participant 2) So yeah, I think people do a decent job of communicating like major technology changes.

(Moderator 1) Okay. So how do these workplace learning experiences affect your acceptance of a knowledge-sharing technology in the workplace? So how does this—the way that these things that we've been saying or talking about affect how you would accept something new, or accept, um, a knowledge sharing technology in the workplace, or does it?

(Participant 1) I just kind of go with it. If they say we're using this, like okay, we're using this, I guess I'll learn how to use it.

(Moderator 1) Okay.

(Participant 4) I think it's, a lot of the time, it's like "Oh man, you mean I have to learn another tool? I have to remember another place where everything's stored?" I think that definitely happens.

(Participant 1) And I admit to being annoyed when there are extra hoops, because I'm on a Mac where it just doesn't work, and that makes me slightly resentful and—but, you know, if I have to use it to buy stuff I'm going to use it to buy stuff. I'm not really going to be happy about it, but I need stuff.

(Moderator 1) So is it—so to go more specific, so to what extent do you think workplace learning plays a factor in acceptance and use of SharePoint on campus? So you kind of—

(Participant 1) Yeah.

(Moderator 1) I know Mac is an issue with—

(Participant 1) Yeah, but—and the—if-if we heard more about it, like what it got us, because I understand that being—having the-the RFE go directly to the queues for the [office] saves time and all of that, so I can appreciate that, but that's all stuff that was inferred. They never said "We're moving to this. It is going to gain us…"

(Moderator 1) They never showed you the value that it would have.

(Participant 1) Yeah, and I think that would go a long way to saying "Okay, this causes me grief, but overall this was a big win." I never heard the big win that SharePoint is getting us.

(Participant 4) I would say that the same thing is true with what happened with the [office]. I mean, I think they did do some research. I know that group went and looked at a bunch of tools and decided this was the one that they wanted to use, but I don't think that that decision, or the reasoning behind the decision, ever got communicated out, and so they—since they started using it, well then the business analysts, when they came on, they started using it because their stuff was directly tied to the project managers, and now my group, the [department], is going to be using it because we're directly tied to the BA's and the PM's, and so it's—well, so that we can all keep our stuff in one place, we're all going to be using SharePoint, but the decision to use SharePoint in the first place was made by one group by itself, and I don't think they really communicated that [unintelligible].

(Participant 2) Yeah. Likely the only reason I know about SharePoint is because on some tech—I listen to a bunch of technology podcasts, and there's always ads—
[others laughing]

(Participant 2)—sponsors from—

(Moderator 1) Microsoft advertising? [laughing]

(Participant 2) No no, not Microsoft. There's ads from like, uh, other collaboration software like Igloo and Basecamp, and they always talk about how SharePoint is crappy and how their software—
[others laughing]

(Participant 2) So these are like, you know, smaller companies that are, you know, making better, more web-based software or something, you know, but their argument is that "Nobody actually uses SharePoint or likes to use SharePoint. Our software is actually much better." So that's the only reason I know that SharePoint exists.

(Moderator 1) Okay.

(Participant 2) So yeah, plus, you know, being a Microsoft product, I have a sort of skeptical view of it just to begin with, you know, so even if I had to use SharePoint, I would probably do it only, uh, unwillingly.

(Moderator 1) [laughing] Okay, so the third section is user acceptance of knowledge sharing technology. And by the time we get to this point, there is a little bit of overlap, so we'll see how it goes. Describe how knowledge sharing takes place in your department or unit. We've kind of talked about that already a little bit, so we mainly said emails, seems like email or Lync are the primary—I mean, what about—is there any other kind of wikis or anything like that that—or any other kind of tools that you can think of that you use to share knowledge?

(Participant 1) Wiki, Box…

(Participant 2) Yeah, Dropbox and Box. Uh, my previous advisor tried to set up like a group blog and group wiki. Nobody used it, partly because there was no need to, I guess, because we usually had like regular group meetings, or if we needed to talk to each other, you know, we'd just go up and talk to each other. So—
[unintelligible]

(Participant 2) Right.

(Participant 4) We use Google Docs also.

(Moderator 1) Okay.

(Participant 5) And my groups also use shared server space folders, but we have [unintelligible] joins up like the entire campus, and we're not going to put [unintelligible] SharePoint. So those are just some of, you know, very locked down because we don't want people going in and looking at all the buildings, where every jack is and stuff, so—it's a huge shared server space for us.

(Participant 1) And then there's the ever-popular just knocking on somebody's door.

(Moderator 1) Right. I was going to say, is there any face-to-face that goes on?

(Participant 5) Oh my gosh, we have more meetings in [department] than every other unit on campus put together, I swear! This week I have 14 meetings.

(Participant 1) But then the meetings aren't where you actually learn stuff, it's just wandering down the hallway talking to people, which is what you—

(Participant 4) You hear that you're going to have SharePoint at the meeting, and then—

(Moderator 1) You learn how to use it by talking to people.

(Participant 5)—learn how to use it by knocking on doors…

(Participant 4) I would say that there's a lot of that, though, like that "Hey, can you—you got a minute? Could you come in here and look at this? I-I'm stuck." There's a lot of that.

(Moderator 1) Okay. So what do you like the most about SharePoint? What do you like the least? I know we've talked about that a little bit, but maybe if everyone could just—for those of you that have used it, like what do you like the most about it? Or is there anything that you like the most?

(Participant 5) [unintelligible] we can all look at the same documents so that we don't have—they don't have to come to me and say "Can you show me, you know, everything you need to know about that upgrade at [building]?" That anybody—they don't need to come to me; they can go to anybody within our group and—so I like that aspect of it, because it keeps people from knocking on my door with those kinds of questions.

(Moderator 1) What about what do you like the least?

(Participant 5) The compatibility issues. I mean, it is—my direct supervisor is a Mac user, and she's the only Mac user in our group, like 40 of us, and she has problems when she needs to approve one of our requests.

(Moderator 1) Okay.

(Participant 5) So the compatibility issues are kind of…

(Moderator 1) What about you [Participant 4]?

(Participant 4) Well like I said before, I don't find the organizational tools to be very intuitive, so I think that they can be kind of—there's a bit of a learning curve there for sure. I do like the way that you can set permissions up there. I think that's a very useful thing, because you can set things up by project, and it's nice to have that kind of [inaudible].

(Moderator 1) Okay. What about you [Participant 3]?

(Participant 3) We typically use it [unintelligible] as more just a cloud based server, and SharePoint is less useable for that way, the way of—at least I was using this 3 years ago, so there could be newer versions [unintelligible], but uploading and getting files was much more difficult. Something like Box I can just drag it from a different folder and put it in and go, so it's really easy. So I-I didn't like that functionality of it, you know.

(Moderator 1) Okay. And you haven't used it, so we can't ask you.

(Participant 2) I haven't used it [unintelligible]. I wonder if like off-site collaboration is an issue, because you sometimes collaborate with people in other schools, and if we need to share, you know, documents or stuff with them, I wonder if that's possible through SharePoint.

(Moderator 1) It is.

(Participant 2) Okay.

(Participant 3) Do you have to VPN to use it off-site?

(Moderator 1) Mm-mm, not for the shared service here on campus you don't.

(Participant 2) Right, but if somebody was—

(Moderator 1) They just have to have—there's no anonymous use, so you have to have—you have to authenticate in by using a—you'd have to have a guest account, set up an ID.

(Participant 2) Oh okay, set up a guest account for them. Yeah, it's probably…alright.

(Moderator 1) So there's ways, but you'd have to work with your IT folks to-to get that to happen.

(Participant 1) I'm going to go hop on the "It's not very intuitive," and I definitely have the compatibility issues. While I don't heavily make use of them, I appreciate the workflow aspect of SharePoint, that it can do that. I think that's the-the biggest benefit I see.

(Moderator 1) Okay.

(Participant 2) Maybe you guys should check out Igloo or Basecamp [laughing].

(Participant 4) Yeah.
[others laughing]

(Participant 4) Basecamp is awesome. Basecamp is very expensive.

(Participant 2) Is it? Oh, okay, I didn't know that.

(Moderator 1)That got brought up in our last meeting too, Basecamp.

(Participant 2) Oh really?

(Moderator 1) I had never heard of it until—

(Participant 4) It started as a web-development software, a project-management software for web development.

(Participant 2) Yeah, I guess—so Igloo I hear is like free for up to 10 users, so if you have like, you know, a small team that needs to internally collaborate, that might be an option. I'm not here, you know, I'm not paid by them, but [laughing]—
[others laughing]

(Participant 2) –seems like if, you know, if—in typical Microsoft fashion, if you have like software that does everything for everybody but nothing well enough for anybody, there might be other options, right. So…

(Moderator 1) And the next couple questions I think we talked about, but what barriers have you encountered trying to use technology at work, and what barriers have you encountered in terms of getting the technology training? So we kind of talked about time as a big thing for the training, which—I think those two questions are very, very similar. I don't know if anyone had anything to add to that.

(Participant 4) I have never received formal software training, ever.

(Moderator 1) Oh, okay.

(Participant 4) Everything that I've learned has been on the job.

(Participant 5) And I think some of that too is it's time, but it's also money, because "You're an IT professional; you should be able to figure out software. Why are we going to waste our training dollars for you to learn software when we can allocate that to professional development? You can pick up the software on your own."

(Moderator 1) So based on a person's role maybe.

(Participant 4) Yeah. I mean, it's never even been an option. There's [unintelligible] now, right, but even before that it was always just "Here you go! Here's the box—install it, have fun."

(Moderator 1) Right.

(Participant 1) And I don't know whether that would be different if we weren't in the IT group.

(Participant 4) Yeah. Well I mean, we have a training department, right? [laughing] But yeah… yeah, I think you're probably right. It has to do with "You are an IT professional; you should know how to do this or figure it out on your own."

(Participant 3) I don't know, they don't give us training either.
[others laughing]
[unintelligible]

(Participant 3) I know, but there it's like—for [unintelligible] we use [unintelligible] instead of Moodle or [unintelligible], and its "Okay, this person knows [unintelligible], go talk to them. If you have any questions just go ask them,"

(Participant 1) Also not very intuitive.

(Participant 3) No, no, not at all.

(Moderator 1) I know my daughter had to use that before, and I looked at it and I was like "What?"
[others laughing]

(Participant 3) Um, but it is a lot of that. Every now and then, I mean, if you want to take one of those—is it [unintelligible]?
[agreement from others]

(Participant 3) If you want to do one of those, they kind of will, if you go ask, say "Can I please take this?" they'd be like "Okay, fine, you can," but it's nothing formal. You really have to take the initiative on yourself to go do those type of things.

(Moderator 1) Do you think it's like that across the board for everyone in your departments, or do you feel specifically like it's, like you that can't get the training, or your role, I guess, is what you're saying?

(Participant 1) Well, and I should say—because I know there are some pieces of software for people in my group that are, like, they go to 6-day classes to learn how to use this, but that's really really complex and they end up coming out of that being certified, like "I can go into court and do all of this," but that's kind of atypical.

(Moderator 1) Okay. Do you see SharePoint as a useful tool for knowledge sharing? Why or why not, and what would—we've already talked about most of the challenges, but, um, I think we've kind of—you're in agreement that for the most part sounds like that it could be used for knowledge sharing.

(Participant 4) Yeah, yeah. I mean, we do use it successfully for knowledge sharing.

(Moderator 1) Okay.

(Participant 2) I thought it's not the preferred channel though.

(Participant 4) You know, it really depends. I-I don't—if I was—if somebody came to me and said "Oh, you need to pick a collaborative tool for something," I don't know that it would be my first choice.

(Participant 5) I think it's more we all see the value in having *a* collaborative tool, and maybe this is it and maybe it's not. It's what we've been given and it's what we use.

(Participant 4) Yeah.

(Participant 2) Right.

(Participant 4) I think that's [inaudible].

(Participant 5) It's not evil.

(Participant 2) [laughing] There's evil and then there's evil.

(Participant 1) It's not beating puppies or stealing babies!

(Participant 5) Exactly.

(Moderator 1) I want to use that quote.
[all laughing]

(Moderator 1) So what factors do you think—this is the last question—what factors do you think influence whether employees adopt and use SharePoint as part of their job? What would be the main factor, if you were to pick a factor?

(Participant 4) The department backing.

(Participant 1) We're using it because our department said "Go use it." It's like, you guys aren't using it because no one has said "This is what we're going to use."

(Participant 2) Exactly. If there's a mandate, I guess people will use it, if there's a requirement, or if not, you know, SharePoint is not as well-known, uh, so people will just figure out how to use other things that they are more aware of or more comfortable with. And seems like SharePoint is sort of a catch-all solution, whereas like Dropbox, email calendaring, these are sort of modular solutions that you can use as needed. You don't have to use—I mean, you [unintelligible] SharePoint [unintelligible] can use just the functions that you need, but I don't know, maybe it's like cognitively easier to handle like "Okay, Dropbox is for file sharing, you know, Exchange is for calendaring, and you know, email is for talking to each other," and stuff like that. So maybe SharePoint, uh, is more difficult because it's sort of a—can do everything.

(Participant 1) And I think some of that too is, I don't know, PR? And-and more in the publicity, because how many people aren't using SharePoint because one, they're not aware that the service is offered, and two, if they are aware the service is offered, they're not aware of how this can meet a particular need that they have.

(Participant 4) We don't use the calendaring function in SharePoint, so I didn't know that you could do that. You were talking—touched on that earlier, but we don't use—we use Exchange or whatever it's called these days. Is it still Exchange?

(Participant 1) Yeah, Exchange is the greater service, and then you have Exchange email and you have Exchange calendaring and—

(Participant 4) Alright, so we use Exchange to do calendaring and email, and Lync is integrated with that, but—so we're only using it as the—in terms of the project stuff that I'm doing, it's really a document repository.

(Moderator 1) Yeah, you can integrate the calendars, so you can actually sync your calendar without [unintelligible] SharePoint. So you can actually—FYI, if you wanted to do that.

(Participant 2) I've actually been looking for like a project management type software, and seems like SharePoint might have that functionality as well, but I—

(Participant 1) It'll do workflows and it'll do the document repository and…

(Participant 2) Yeah, so, but I'd never heard of SharePoint being available to [university] people.

(Participant 3) Actually, I didn't know it was a shared service. I mean—

(Moderator 1) And I can give you, after we're done, I can give you all that information—
[others laughing]
[unintelligible]

(Moderator 1)—if you want. It's a free service, so—

(Participant 3) Yeah, I worked at the Water Survey, and we use it and we have bought a license for it for us. I didn't realize it was now a campus-wide thing, so…

(Moderator 1) Yeah, it is, yeah. So that's all my questions. Is there anything else that any of you would like to share with me in general about digital equity, workplace learning, SharePoint as a technology—knowledge sharing technology? Anything that—we've covered a lot, so… Okay. I'm going to stop the recording here real quick, and then—

Focus Group Session Three: March 19, 2014

(Participant 1) Did you get the message? I don't have to leave at 5.

(Moderator 1) Yeah, I did. The first session took an hour and a half; the second one took an hour. So I—we're a smaller group yet, so might not take as long.

(Participant 1) I didn't want you rushing for something [unintelligible]—

(Moderator 1) Oh yeah, no, that's okay. So we are being recorded, so I'm recording. I just hit "record" just now, so just so you know the whole session will be recorded. So thank you everyone for joining me. Now I know [Participant 1] and I know [Participant 2], but I thought we could just go around and tell you who we are and what department we work in. So I'm [Moderator 1], um, I work at the Graduate College and I'm also a doctoral student, obviously [laughing].

(Participant 1) I'm [Participant 1]. I work in [department] IT.

(Participant 2) I'm [Participant 2]. I work at [department].

(Participant 3) I'm [Participant 3]. I'm in the [department], faculty there.

(Moderator 1) Okay. And [Moderator 2].

(Moderator 2) And I'm [Moderator 2]. I'm a doctoral student in [department] and I work in [department].

(Moderator 1) And she's my co-moderator and she's taking notes, so—she's a very fast typer [laughing].

(Participant 1) It's a useful skill.

(Moderator 1) Yes.

(Participant 3) I won't talk too fast.
[others laughing]

(Moderator 1)She's been able to keep up so far. So all of you have taken the online survey portion, um, of my questions, and so this is just to expand on that. So I'm talking—I'm looking at how digital equity and workplace learning influence someone's, um, acceptance of a knowledge sharing tool in the workplace, specifically higher ed, education, and the knowledge sharing technology that I'm looking at is SharePoint. Um, so just to kind of put a couple definitions out there, if you're not real clear on what digital equity or workplace learning mean, because I have had that question several times. Digital equity is defined as "Everyone in our society has equal access to technology tools and has the knowledge and skills to use them," so not only do they have access to the computers—we should probably shut that door actually. I just thought of that. You have to kind of slam it because it doesn't catch. Yeah. So not only do they have access to tools, they actually knowhow to use it. So you might have heard of the term "digital divide," which is more of they don't' have the tools at all, so this is a little bit different than digital divide. Then workplace learning is "all training and development activities related to the workplace outside of formal education." Um, when I'm saying formal education I'm meaning K-12. So how you perceive your workplace learning, and how do you learn in the workplace are the kind of questions we're going to look at? So the, um, I encourage any comments, negative, positive, um, you know, feel free to share your thoughts, the more the better [laughing]. So, um, I have my questions kind of split up into those three areas—digital equity, workplace learning, and then technology. So I'll just kind of go through, depending on how the conversation goes. Some of them I might skip over because we might have answered them, so it seems to be kind of how it's worked out in the past anyway. So first we'll start with digital equity, and this is a little bit of a longer question, so I'll break it up. And there is paper and pens if you wanted to take any kind of notes to jot your thoughts down. Some people did want to do that, so—
[unintelligible]

(Moderator 1) It's not like it's an interview or anything, but depending on how you like to respond… So in what areas and to what extent did you have access to computers in K-12? So like how were computers or the internet used in the classroom? Did the teachers use them? Did

the students use them? What kind of subjects did you use them for? And do you think you had sufficient access if they were used in K-12? So more or less what was your access to computers in K-12, or did you have access?

(Participant 1) Do you know how old I am?

(Participant 2) Yeah, I was going to say the same thing.

(Moderator 1) [laughing] I mean, I can make assumptions because I know based on my own self, but actually I've been surprised at some of the comments, so…

(Participant 3) Yeah, we had no computers at all.

(Moderator 1) Okay.

(Participant 3) I don't think—I mean, I don't think really computers…mmm yeah. I mean, when I first even saw my first computer is when I was dating a guy who was—the computers were the size of this room, you know, and it was in a building that ran all night on little cards and stuff like that. So—and I was 16 or 17 then, so there was nothing in my—nothing in my high school.

(Participant 2) And I got my Commodore VIC-20 probably when I was a freshman in college. So…

(Moderator 1) Did you have a computer at home?

(Participant 2) No. I mean, VIC-20 was at home, yeah.

(Participant 1) I'm clearly the youngest here.
[others laughing]

(Participant 1) I kind of think in—up through 5th grade was my elementary school. There were a couple of computers in the library, and I remember the gifted students got to go down and play on them every now and then. I don't remember them being used in the curriculum other than…we did have Logo. There was one computer in 4th grade, I think, and one computer in the 5th grade classroom. It wasn't really integrated in, but we got to go play on Logo or something as a reward. It wasn't used for anything. Um, junior high there was a computer lab. Uh, it was used in English class, and I think there was a typing program on it, um, not heavily integrated. Definitely in English there were days we just went down and wrote—write in the classroom longhand, and then you could go type it up! And you had a choice between the really, really, uh, fast but not-so-good printer or the really, really slow laser, but that was really nice quality [laughing]. For high school I was a little strange because I actually went to the Illinois Math and Science Academy.

(Moderator 1) Oh, okay.

(Participant 1) Which actually had a small computer lab because it was a residential school and there were small labs in each of the-the dorm—not dorm rooms, but in each of the dorms. It was somewhat used, because that was just the start of the internet. I remember using Gopher and Archie and Veronica to do searches, and they were trying to teach us how to judge what was coming back through, although most of the stuff at the time was coming out of educational institutions and the government and stuff like that, so it was at least vetted to some degree [laughing]. Um, I did have a computer at home. I had a Commodore 64; I got it sometime before 6th grade, but not by much because we had it before we moved, don't know when. My mom had an x86, uh, XT I think. Uh, my sophomore year—junior year in high school I got my own computer in my room. Uh, it was a portable, but it was not a laptop, it was a luggable…um, that was neat. There was programming classes at the school, so we did Assembly and we did C++

(Moderator 1) Okay.

(Participant 1) So it was definitely [unintelligible]—

(Moderator 1) So yeah, definitely.

(Participant 1)—and I was on the internet in high school, but we were definitely ahead of the curve, just because of where I went to school.

(Moderator 1) Right, right. Okay. So this won't pertain to both of you as much [laughing], but how well do you think those experiences in K-12 prepared you to use technology?

(Participant 1) Really fairly well, especially in high school. It was just expected that we would figure it out, um… I don't know that we specifically were ever trained on it. I had a keyboard in class my freshman year before I went to IMSA. That was exceedingly useful. The ability to type has probably been the most [unintelligible] feature. I don't know now with thumbs, but up until texting came along [laughing], just the ability to type at that speed has been extremely useful [unintelligible]—

(Moderator 1) And that's what we would have—I can go in with your age groups—is that we had to learn typing, right?

(Participant 1) Mm-hm.

(Participant 2) I was going to mention the whole typewriter thing, and yeah.

(Participant 1) Yeah, I know that it was falling out of favor. I don't know if it went back into favor, but that was the only formal training I had other than programming classes.

(Moderator 1) I was going to say, so the [unintelligible]—so there was no really formal training then, it was—you just learned it?

(Participant 1) There was no formal training. Uh, they handed us HyperCard and I think a sheet of paper, like when we moved in they gave us a, like a few single pages of how to get on the net

or how to do HyperCard or how to do, you know, depending on who you talk to, you get one-sheet descriptions, but the only training was in programming class.

(Moderator 1) Okay.

(Participant 1) It—the outside of class—it was residential, so we also played games on the computers and we built [unintelligible] and we—that's really where more of the training I've had [unintelligible] was a group of like 10 people in the room, and some of the students actually had administrator on random machines before it became "Oh my gosh, the students have access, agh!" When people realized "Oh, these are really awesome and you can get to lots of information," but at the time there were students there and it was a-a mutual sharing amongst the users, and not so much [unintelligible] formal.

(Moderator 1) Okay. So in what areas and to what extent do you think that gender, race, socioeconomic status and/or computer experience impact your adoption and use of SharePoint, specifically in the workplace? And do you have any examples? So the literature shows that gender, race, socioeconomic status and computer experience are factors of digital equity, and so that's why I'm specifically looking at those factors. So do you see that any of those would affect or impact your adoption and use of SharePoint in the workplace, or can you think of any examples?

(Participant 1) Experience certainly does, but my point of view from the workplace is I'm embedded in an IT group. We all have the experience, we all have the training, not necessarily on SharePoint, but technology in general, but training on SharePoint specifically did limit us. We hired a couple people who knew what they were doing and now we're finding ways to use it, but we needed that seed.

(Moderator 1) Okay.

(Participant 2) And I would say my perspective is pretty much the same, I mean, as far as access to SharePoint and understanding—is what I do, basically, and so, um, I would think that—it's just speculation on my part, but my assumption is that if you socioeconomically weren't—I don't know how to put it, but…you would have to—my perception is the people who are going to use SharePoint are the ones that probably are better off, better, um, educated, that you're not going to find somebody that's working for somebody that…

(Participant 3) You've got to be somewhere where SharePoint can be afforded in the first place.

(Participant 2) Right, exactly.

(Participant 1) I mean, in high ed, most people in higher ed are going to be—they're going to find it useful, would be—

(Moderator 1) Are you saying because SharePoint—of the expense of SharePoint?

(Participant 1) Yeah.

(Moderator 1) Okay.

(Participant 1) It's not something that you're' going to—having worked in a lower-income school, the benefit of it is not going to outweigh the cost, in both the-the learning curve—which there is one. We went in and rattled around for a while and finally declared none of us cared enough to figure out who to use it properly and dropped it until we happened to hire in people who knew how to use it. Um, wasn't their job, but now we're-we're exploring it again so someone can answer the questions as to, well, "Shouldn't this work better?"

(Participant 3) Um, now I think I indicated this in the survey, but I don't think I've ever encountered the term SharePoint.

(Moderator 1) Okay, so—

(Participant 3) I mean, I don't—what kind of a software package is it? Is it statistical or is it word processing, or is it—

(Moderator 1) It's actually considered a platform, so it's not really a program. So it's a platform in which you can do many things. So it's a collaboration tool.

(Participant 3) Okay. We aren't using it—

(Moderator 1) So which—

(Participant 3) –in communications. I don't remember anybody in the department using it at all.

(Moderator 1) You might use other types of collaboration tools, maybe wikis and things like that.

(Participant 3) Yeah, yeah, yeah, yeah. We use that in our—we use Moodle. So those are tools that are used in-in courses.

(Moderator 1) Okay. So just to move in—move it along, so how do you typically use the computer at work in general? So in your day-to-day work, what are you using the computer for?

(Participant 1) [laughing] Sorry, my first thought was I swear at it.
[others laughing]

(Moderator 1) That's a first on that one [laughing].

(Participant 1) I'm IT support. Generally something has gone wrong when I'm sitting at a computer. I'm usually fixing whatever has gone wrong, trying to track down the bug or the—the why the printer doesn't work or something like that. So I use it for—my job is using it and figuring out how to make it work better on the back end.

(Participant 2) Yeah, that's my job too, but I would also add that I tend to do a lot of research on the computer, as far as being more forward-thinking and, you know, trying to keep ahead of the curve a little bit.

(Participant 3) Um, so constantly, I mean, you know, email, completely overwhelming of course, and then lots and lots of research, lots of accessing the internet for, um, articles. Just today I set up a platform for within my professional organization [unintelligible] how we're going to do a webinar, and so I was on the—you know, I was kind of checking out how we're registering for it. It's the first time our little group has done a webinar, and I happen to be the hosting person, so I'm getting all of the registration emails right into my work email. But I did set up a rule—see, I know a little bit—

(Moderator 1) That's good!

(Participant 3)—to send them over to it—it's on a little folder, so they're not all just clogging up my—and then I use it in class all the time, and drag things down off of the internet and play them on, you know—because I teach kind of stuff related to campaigns and stuff, so things that the students would be interested in looking at. Yesterday we played something from NPR that I heard on my way to work that morning and just played it, and uh, so yeah, it's a real big tool in the classroom for me.

(Moderator 1) Okay. That's good.

(Participant 2) I would also add that with Lync, I mean, it really is not just email anymore; it's-its how you communicate with people, including phone conversations really.

(Participant 3) Yeah.

(Participant 1) And coordination of projects is another thing that goes on, and the various tools—

(Moderator 1) Yeah, I would say most people are on there most of the time it seems like anymore, for—

(Participant 1) The majority of my day is spent on either my or someone else's computer. I don't use it in the classroom, but I am setting up and helping people figure out how to use it for presentations, not usually classes—that's another person—but I support the conference rooms and [inaudible].

(Moderator 1) Okay. So I know that you don't use SharePoint, so some of these won't directly relate, but they might indirectly, so feel free to join in. So do you have access to use SharePoint at work? If so, what type of access and what do you use it for, so what are you using SharePoint for? So what—I guess what kind of access, like meaning permission? So you can think of access as either way, and then what's the primary thing you're using SharePoint for?

(Participant 1) I have root level permission on our site on the campus SharePoint set up. I don't know the terms correctly, but I set ours up, and then when we hired somebody new that knew

what he was doing, I figured out how to give him the same access, but as far as I can tell, I can do anything I want. Um, I don't know how to do very much; I just was the one who happened to set it up. We're using it to store spreadsheets that we're all editing, because the wiki is awful at that and this is much much better. Uh, we're considering using it for software licenses; we're considering using it for password lists, to get anything basically that's on a file share. We have a file share wiki and a SharePoint. We would like to have two of them, one accessible to students and one not, and we're also adding knowledge [unintelligible]. So we're moving towards "What can we put on SharePoint that makes sense there?" We're talking about trying to do check-out, because the software we're using for controlling checked-out laptops and things like that is on a server that needs to be shut down that no one is maintaining that does not scale. So we're looking into SharePoint because we don't have [unintelligible] time. We used it as a document repository for a while. That didn't work real well because we weren't sure what we were doing, so it was all the worst things of email plus all the worst things of a file share, because we had all the discussion in email and one copy up in the file share and we couldn't go back to look at old ones. Um, but it did give us a place, and we can move it over to where someone else can see it. We are also deploying it for our users when they ask. We're not doing a whole lot of support, but we're the central point for [department] for "Hey, we want a SharePoint," "Okay, here you go, here's your permissions. Good luck. We'll answer questions insofar as we can, but our level of support is 'Here you go, good luck.'"

(Moderator 1) Now, you're running your own serve—your own farm at [department]?

(Participant 1) No, we're—

(Moderator 1) You're on the shared service?

(Participant 1) We're on the shared service, but—

(Moderator 1) So you're doing [unintelligible]

(Participant 1)—it's somehow set up so that we approve anything that goes under [department].

(Moderator 1) Okay.

(Participant 2) So I'm kind of unique. I actually have—I guess the farm administrative access, but that's—I don't use that readily, I would say, more of a—I have like, as [Participant 1] [unintelligible] root level access to a lot of different sites. A lot of those involve team collaboration, I'd say. Um, [department] actually has, for the most part, adopted SharePoint, I would say, or is a—I think like in any organization, it's not pervasive but it's extensive, and the amount of SharePoint that they use within the organization—there are still a lot of, I would say, naysayers that don't like SharePoint, and there is no mandate to use SharePoint within our organization, and so you're always going to find those people that are not going to adopt it. But the other thing—I know that as part of my job I help people establish SharePoint sites. Uh, we set up departments that actually do a lot of their electronic, uh, document management, so they'll scan [unintelligible] SharePoint site, and that's where all their documents live, all their—they are paperless, per se.

(Participant 3) Can you send it there from a scanner?

(Participant 2) What's that?

(Participant 3) Can you send it there from a scanner?

(Participant 2) Mm-hm.

(Participant 3) Ooh, I'm going to talk to you later.

(Moderator 1) [laughing]

(Participant 2) Yeah. And um, yeah, no, basically they do all the OCR and everything is searchable and…actually the vice president for research, in theory, when they first started, uh, were a paperless office. I don't think it's continued like that, but, um, that's what they tried to achieve, so…

(Participant 1) [unintelligible] we are also trying to use it for project management. We just launched our first one. We tried to export [department]'s project management and import, but something about 2007 to 2010 upgrade doesn't let you import export, so we had to create it by scratch.

(Moderator 1) The templates.

(Participant 1) Yeah, we had to go through and create the templates by hand, which means we're a little behind and aren't sure we have it all hooked together, but our-our first attempts launched like two weeks ago. We haven't actually figured out how it works of if we're going to use it, but we're paying for Basecamp right now and we would like to not be paying for Basecamp. SharePoint—

(Moderator 1) Basecamp seems to be popular on campus.

(Participant 1) Yeah, the-the folks who use it like it. They don't like the, I think, $1800 a year fee. If we can steal from [department] what they're doing and if it works as effectively for free, then that would be better.

(Moderator 1) So now, does everyone have, um, in your department or unit have access to SharePoint, and how is access decided? I know you're a little bit different, but…

(Participant 1) Within [department] IT, technically everyone has access. Most people probably don't know it exists.

(Moderator 1) So like when they're hired, they just are automatically given a certain…

(Participant 1) We have it by group, I believe, like all the user services, administration, the [unintelligible] group is [unintelligible] administration I think has [department] all staff—IT all staff has read access to all of—at least our [department] IT—spaces.

(Moderator 1) Okay.

(Participant 1) But most people, since we're not using it extensively yet, we're just kind of experimenting in certain points, most people don't know about it because there's nothing there for them to use.

(Moderator 1) Okay.

(Participant 2) Yeah, I don't know how to answer that question [laughing].

(Moderator 1) Yeah.

(Participant 2) I mean… I don't know. I mean, I kind of want to touch on what [Participant 1]—it-it makes me think, and I know this is not directly related to the question, but it's almost like, within an organization what I see is you almost need to have—it's kind of like the wiki-ing, where a lot of people complain about the wiki, and partly because no one technology is going to fit everybody, but if you can drive content and, you know, provide something that people want to get to, I think you're well ahead of the game, and I think that's one of the places a lot of people fail to realize that SharePoint can achieve those goals. And the other thing is—which is you're talking about using it for project management and, you know, list storage. I mean, I don't know if you even realize there are lists, instead of having to put a spreadsheet out there, you can create a list, which is—

(Moderator 1) Yeah.

(Participant 2)—yeah, I mean, so—and there's different templates where you-you can use SharePoint for so many different things, and a lot of people just start off with the team site and try to meld that into something that it really shouldn't. You should start with a different kind of site.

(Participant 1) It was kind of overwhelming if you don't have someone who knows what they're doing to figure it out, and we're kind of afraid that what we're going to end up with is what we have on the wiki, which we're about to burn our wiki to the ground completely. We're just starting over; we're making a new one and we're launching a knowledge base, because effectively we're trying to use the wiki as a knowledge base, and oh, we also have this over here on the web and we have this over here, and we don't want SharePoint to either be yet another "Oh, and this over here," or we've organized it wrong with the wrong sites, and in two years are we going to have to burn it to the ground and build it back up, and is it worth it?

(Moderator 1) Right. I mean, that segues—

(Participant 1) It might—

(Moderator 1)—yeah, that segues perfectly into the next question, is does SharePoint help you share knowledge, in your department, or do you think it does across campus? I mean, you don't know yet maybe.

(Participant 1) We don't know yet. There's places for which it's really, really good, where we used to have Excel spreadsheets on a file share that were always locked to editing by somebody that didn't exit out properly. It's probably going to be useful. Will it be more than a fancy file share? I don't know yet. It depends. If the project management works out, then we will be using it for that and it'll be really useful, but it's got to provide something distinct from the wiki and the knowledge base, and probably replace the file share, if it's going to be…could it? Yes. Do we have the knowledge to make it do that? I don't know. I don't know if we'll get—I don't know if the cost of getting it and the benefit of it, and then training everyone on it, as opposed to working something that's 80% there is worth it. We don't know yet.

(Participant 2) And I would say, from my perspective—which again is kind of a skewed perspective—is that I've used SharePoint as a means to an end, but never has my goal been to develop a super grand site for, you know, a team or—because a lot of people—and it kind of goes back to what [Participant 1] said. The amount of effort you have to put into it to actually develop something that is just awesome, it's like—it's not a linear curve. I mean, it's like yeah, it's easy to get something basic set up and then use it for collaboration or whatever, but to get to that next level, first there needs to be kind of a-a big step up.

(Participant 1) There's places where it seems to have been used. I think we put all of our stuff, our external review there, have all of it gathered together into a SharePoint site, so that was a very direct [unintelligible]. I know there's a class that's using it. They love the fact that it's not accessible from the outside that they can't accidentally turn on public website. Because of patent issues and stuff, they want to make sure that it stays locked down but they can allow outside collaborators [unintelligible], but it's one of the bio senior design classes. They all get their own, like—we made them a site and then allocate out so each team gets their own, so the prof can see everything, and our permissions are done by [unintelligible] group. As much as we possibly can, we do permissions by [unintelligible] group.

(Moderator 1) That's pretty cool.

(Participant 1) I don't know a whole lot about it. I helped kick that off, but I don't actually support bio, [unintelligible] was on vacation when some of the questions came up. I don't know if they're still doing it, but last I talked to here, halfway through the first semester she really liked it. I haven't looked to see if she relaunched another set of stuff the next semester.

(Participant 3) Can I ask how—

(Moderator 1) Mm-hm.

(Participant 3)—I mean, one slight, slight little similar thing we do use, like Box—

(Moderator 1) Mm-hm.

(Participant 3) So is that—that's like a little tiny version of SharePoint, is it? So—

(Participant 1) Yeah.

(Participant 3) We have used that.

(Moderator 1) Okay. To share documents and to—

(Participant 3) Mm-hm.

(Moderator 1) Mm-hm, yeah, that's very common across-across campus.

(Participant 1) SharePoint's got a wiki built in. It's got a Box equivalent built in, [unintelligible] doesn't sync, I don't think.

(Moderator 1) Well…

(Participant 2) It depends what version of Office you're using— [laughing]
[others laughing]

(Participant 2) –at this point, I'd say.

(Moderator 1) So to what extent and how often do you encounter any obstacles when accessing SharePoint? For example, computer type—Mac, you know—browsers, permissions, access, more than that?

(Participant 1) My Linux box does not deal well with Word documents that have reviewer comments at all, so—

(Moderator 1) What doesn't?

(Participant 1) I have a Linux box at home—

(Moderator 1) Okay.

(Participant 1)— and I believe it was reviewer comments it does not appreciate. I just—I don't remember exactly what it was, but I had problems with some of our [unintelligible] and accessing them from the Linux box. I haven't gone back to figure it out. I brought up the Windows laptop and haven't worried about it since, so…

(Participant 2) [laughing] I find my answers are so skewed because, I mean, I'm the one that actually helps people solve—

(Moderator 1) Yeah, I know.

(Participant 2)—SharePoint problems, so I—

(Moderator 1) So you know everything! [laughing]

(Participant 2) Well, it's just that I can't—I don't see problems in SharePoint as problems for me—

(Moderator 1) Right, right.

(Participant 2)—I mean, because I just know how to fix them. So I could be experiencing problems that I just kind of don't pay attention to because like, oh—

(Moderator 1) Right, that makes sense.

(Participant 1) Ours our usually knowledge problems, not technical problems.

(Moderator 1) More knowledge, okay.

(Participant 1) Yeah. "We don't know how to do something," not "We don't have the ability to do something." At least, we don't know how to do something to get to the point where we discover that we have a technical limitation. So we're still [unintelligible] "I'm sure it does this, but I don't know how," not "This is how it's supposed to work and it's not," other than importing from a site we exported.

(Participant 3) Where do you work again [Participant 2]?

(Participant 2) [department]?

(Participant 3) What's that stand for?

(Participant 2) [department].

(Participant 3) Oh yeah, well you're supposed to know everything.

(Participant 2) Yeah [laughing].
[all laughing]

(Participant 2) We're the ones that actually provide the shared service.

(Participant 1) I said "You're running SharePoint aren't you?"

(Participant 3) Uh-huh, so if you can't do it, then…

(Participant 2) I—yeah, well, and I don't intimately do that anymore. It's kind of handed off to some other people, but I was the one that probably developed the SharePoint service.

(Participant 1) Yeah. We hired somebody whose title is [unintelligible] SharePoint administrator, which is the only reason we're back to getting our toes in the water, because we have somebody that we can go ask. That's not his job, and he's got way too much to do to do it at that level, but when we get stuck we can go ask somebody at least who's done it before.

(Participant 2) I probably should have asked [Moderator 1] if it made sense for me to come to this or not, because my answers were going to be so skewed [laughing].

(Moderator 1) Its okay, I mean—and just, I mean, to get a variety.

(Participant 3) [unintelligible] we really have all ends.

(Participant 1) Yeah.

(Participant 3) You're one end, I'm one end.

(Moderator 1) Right, so that's okay.

(Participant 1) [department]'s usually on the—on the edge, but in this case it just didn't—it seemed to duplicate a lot of what we're doing, and we just didn't have the-the knowledge, and we're still not pushing it to our users. We can't explain to them why they would use it except in very specific—

(Moderator 1) Situations.

(Participant 1)—the class just popped up, it's like "This is perfect! You're one semester ahead of where we wanted to talk to you about it, but it's perfect! Here you go." [laughing]

(Moderator 1) So we'll switch gears a little bit and we'll talk about workplace learning, so kind of not so specific to SharePoint but yet still touching on it. What factors enhance or constrain workplace learning? It could be individual factors like skill, knowledge, fear, or organizational factors like culture, technology-acceptance, job satisfaction. So what kind of factors do you think enhance or constrain workplace learning, and do you have any exam—

(Participant 1) Workload. If your workload is too high you're not going to have time to learn something new.

(Moderator 1) So workload.

(Participant 2) I would—I would agree with that totally. I was going to say, you know, just the availability of time, but also from an organizational perspective, [unintelligible] to the workplace learning. If you're not encouraged to-to learn, it's hard to make it a priority. If your priority in the organization is to get things done and, you know, instead of learning, getting current issues resolved as opposed to learning how to do things better, um, then they're not going to encourage you to-to learn. And from—within our organization, they really—partly because of

[unintelligible] budget cuts, constraints kind of things, they really limit the workplace learning that's offered externally, so there aren't a lot of funds provided for, you know, going to classes, formal training kind of thing. It's more you need to do it on your own.

(Participant 3) I think, um, speaking for myself and people who tend to be on the older end of the continuum also, but as people move into the older end, changes in technology that require giving up Microsoft 2007 and adapting to 2010, and when Word changes over, and it's-it's just when a new change is coming and you just have to, you know, organize things in a different way, and that time that that takes is a huge dread factor. And I think I see it happening in, you know, my students are kind of like "Oh, do we have…" you know, I mean, they usually are so tech-embracing, but as they get older they—I mean, they do it, but—

(Moderator 1) Right.

(Participant 3)—so I think that's an individual factor. Our department is wonderful, and we have great IT support, but I think because the support is so great, people are very relieved not to take the time, so they just write an email and they're there quickly helping you figure out.

(Participant 1) I think as you get older the cost-benefit analysis changes. Because I'm in IT and I adopted—but really, I've learned Word five times—

(Participant 3) Yeah.

(Moderator 1) Mm-hm.

(Participant 1)—and I really haven't felt that my productivity has gone up a whole lot from the first time I learned it. In fact, I didn't used to have to keep—like it corrects my spelling errors, but now it also corrects things that weren't wrong.

(Moderator 1) Right [laughing].

(Participant 1) I don't know if that's really a benefit!

(Participant 3) No, and it's an improvement, they think.

(Moderator 1) Right.

(Participant 2) Right.

(Participant 1) So, you know, it stops being a toy and becomes a tool, and even I get really tired of my tools changing for no great reason to me. I understand why, in the back, and all of that, all—but from my point of view, the tool has changed for no benefit.

(Participant 2) I would argue that I was much more proficient [unintelligible] WordPerfect using keystrokes than I was [unintelligible]—

(Participant 3) Yeah, I loved WordPerfect.

(Moderator 1) And you could see the commands [laughing].

(Participant 3) And I think another thing is that, um, like I wanted for years to be better at Excel, and I know that I could be sent from my department to classes to do that, but if you know—if you know you're not going to use it enough that they're going to—that it's going to become, you know, that you haven't really learned it, then the motivation to go isn't there. So you're kind of always—I feel like I'm always on the verge of like "I really could use this, like right now I could really use this," but it's not worth it to go—

(Moderator 1) Right.

(Participant 3)—if you're not going to use it all the time, so it's a big barrier, I think.

(Participant 1) And in some cases it's strange. [department] IT has a strong commitment to professional development, both technical and-and non-technical training, and we have Lynda.com on campus, and we've got—we've subscribed to something called CBT Nuggets, which is a very technical-oriented training sequence. But in some ways it's been easier for me to go to a two-day class than it has been to find the 2.5 hours to watch a Lynda.com training.

(Moderator 1) Right.

(Participant 3) Yeah.

(Participant 1) So it's now there and it's now free, but now I can't get the time, and it's-it's partially a workload issue and partially a—it's harder to carve out the time and make people leave it alone if you're sitting at your desk.

(Moderator 1) Right.

(Participant 2) Right.

(Participant 3) Mm-hm.

(Participant 1) But I think the availability of Lynda.com has been really useful.

(Moderator 1) Right, so just to expand, so the next question was how do you learn in the workplace and how does your work group facilitate learning? So do you use technology? Is there employer support? Do you prefer self-study? So you kind of hit on all of those areas. I don't know if anyone has anything else to add to that.

(Participant 2) Kind of back to the previous question, but kind of ties in with this too, is one of the things in IT, um, or in technology in general is the-the pace that things change, and sometimes I find myself getting to the point where it's like "Okay, now I finally have time to learn XYZ, but now it's WXYZ," or it's, you know, it's like moved on, and I'm like "Well, I'm

not going to waste time learning this when there's this new thing," and it's like—and where do you stop? I mean, maybe it's the getting older thing too. I mean, I don't know, but-but it's almost like "Okay, should I really spend time learning this, because this new thing over here might be more important to, you know, future success?"

(Participant 1) Somewhere I learned how to learn technology, and I'm not an in-depth user. I'm very much a generalist on just about anything, but I can fake my way through most things. Like when I'm helping users, as long as they're not six levels down—

(Moderator 1) Right.

(Participant 1)—I can figure it out, so—and a lot of my learning has been "I need it." Um, I used to say "I will know anything that has broken, and if it hasn't broken I have no idea how to do it because I've never had to learn." Um, so it-it's both what I've needed to do has come up and I learned it then, or it's broken and someone else needs it and I go dig it up, but it's-it's a lot of research and a lot of shotgun in my case, just I'm not going depth, so it's just—the holes in my knowledge are probably fascinating if anybody found them out, but I don't know where they are! That's the problem.
[others laughing]

(Participant 3) I find that sometimes if I get like, um, an email from… [department] is our—I know [department] is in [college]—

(Moderator 1) Mm-hm.

(Participant 3)—[unintelligible] support system, and if it's got more than four instructions on it, like "Well you need to do this, and then you need to go here," it's much more difficult, and what's much much easier is if there is a screenshot that takes the cursor and—because I really love the visual—and steps you through that. So any kind of a visual enhancement that—and I have two big monitors, so I can watch it and then I can do it on my—

(Moderator 1) Right.

(Participant 1) I hate videos. Screenshots I'm okay with, but videos I hate [laughing].

(Moderator 1) Everybody learns different.

(Participant 1) Just *tell* me! It'll take me 15 seconds to read this, and it's a 2-minute video, and I can't refer back to the part that I forgot the name of the server, so…

(Participant 3) You probably need to know the details. I just need to know four things [laughing].

(Moderator 1) Right.

(Participant 1) Yeah. And I know—and screenshots are okay, I can either skip them or whatever, but I absolutely hate this trend on the net to going to video. "Click on this to watch this video!"

No, no, I am not. You are not a television station. You give me a transcript or I'm not paying any attention to you.

(Participant 2) I would also—from my perspective, I think, because I try to be forward-thinking, [unintelligible] self-learned. I mean, its finding resources that are current. It's not, you know—there are things yeah, I would like to go to a class and learn, but those aren't typically the cutting-edge kind of things that…

(Participant 1) We do do internal training. Um, we have a 14-part onboarding, which isn't per se training. It's how *we* do things, not how things are done. We assume people come in with how to use—

(Moderator 1) Okay.

(Participant 1)—um, the—how to use AD we expect them to come in with. We train them on how *we* do it, but we also try to find—if something comes up like SharePoint came up, "Okay, we need to investigate this." Someone gets assigned to go learn it and report back to the rest of us.

(Moderator 1) Like a train-the-trainer kind of thing?

(Participant 1) Right. The-the endpoint management, we just had three sessions that were done because we declared that we'd all forgotten what we did in the formal training, and Thomas is using it really usefully and acting like all of this is trivial, so "Thomas, you get to teach us!" [laughing] So we try to give people things to learn. If we as an organization decide that we need it, we find somebody that's appropriately-placed in professional development where "Here, this would be useful for you and useful for us. You go do all the hard work and then come back and present to use whether it's useful, the pertinent points, and give the rest of us enough of a base that we can then learn from, because most of us are IT folks." But that first two steps can be very slow to do, so if we get someone else to give us the first couple steps and be a resource for questions, then we can spread the knowledge a little better. And some things that has worked really well with and some things the first two steps are just still so huge.

(Moderator 1) So when you do get that new technology, the, you know, Word 2010 or 2013, to what extent are those changes communicated to employees in your department or unit? How do you find out about it? I mean, what, you know, is there a plan?

(Participant 3) You know, I-I'm kind of surprised, in a way, when you ask that question I have—I have to say, well, actually I guess it's really not done very systematically. We're kind of told in advance, you know, that it's coming, and then all of the computers have to be changed over and updated, and you really don't have a choice in that, and then all of the student workers say "Oh, it's no big deal."
[others laughing]

(Participant 3)— [unintelligible] looks just slightly different. And then you are kind of on your own. I mean, again, our IT people would come down and help you, but they—would they

really—I mean, it's a lot of kind of hunting and pecking to kind of figure out "Where are things now?"

(Moderator 1) Okay.

(Participant 3) So yeah, I guess there's not really—I don't remember getting a tutorial on it of any kind, or a video even. Probably was one, but…

(Participant 2) I would say it varies depending on the extent of the change in technology, and also the—so for instance, when, uh, you know, Lync came along, um, [department] provided training but, uh, an organization—university administration has their own training group, uh, that's housed within [unintelligible], and they took it upon themselves to actually offer training for Lync and things like that for [department] staff. Um, and I would say that they try to communicate changes ahead of time, but they also, like for going from Office 2007 to 2010, they did a "What's new?" kind of thing in 2010. It wasn't "Here's how you use Word," it was like "Okay, we assume you already know how to use Word. Here's what's different, you know, here's the ribbon, here's…" that kind of thing, so… so there is a, I would say, an effort, but I would say it's not entirely a consistent effort to get people [unintelligible].

(Participant 1) We try to tell them we're about to change things, and then they're kind of on their own.

(Moderator 1) So you'd like do that with an email, or you have like department meetings?

(Participant 1) Yeah, usually, I mean, it depends on which department. Um, either I'll send out—I send out the email [unintelligible], I'll send it out and say "Hey, this summer we're going to 2013." A few people I had have gotten new machines unexpectedly. It's like "Yeah, apparently we already went to 2013." [laughing] I didn't realize that 'til I loaded up their machine with the new image. Uh, good luck. A lot of them, I've found, have seen it at home though, or someone in the office has, so it's actually already started to spread. We don't do really any user training. We sent them to the campus Lync training. We try to send out an email or whatever the appropriate communication method is for that department. Usually it's an email, but sometimes it comes from this person and sometimes it comes from us and sometimes it comes from some mystical, magical thing every week. But we don't do a whole lot of training. You know, to us, once we get it running then it sort of becomes the user's problem because we can't be experts in everything everybody runs. If somebody asks a direct question, "How do I do this?" we'll do the research and try to look it up and send them, hopefully, a step-by-step guide we found online, but it's nothing formal or organized. This summer we'll go to Office 2013, I think it is, and it'll just be one day they'll go home and we'll reinstall all the machines, and they'll come in the next day it'll be there. We'll warn them this is coming, but we're not going to do anything—

(Moderator 1) Okay.

(Participant 1) To some degree we're too big, like we'd have to do it for the entire [department]. That's just too many people, most of whom don't [inaudible]—

(Participant 3) And I would say one other thing is that, like with Lync, they really pushed so that everybody—it was mandatory training and all that sort of thing. Well, you have to kind of put people in gunny sacks and drag them there, and then even then a lot of people—

(Moderator 1) Mm-hm.

(Participant 3)—kind of like [unintelligible], you know, "I'll figure this out when it's time to figure it out," and then when they have to figure it out—and I'm guilty of this too—it's like, "Well wait, this is way too complicated" and don't really use all of the wonderful features that Lync has. So there is resistance on the part of people. It's offered but they don't [inaudible]—

(Moderator 1) Right.

(Participant 1) It's again, "What do you mean it's a 4-hour training?" If it had been an hour I would have gone. It was 4 hours, we picked somebody, I think three people went. "Come back and tell us why it's 4 hours and what we need to know!"

(Participant 3) Mm-hm.

(Moderator 1) So thinking about these workplace learning experiences, how do you think that would affect your acceptance of a knowledge sharing technology, specifically SharePoint, but it could be any kind of knowledge sharing technology in the workplace. How do those experiences…?

(Participant 1) I think if I had a better introduction to SharePoint we would be more accepting of it, because we would be more confident and comfortable in what we're doing, how to use it, and it's just because it's so complicated. Simpler technologies—"Meh, here you go, here's Box." Most people seem to have figured it out.

(Moderator 1) Mm-hm. But the complexity made a difference, of the two.

(Participant 1) It can do so much and you have to figure out what to click to make it do what you want.

(Participant 2) Yeah, I don't know, it's—

(Participant 1) It's an Enterprise-level thing.

(Participant 2) Right.

(Participant 1) I mean, fundamentally it's Enterprise. It's big; it's not a wiki.

(Participant 2) I mean, I'm sitting here thinking about my personal experience, and I would say the things that I've had somebody spend the time to show me up front, probably more willing to accept than, you know—if I don't, again, if I don't know what SharePoint can do for me, why would—why would I bother using it?

(Moderator 1) Mm-hm.

(Participant 2) Um, until somebody convinces me that "Hey, you need to go check this thing out…"

(Moderator 1) Maybe show you some value to you personally.

(Participant 2) Right, right.

(Participant 1) And the—and the opening, explain to me how this programs things. Give me that first step or two. If I can understand how it's organized—and with SharePoint it's probably steps 1 through 15 because there's like 40 different parts of it, but if I can understand how it thinks and get that basic level. Like InDesign is something I've never learned. I've never done desktop publishing. I don't know what I'm looking at; I don't know what I'm trying to figure out and how to do. It's not that InDesign is different, it's that I have never done this and I don't know what those lines mean, whereas you give me a new word processer and I can fuddle around for a little while and probably figure it out, because I understand what a word processor is and what type of things I'm looking for, and that's where you come into something with SharePoint, that it's just so extensive, I don't understand the vision or the—I don't grok this [laughing], I don't understand it.

(Moderator 1) Right, no, that makes sense. Okay, so the last section is user acceptance of a knowledge sharing technology. So describe how knowledge sharing takes place in your department or unit right now. How do you share knowledge in your department or unit, or do you share knowledge?

(Participant 2) [laughing]

(Participant 1) We have shared offices specifically for that purpose, and we are not all in one office, but we try to have offices of at least four people. We have a wiki where all our internal knowledge is supposed to go, and it is utterly confusing, especially since we moved into [department] and it's not indexed so you can't search. We have file shares that are left over from before we were integrated, so they're-they're kind of a mess. Um, we're building a knowledge base to hopefully eliminate all of that, because right now the knowledge sharing is you figure out who knows it and you ask them where the information is, because it is all over the place, sometimes with four versions of it in different places. So it's-it's the reason we're having a roughly 2-year project to redo our knowledge sharing, or we call it documentation, but it's fundamentally [unintelligible].

(Participant 2) I would say there's—with the people that I deal with regularly, there's no formal knowledge sharing. It's kind of like you said—find the people that know the answer, and then lots of times people don't know the people that know the answer, and so you spend a lot of— there's a lot of futility in trying to find, you know, the right answer.

(Moderator 1) Mm-hm. Do you think that's just based on campus as a whole, or like your specific department?

(Participant 1) Oh, I think it definitely expands to campus as a whole.

(Participant 2) Yeah, yeah, I would say it probably does.

(Participant 1) I miss having somebody in [department] that can tell me who to [unintelligible].

(Participant 2) Right. And I, from the other perspective, um, I'm at a support level where enough people know that I can provide answers that it's—and it's fine, I mean, but at times then I find people that really haven't asked their peers how to do something, which their peers probably could have answered. They just come directly to me because I gave them the answer before, and so then that takes me away from things that I could probably be spending more valuable time on, and so—

(Participant 1) We're actually formalizing it some. We are working on maintaining [unintelligible] plan for it, a subject matter expert and user services [unintelligible] [department] IT, so that we can hand it to new people and say "Here's…" and there's 25 topics on there ranging from Mac to AD to Exchange to whatever, "Here's the people you can start with," and at the bottom are "Here are the two team leads. For all other questions or if you don't want—don't know these people and don't want to ping them, go ask a team lead. They'll put you in contact with the right person. If there's nothing listed here, and as part of our onboarding it's high on the team lead, if you've got any questions," and for like the next three months, "Hey, how are you settling in? Do you have any feedback? Can I help you find anything?" to try and get people comfortable with asking their peers. [unintelligible] that gets a lot of "I'm stuck!" Its one step before [unintelligible]. We try to keep it internal before we go external.

(Participant 3) I think it's a lot of peer to peer stuff for us, and then after that, if you can't figure it out you can probably—you probably go to administrative staff, if it's kind of like a "I can't really figure out how to do this in this program," but if it's anything IT-related, we just go straight to our IT person.

(Moderator 1) Mm-hm. Yeah, and this can be just knowledge sharing in general, but IT specific too, so…

(Participant 1) I think no matter what you build, the peer to peer is always going to be the first shot, because it's a lot easier in general. Its' just a matter of where that stops. Like within our office it's going to be turn around and ask a question, but then is the knowledge base so easy to use that you do that, or do you start linking the team lead? Do you bring it up on the internal email list? And that—those are less clear which direction they're going to go, and that depends on how easy and how up-to-date and how accurate.

(Participant 2) I would say, too, that as an organization, [department] has tried to—like they've redone their website recently, and they have the top 10 current, um, [unintelligible] issue kind of things, most commonly asked help—asked question kind of things, and how—we'll see how

long that stays current. I mean, I think they try to—they've got somebody assigned to that at this point to kind of keep the top 10 things current, but—

(Moderator 1) Definitely our campus has a challenge because we're so decentralized. We're across three different geographic locations, and then some extension offices on top of that, so I think it's probably more challenging than-than some groups probably come across, I would assume anyway.

(Participant 1) I'm interested to see, like [department]'s consolidated a single—well, roughly a single email address. [department] has sort of consolidated a single email address. I'm not sure if [department], but it has one help desk, and I'm kind of interested to see whether these consolidations end up with "Okay, I know that this is [department] and therefore I go to [department]." Will it become the point where that's good enough, or do I still need to be able to pierce behind that veil, like "Okay, this is [department], I'm going to ask [name]."

(Moderator 1) Right, right.

(Participant 2) I think that's—that is changing. I mean, I know that [department] is redoing their old—

(Participant 1) Yeah.

(Participant 2)—service desk structure and making their original help desk a tier 2 help desk.

(Participant 1) Yeah, and a lot of times—

(Participant 3) Wait, what kind? A what?

(Participant 2) A tier 2, so instead of a "Hi, can I get your name. I'll forward that on to somebody," they actually sit there and try to help you and solve problems, so [inaudible].

(Participant 1) And they've gotten enough where it's—most things I'll send down to them, and it's only if it sits there that I start going "Alright, who do I know that's still there?" so you go complain about the fact it's been 48 hours and I haven't gotten an answer yet.

(Moderator 1) So what do you like the most about SharePoint and what do you like the least, and can you explain why? And I know you haven't used it, so you can't—

(Participant 3) Yeah, I'm anxious—besides, I'm going to get [Participant 2]'s email before I leave [unintelligible], "I can't figure out…"—

(Participant 2) [laughing] She's the one you need.

(Participant 3) "I can't figure out this new 2013!" Maybe [Participant 1] too.

(Participant 1) What I like the least about SharePoint is it is—the initial learning curve is so high. For somebody who has never used a platform, or we do have the portal in [department], but it's so different, like it's a lot of little port lets that do one thing. Don't even know where to start, and a lot of the-the trainings and stuff that you find are "I did this one really neat thing." Well that's great; I don't understand what this *is*. So it's the wrapping your brain around it so that you even know what questions to ask about it, um, and as far as I can tell it can do everything, which is both a plus and a minus. The fact it can do everything means that it's really hard to make it do exactly what you want, but you could! You really could; you could make it work exactly as you wanted it, but I just want it to have a history on this word document, and I concluded it couldn't' do that, which is totally wrong, but nobody could figure out where the permissions are. There's four different places permissions are set, and it's-it's really slick if you know what you're doing, and if you—if you have a group of 10 people that have no idea what they're doing, that initial…

(Moderator 1) Okay.

(Participant 1) It's just so high.

(Moderator 1) Is there anything that you like the most about it [Participant 2]? [laughing] Be honest.

(Participant 2) Well, I mean, it kind of goes along with what [Participant 1] said, the flexibility of the tool. I mean, but at the same time that's probably one of the things I don't like about it because, um, and I think that's what a lot of people end up finding out, is that SharePoint is good at a lot of things, but it's not great at anything, basically. If you want a dedicated wiki, don't use SharePoint. I mean, can SharePoint provide wiki services? Absolutely. Is it a true wiki? No. I mean, and that's the kind of thing where, um, it's probably good enough for 80% of the population to do things they need to do, but then you're always going to find the 20% that it-it won't do this, and so, you know, I'm going to find a different tool.

(Participant 1) The ability to tie things together is really awesome, like I make a change over here and it appears on the project sponsor's page, if we pick these six things to appear over here. But figuring out how to tie them together…I know it can be done, and that's really really awesome, but it's not always clear how to do it.

(Moderator 1) Okay. The next couple questions—by the time we've gotten this far, the questions will be a little bit redundant, so if you have anything additional to add. What barriers have you encountered trying to use technology at work, and what barriers have you encountered in terms of getting the technology training you want or need? And we've talked about time and funding. Um, is there anything else that might have come to mind since we talked about it earlier?

(Participant 1) [unintelligible] the availability of training on what I need, and I don't have an example for you, but sometimes there just isn't—

(Moderator 1) Like what you-you-you're looking for something but you just can't quite find it.

(Participant 1) Yeah, I'm looking for like a half-day on this thing, and what I can find is either nothing or a three-week—or a week-long conference, you know. I need an introduction and that's not really there. That's a—usually it's a time problem, but sometimes it's just availability of training.

(Participant 2) And we kind of talked about this before, but I-I was going to mention that actually—I think I shared that with you before, but I actually proposed something within our organization that, because of the dollars that were now committed to training, that we kind of take a different approach, to really encourage people to-to learn new things, because—and this actually came out of one of the IT ProSolve—one of these presentations , and I kind of combined some things, but basically the idea was to make kind of, uh, in-house train opportunities, make it formal. So you have to get "I'm going to learn this" and get approval from your supervisor kind of thing, and "I'm going to do it for these two days," and then basically you have to then proportion their-their duties, and that way it's still like a formalized program, but it's not going to cost you as much, you can use Lynda, you know, or whatever other-other resources, and you're not having to send people off to, um…That has not gotten traction at this point, so—

(Participant 1)The snow days were awesome. There's a lot of us that watched a lot of Lynda.com over the snow days. [laughing]

(Moderator 1) [laughing]

(Participant 2) Right.

(Participant 3) Yeah, I think that would be—I think that'd be something that would be useful, um, for me and for other people in our department. I think people would find dedicated time— even though, like you say, sometimes you [unintelligible]—but if you knew that it was—that it's kind of an on-campus thing where you can go to, I think that could be useful.

(Participant 1) And if its part of your job duties is to keep up your skills, and that's implemented that way…Another kind of odd one is that we have shared offices. That means I can't just hide, lock my door, etc. so in some cases it's hard to, even if you have the committed time, to maintain it, because everyone who would usually interrupt you is right there, and you can't block them out because it's their office.

(Moderator 1) And it might disrupt them as well, possibly.

(Participant 1) And it might disrupt them, depending on what it is, or it's, you know, they know that it will take me 5 minutes to answer this question that's going to take them 25 to dig it up because it's my user so it-it—I don't really want to say no, which is why the snow days were so useful, because we were all stuck at home anyway. But-but that can be a problem of yes, I've committed the time, but nobody knows I've committed the time. I'm just sitting there with my earphones one, it's not obvious what I'm doing.

(Moderator 1) Right.

(Participant 1) And if a user walks in and is looking at me and I—it's hard to maintain a customer service [unintelligible] while saying "Go away, I'm not actually here." [laughing]

(Participant 3) You know, an idea that's a little different than the one you were talking about

[Participant 2]would be sometimes I just wish I could—like-like Excel again, like okay, I just—now is the time I really wish I could do these things to Excel. Well, like they have statistical consultation here; you get 8 hours a semester—

(Moderator 1) Mm-hm.

(Participant 3)—but it would be nice to have 2 or 3 hours a semester that you could go someplace and say "Now I'm at a teachable moment. I need to do this. I will be able to remember this," rather than just say I'm going to go to a class and learn the basics of Excel. So if you had that kind of a consultation service, um, available, similar to the statistical consulting.

(Moderator 1) That's a good idea.

(Participant 1) That's [unintelligible]

(Participant 2) And you could even extend that to SharePoint.

(Moderator 1) That's exactly what I was thinking in my head.

(Participant 2) And if you had somebody that was available to "Hey, I have half a day. Can you show me some cool things about SharePoint," and, um…

(Moderator 1) It's just available, mm-hm.

(Participant 2) Yeah.

(Participant 1) 2 hours apiece times 60 equals enough time that we can get stuff working right [laughing].

(Moderator 1) [unintelligible] So do you see SharePoint as a useful tool for knowledge sharing for departments on campus? Why or why not? I mean, do you think that it could be a tool used for that?

(Participant 1) I think it could be, and I think that you've got a spectrum. You've got people whose needs are very simple and just need to share some documents, don't want to run their own file server, at which point SharePoint even just as it is, it's not that hard to set up basic file sharing. You say "I want a file space," boom, you've got one. As long as you're not trying to do anything fancy, um, and that could pull off file servers and it could pull off backup issues and all of that stuff. And you've got the people that are big enough they can hire somebody to know what they're doing and do all sorts of extensive, fancy schmancy things. I mean, [department] could do this, [department] IT could do this. If-if our departments wanted us to, we're big

enough we could. Um, it's the middle ground, the folks that are big enough to want to do something complicated but too small to have the money to—the resources to put into it, and that's where I think it's going to be not as useful. But even I would have found uses for it, I'm sure, other than the-the fact we had 3 terabytes of data, so it had to be pick-and-chose, but collaboration space for students to work would have been useful.

(Participant 2) I would say yes, but with a caveat.

(Moderator 1) Mm-hm.

(Participant 2) And I kind of alluded to this early on, is that like an organization is not mandated, and so, um, how valuable of a tool is it if everybody's not going to use it. I mean, it depends on what your goals are, obviously—

(Moderator 1) Right.

(Participant 2)—but as a—as a department level, if it's not mandated, then you're kind of fighting a losing battle. Now if it's completely voluntary across departments, and that's what you're trying to use it a tool for, and then people that are trying to collaborate are willing participants, then absolutely.

(Moderator 1) Mm-hm.

(Participant 1) That's true.

(Moderator 1) That's a good point.

(Participant 1) We're doing it at a project level, and it will not be mandatory to use it, but the project level it'll be whatever works, but we're trying to build a way that it could work, and then it's mandatory for whatever project is picked. If the project manager says we're using it, it becomes mandatory for that project.

(Moderator 1) So what factors do you think influence whether employees adopt and use SharePoint as part of their job? It doesn't have to be any of the factors we talked about today, it could be different factors, but if you were to think of things that—different variables, or it could be some of the digital equity factors, it could be the workplace learning, or what-what do you think?

(Participant 1) If it's there already, somebody coming into the department's going to have to learn it. It's just going to be an expected [unintelligible]—

(Participant 2) If-if it's there and-and being used.

(Participant 1) If it's there and being used, like if we actually get this off the ground, we've got the desktop replacement plan in there, when we get three or four different Excel spreadsheets in,

our new hires are going to be expected to use it at least that much. I mean, it's not—it's not much, but that information is there and you need that information and you are not—

(Moderator 1) So there is a small part of a mandate going on then.

(Participant 1) There's a—there's a little bit of a mandate, not the whole thing, but "This is where we're storing this type of information. You need it. Therefore, figure out how to log in."

(Participant 2) Yeah, but that didn't work in—within some groups, even within [department]. It's like "Hey, here's where we're storing all the stuff," "Well, we still have this file share. Eh, we don't need that."

(Participant 1) Yeah, we're going to put the file share down [laughing].

(Participant 2) [laughing] Yeah. You know, so I don't know…

(Participant 1) And that somewhat depends, and it just—but if it's mandated, if it's required, the old one's not going to be kept up-to-date, it's going to be deleted soon, so…

(Participant 3) But if it's the chancellor and a few other people [laughing], you probably just don't say "You've got to sit down and learn this."

(Participant 1) But if a new receptionist comes in and the whole department has everything based on that, or a new administrative assistant comes in, it's just going to be expected that that's how you do it. How you initialize it, I don't know, but once it's established, and if it becomes part of the culture, then it's just going to be something a new person is-is trained on.

(Participant 2) Right. And that all depends—I mean, you can establish workflows in-in SharePoint. If it's part of your job, then—

(Participant 1) If we get it set enough, we'll add a 15th onboarding called SharePoint! It's just at the moment its "Here's two links. There's your onboarding to SharePoint." [laughing]

(Moderator 1) Okay, is there anything else anybody would like to share? That's all the questions that I have. Anything you can think of that… Okay.

(Participant 2) So were you aware of SharePoint?

(Moderator 1) I'm going to turn off the recording here.

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(Moderator 1) So we've started the recording. So, um, I show on the call we have [Participant 1] from UIC, we have [Participant 2]—what department are you with [Participant 2]?

(Participant 2) I am with [department], and I am in [county location], which is [city location].

(Moderator 1) Oh, okay. And then I do show somebody else on the phone as well. Can that person hear me? But it shows up as "Guest."

(Participant 2) [Moderator 1], this is [Participant 2], and sometimes what I suspect is happening with Lync—because we do a lot of distance calls—

(Moderator 1) Okay.

(Participant 2) [Participant 1] is showing up, I think, twice because one of them she's' got a mute on, and so if [Participant 1] is on her computer and her phone, she's going to have to—

(Participant 1) Oh, I have to turn something off? Oh, I think I [unintelligible].

(Moderator 1) Its okay, it's okay. No, but you're probably alright, because I have seen that too, so… Um, oop, so now she's just—[Participant 1], are you still there?

(Participant 1) Yeah, I'm still here. I just disconnected whatever was going on with the computer.

(Moderator 1) Okay. But that's okay that I know that now, so if you need to get back on that's fine. Okay, and so you probably already know this, but I'm [Moderator 1], and we also have a couple people here in the room, and I'll let them introduce themselves.

(Participant 3) [Participant 3] [unintelligible] from [department].

(Moderator 2) And I'm [Moderator 2]. I'm another doctoral student.

(Participant 2) Okay.

(Moderator 1) So [Moderator 2] is helping me, and she's taking notes. Even though we're recording, she's also taking notes, so… So first I want to thank everyone for taking time to, uh, come to this focus group session. So as you might recall—I'll refresh your memory from the survey that you took, um, for my dissertation research—I'm looking at how workplace learning and digital equity influence, um, users' acceptance of a knowledge sharing technology in the workplace. So I'm specifically looking at SharePoint as a knowledge sharing technology, and the workplace in higher education. So the questions that we're going to go through today are centered around those three areas, so we'll have some questions on digital equity, some questions on workplace learning, and then some questions on knowledge sharing technology. So just in case if you aren't' real clear on what digital equity means, I was going to just give you the definition that I'm using in my research. It is "Everyone in our society has equal access to technology tools, and has the knowledge and skills to use them." So you might have heard of digital divide, which is where people, um, don't have access to computers or laptops, like kids in school. So digital equity is they might have the technology but they don't know how to use it or the skills to use it or the ability to use it. So it kind of takes it one step further. Any questions on that? Okay. And then workplace learning is "All training and development activities related to the workplace outside of formal education." So what I'm referring to as formal education is K-

12, so workplace learning is anything you're learning after K-12 and how you're learning it and how you're perceiving it. Okay.

So the last few sessions we've had have taken around, you know, we've gotten a couple done in 60 minutes and a couple have taken longer than that. We have a small group, so I'm assuming it probably won't take as long today, um, but I encourage, you know, positive comments, negative comments. You know, I really want to know what you think and how you feel about these questions. So we'll just start it off, um, with the first question, and I'll just—it's kind of big, and we'll kind of break it apart. In what areas and to what extent did you have access to computers in K-12? How were the computer or internet used in K-12? Did teachers use them? Did students use them? What kind of subjects, and do you think you had sufficient access to those computers while you were in school? And explain your response. So I guess just kind of a general, um, in what areas and to what extent did you have computer access in K-12, or did you at all? And we can just start whoever wants to jump in.

(Participant 3) I guess I'll start. [unintelligible] I guess K-12, that's when the, you know, [unintelligible] computers first started coming out, Apple IIs and stuff like that. We had l-limited access, uh, primarily educational games, some programming, um, no internet of course, uh, but um, you know, I ended up teaching some classes because the teachers didn't know how to use it.

(Moderator 1) Oh, okay.

(Participant 3) So that's, you know, the teachers were limited by their knowledge.

(Moderator 1) Okay. We'll just stop for one second. We had a couple more people come in the room, so we'll let them get situated real quick here. We just started, so…
[unintelligible]

(Moderator 1) You're good. [laughing]
[unintelligible]

(Moderator 1) Oh, I did that, because I did that before I had figured it out. I had typed this up, as [Participant 4] as his first name [laughing].

(Participant 4) Sorry, we were at [building location].

(Moderator 1) Oh, and yeah, and—yeah, that room wasn't available and we had to come to this one, so it probably was confusing. So we have—we have two people on the phone as well, [Participant 1] from [city location] and [Participant 2] from [city location] with [department]. So, um, and it is being recorded, the session. So the speaker is right here, so you might just have to talk kind of loud. And [Moderator 2] is working with me. She's taking notes as well, so… So we were just asking the first question—and that's a consent form, so you can fill that out at your leisure too, that it's okay. So [Participant 3] has just started off the conversation about to what areas and extent did he have access to computers in K-12, so we're looking at how were computers used in the classroom, did you have access to them, did teachers use them, students use them, do you think you had sufficient access? And so—

(Participant 3) Like I said, you know, no access to the internet because it didn't exist and, you know, it was the early days of, you know, Apple IIs and things like that, um, limited numbers of them available. The teachers really didn't know, uh, all that much about how to use it in a classroom. Some programming, and in a lot of cases I ended up teaching part of the class because I was one of the more tech savvy kids at that time. I had—I had actually taken a kind of a-a class at the junior college, uh, about computers and programming, so, um, I kind of had a little bit more than some of the other kids, but, you know, I don't think it was—for that time it was sufficient but, you know, nowadays I'm sure they have a lot more formalized programs.

(Moderator 1) Anybody else want to share what—did you have access to computers at school or in K-12, and if you did, how were they used?

(Participant 5) Yeah, in K-5 we had, uh, Plato terminals, and 6th through 8th grade there was a lab which was primarily for teaching keyboarding and typing, uh, word processing, and then in high school we actually had full, built out IBM labs with 286 [unintelligible] stations, and we had a Mac lab where we were learning HyperCard and business processing type of things. Um, but those were only in use for like the dedicated computer-science track curriculum courses. Regular classrooms had—all of them had computers in them, but I don't remember a teacher ever once using them.

(Moderator 1) Yeah.

(Participant 4) I suppose [Participant 5's] younger than I am, because there was no computers in-in, uh, elementary school or middle school, and the only one I was using in high school, uh, was a computer class, and it was an Apple computer [inaudible].

(Moderator 1) That's how it was for me as well. What about [Participant 1] or [Participant 2]? Did you have any?

(Participant 1)Oh, this is [Participant 1]. Um, didn't have any exposure until maybe junior year of high school. I think they offered a class as an elective to take computers. Um, I really didn't have any access, um, unless it was part of a writing course, that we were just familiarizing ourselves with, as someone else said earlier, with the keyboard and just-just how to use the computer and save documents, but really no exposure 'til I guess college, and definitely no internet access.

(Moderator 1) Okay.

(Participant 2) Well, and I must be your oldest participant [Moderator 1], because we still had punch cards when I was working on my bachelor's degree, so we didn't have anything in K-12.

(Moderator 1) Okay. Did anybody have computers at home?
[two people say "Yep"]

(Moderator 1) Okay, so there was computers at home.

(Participant 4) No.

(Moderator 1) Okay. So how well did these experiences, for those of you that had computers in K-12, prepare you to use technology? Or did it? [laughing]

(Participant 3) This is [Participant 3]. I wouldn't say it prepared me, uh, to use it, but it got me started. At least at home I had, you know, an Atari 800 with a modem, and that helped. At school I, you know, didn't have that much access, like I said. Um, it really didn't prepare me for the next levels in college or anything. That was a whole nother story, but that was at a totally different time.

(Participant 4) I think it prepared me. Um, I didn't mention it, but we had typing class back in 8th grade, and so no computers, but [unintelligible],and it kind of gave me a familiarity with the technology so that at college level there was no problem at all, and there was more readily-available computers there for word processing [unintelligible] programming classes. And I remember my first job out of college, um, they had me prototyping a system and they had me using the basic programming language which was the one I learned in high school and not anything I learned in college, so it was kind of—kind of a nice throwback. I thanked my high school teacher for that one.

(Moderator 1) Right, right. Good, good. Okay.

(Participant 5) Just for being introduced to the technology, it probably changed the way that I interacted in schoolwork and homework and research. I would never consider hand-writing a paper, which before, um, you know, a lot of my classmates often did, and it was a hot topic at the time among instruction is "Do we require that you have your papers typed?" but when I got into college it was—it really wasn't—there was nothing that was covered in the college courses in a computer science curriculum that was covered in high school or in K-12. It was—it was all more advanced from the outset.

(Participant 3) And I'll chime in, or one experience that I'll mention is—it's kind of, uh, you know, from my home computer side of things. I worked on a project for—a school-related project, and actually a couple of them had introduced multimedia, uh, projects, you know, almost gaming sort of things, you know, different scenarios, and one of them basically taught me a lesson I try to keep in my mind to this day—always, you know, have a backup plan. You know, I had these grand dreams of showing off this multimedia project, and I had everything there and it didn't work, and you know, that was not good. Um, so, you know, sometimes the technology fails at the critical moment, and you need that backup plan, and I've used that at the college level, in the workplace. Remember back to those sort of experiences, uh, you know… So that wasn't the school teaching me things, but me going through school with basically my own technology teaching me things.

(Moderator 1) Okay. So, um, these first set of questions, just to bring you both up to speed, are kind of focused around digital equity. So the research shows that gender, race, socioeconomic status and computer experience are all factors of digital equity. So in what areas and to what

extent do you think these things—gender, race, socioeconomic status or computer experience—impact your adoption and use of SharePoint in the workplace, and do you have any examples?

(Participant 5) Well in K-12 there weren't a lot of girls that were in the technology classes, and there weren't a lot of non-Caucasians either.

(Moderator 1) Mm-hm.

(Participant 5) I don't know about socioeconomic.

(Moderator 1) What about in the—think about in the future as well—do you think that those things could affect adoption and use of SharePoint in the workplace, those factors?

(Participant 3) Um yeah, I mean, speaking as a parent, um, of a high school sophomore, I see kind of a—I've experienced through his eyes some of the almost anti-adoption of technology because of equity issues. There are no such things as science fairs anymore because of equity issues, because not every kid has the means to buy all the science stuff. Likewise, you can't bring an iPad into the classroom because not everyone has the ability to buy their kid and iPad, and, you know, the access to computer technology as well—if everyone can't have it, no one can have it. So I see that really having an impact in the future.

(Moderator 1) So maybe not getting better, maybe getting worse in a different way.

(Participant 3) Well, I think that there's a-a disconnect between what the kids are going to be able to do when they graduate high school and college and what they're going—what they need to be able to do to move society forward. Um…

(Participant 4) Um, I also have children, and, um, at all levels of college down through middle school, and I guess I've been amazed at how little demands have been put on their use of computers, even at home. I was surprised, because it seemed like early on people felt like every home—you had to have a computer in your home for them to be able to do their homework, and I'm surprised at how little they require the computer at home to do their homework. I guess they're getting time at school to do it, or—

(Participant 3) Well some schools don't give homework.

(Participant 4) Or they're—yeah, don't give homework now, or they're somehow making it so you don't have to have a computer at home to do.

(Moderator 1) Hm.

(Participant 3) If they're not getting that class, you know, if they're not getting exposure to that class at home, or during class, or they're not being pushed to use it, you know, and they're not getting an opportunity to enhance their skills like I did at home, where I pushed my boundaries and I failed—you know, the multimedia project—they never get a chance to do that.

(Participant 4) And it seems like anything that does benefit from a computer at home is really lightweight in its application—its finding articles on the internet and sticking them inside of, you know, an essay [unintelligible]. I haven't seen anybody come home with a requirement for significant software, whether it be any sort of graphic designing software or whether it be modeling software or programming software. I haven't seen any of my kids come home with that, and it's just the way they've been—they've [unintelligible] through the curriculum, but I guess I've been kind of surprised that we're—I have enough children at home and there's enough demands on my computer that I'm surprised there's not [unintelligible] more.

(Participant 3) The projects I was doing in high school as-as a sophomore in 1988 are more complex than they're doing now.

(Moderator 1) Anybody on the phone have anything, or just, you know, chime in. I don't want you to get left out.

(Participant 2) Well I think probably the amount that—you know, I have two children. Um, one is out of college working on his master's degree and working, and, uh, my daughter's a, uh, sophomore in college, but my son was going through, uh, K-12 right—I mean, he-he is like the first internet generation, he's 27,and it-it's interesting because they went to an affluent, uh, elementary and middle school, and everyone had access to computers, and so I saw the exact opposite of what your gentlemen on campus there are-are saying, as almost everything they did on the computer, but that was an affluent school, and we moved back to [city location], uh, when my daughter was in high school, and like most Midwestern communities where there's only one school, there's a great deal of disparity. I will say that my daughter was able to use—I mean, literally they-they couldn't turn in handwritten, uh, papers, they had to be typed, but they also had access to printers and-and computer labs at school, and I-I do believe that, um, there probably is a disconnect, and that, you know, public schools, in order to have equity, are going to have to provide as-as part of a free education, um, technology for those who-who can't afford it at home, because it is blatantly unfair what my kids had the ability to do from home and what somebody that didn't have the socioeconomic capability of-of, uh, the technology that we all provide for our children at home.

(Moderator 1) Okay.

(Participant 5) My son is in kindergarten now, and his classroom has a Smart Board, which they actually use for everything. There was one day where-where [internet provider] was down and the school didn't have internet, and they, like, just did recess all day because they didn't know what else to do.

(Moderator 1) [laughing] That's funny.

(Participant 5) So it—sometimes I wonder, like when I was growing up it was changing from doing things handwritten to always typing everything up and doing everything on the computer. I wonder if he's ever going to even learn to use a keyboard properly, because he'll be so used to touch interfaces.

(Moderator 1) Right. Well I don't think—kind of back to your typing comment (I did the typing thing as well)—I don't think that's a requirement anymore in—

(Participant 5) It's not.

(Moderator 1)—in school, and it was when I was in high school. It was a requirement.

(Participant 4) I have five children, and none of the five have had a formal typing course where they learn to use the keyboard the right way. They just kind of launch in and say "Type the paper without [unintelligible] a keyboarding class."

(Moderator 1) Right. So just to kind of keep us moving forward, because I have several questions, how do you typically use the computer at work? So what—I kind of know a couple of you, but that's okay, go ahead and still—just, you know, what are the top things you're using a computer for at work?

(Participant 3) This is [Participant 3]. Pretty much server administration, email, uh, SharePoint, managing lots of data, spreadsheets, pretty much everything and anything. My job is very odd.

(Moderator 1) How about you guys?

(Participant 5) My job is to manage the data center group, so I-I can't do anything without the computer facing me. I take notes on it, I do all my system administration, any tools that I need to manage the server room.

(Moderator 1) Okay. [Participant 4]…

(Participant 4) So, um, the team that I work with is a group of engineers and computer [unintelligible], and so we're very much tied to the computer in the creation of our products, scientific products, and so in managing the team, I find that the bulk of my time spent on the computer is communicating.

(Moderator 1) Okay.

(Participant 4) Whether it be [unintelligible] various correspondence, or kind of managing what's coming in versus what's going out. Um, so so much of it is communication.

(Moderator 1) Okay.

(Participant 4) [unintelligible] would be actually creating the products themselves, so using specialty software, in this case geographic information systems, in order to, you know, slap a map in that [unintelligible]. So I am always on the computer except when I am walking from one room to the other room to discuss things with people, and anytime we have meetings, we meet in a conference room that has dual screen projected computer [unintelligible] documents [unintelligible].

(Moderator 1) Okay. [Participant 1] or [Participant 2], how do you use the computer at work?

(Participant 1) This is [Participant 1]. I use it for data entry, generating reports, um, PowerPoint presentations, writing emails, pretty much everything [laughing].

(Moderator 1) Right.

(Participant 1) Everything is done via computer.

(Participant 2) And I would say that I—literally, if I'm not out giving a presentation or facilitating a meeting, I'm on the computer. Um, everything—I mean, everything we do—when our internet is down we're sort of like…we can't do anything.

(Moderator 1) Right.

(Participant 2) Um, you know, from—and we even have—like for us to contact campus we have to use our computers through Lync, so even our phone system is dependent on them.

(Moderator 1) Right. So do you have access to use SharePoint at work? If so, what type of access and what do you use it for? Anyone who wants to…

(Participant 5) Yep, we have—uh, our department has a production website with SharePoint, and a production space and a development space. We also, as the IT for our unit, support other academic areas that, uh, have SharePoint or want to use SharePoint. Um, I also use SharePoint as part of the data center shared service, and, uh, with the [department] budgeting office. Um, so I'm-I'm in it practically every day.

(Moderator 1) Okay. Do you use it [Participant 4]?

(Participant 4) Only when outside entities are using it. I have logins to their machines in order to look at the information on their machines, but we don't have it internally.

(Moderator 1) Oh.

(Participant 4) Just associating with it when other entities are using it.

(Participant 2) And [Moderator 1]—this is [Participant 2]—and I don't think [department] has SharePoint yet. If they have, they haven't told us how to use it, so…

(Moderator 1) Okay. Does—and so for those of you who have SharePoint—or I don't know if you want to say how you use SharePoint…

(Participant 5) Um, lots of service data, basically everything related to the general science services in SharePoint, uh, and I'm also supporting some of the other groups in our area now, fleshing out their, uh, operations, um, with business processes and workflows and stuff like that.

(Moderator 1) [Participant 1], are they using—are you using SharePoint? Do you have access?

(Participant 1) No.

(Moderator 1) Okay.

(Dian) No, like she said earlier, if they do we don't know anything about it yet.

(Moderator 1) Okay. So for those of you that are using it, either—even if it's external, does everyone in your department have access, and how is that access decided?

(Participant 5) No, and it's decided by if we can figure out how to get them the access.

(Moderator 1) So there's no—I mean, it's just based on that, then; it's not based on any kind of specific factors?

(Participant 5) Not particularly, no. It's-it's been difficult trying to integrate our current identity management with the SharePoint permission sets.

(Participant 3) Um, in our group not everyone has access, and that's pretty much by choice and by role. Not everyone needs access—

(Moderator 1) When you say role, what do you mean?

(Participant 3) Uh, you know, we have audiovisual technicians who basically, by their job function—

(Moderator 1) So their job description.

(Participant 3) Yeah.

(Moderator 1) Okay.

(Participant 3) They don't need to have access. I mean, we could design, you know, forms and things like that that they could use, but, um, by design their work doesn't intersect with SharePoint at this point in time. There's a few people that do, and they have access.

(Participant 4) We have about, I'd say, a fifth of our group [inaudible], so about a fifth will have these logins to other entities we're sharing things, requiring us to get access to them, and we kind of, because it has a reputation of being difficult to use, or even just to remember what passwords you've got, it's—nobody's—nobody really wants the access, and so it's kind of a—nobody really gets on it and really enjoys themselves on it.

(Moderator 1) Okay.

(Participant 4) It's just like I navigate and find my way into whatever I'm supposed to get at—

(Moderator 1) Because it's part of their job that they have to…

(Participant 4)—and get it off and start working on it.

(Moderator 1) Okay. So does SharePoint help share knowledge in your department? On the campus? Why or why not? So what do you think? Do you—do you think it helps knowledge sharing, maybe not even within your department, maybe if you're on some kind of collaborative site within the campus, your campus?

(Participant 3) Depends on, you know, the application. Uh, the way my team uses it, um, all of our service data's in there. Anyone who's out working on a digital assignment can pull up on an iPad if they have one, or on a laptop, everything about every location, you know, lock codes to, you know, what type of [unintelligible]is, and they have access to everything they need. Now, whether or not they use it effectively is another story, but I know I use it when I go out. But, you know, for a small team it's very effective.

(Participant 5) I think that the person who creates the document library or list finds it very useful and intuitive, and everybody else has troubles.

(Moderator 1) Yeah, which kind of goes into my next question; we can tie it together—

(Participant 4) [unintelligible] I wonder if-if we're just using alternative technologies inside of our group, [unintelligible] SharePoint's just something somebody else does.

(Moderator 1) Right.

(Participant 4) We're doing other—we're using other solutions to share documents or to collaborate or to communicate or to put up our websites.

(Moderator 1) Do you have like what—examples of some of those?

(Participant 4) [unintelligible] it's all pasted together—

(Moderator 1) Oh, okay.

(Participant 4) So like we'll share an Excel document so we can all go into that document and add whatever we need, or we'll use one of Google's—we have a site where we put all of our documentation in Google Sites [unintelligible] to that, and then we use U of I Box a lot in order to move things around.

(Moderator 1) Okay.

(Participant 4) So I think we're probably piecing together a lot of the-the many of the—some of the functionality that SharePoint might be offering us.

(Moderator 1) Right, right. So—you kind of touched on this [Participant 5]—so to what extent and how often do you encounter obstacles when accessing SharePoint? Could be computer type, browser, permissions, access.

(Participant 5) Oh, the browser. Um, fairly often, even when it's working correctly, there are oddities. For example, I created a form library for change requests, or to request a new—a new server provisioning, and then, uh, somebody in my group filled out the form, took the form, implemented it and then sent me a note saying "Okay, the change request that was here," and it gave me the link, and the link was three lines of text.

(Moderator 1) Yeah.

(Participant 5) So that's a barrier—trying to find your SharePoint space even when you know what your SharePoint space is is difficult if you don't have it bookmarked. It can be difficult to navigate inside of SharePoint, especially if you've got sub-sites, because you can go into the sub-site but then you can't go back up to the parent without entering the URL or going back to your bookmark. I-I wonder also how much of the—how much of my-my pain working with it is because it's SharePoint 2010, and if it would be improved in 2013.

(Moderator 1) It's supposed to be [laughing]. That's what they say, right?

(Participant 4) [unintelligible]

(Moderator 1) Okay, so let's just move on to workplace learning. So this is your perception, what you think about-about these questions. What factors enhance or constrain workplace learning? So it could be individual factors like skill, knowledge, attitude, it could be organizational factors like culture, job satisfaction, training. So what factors enhance or constrain workplace learning, and do you have an example? Anybody…

(Participant 5) I think the single biggest factor is the opportunity to practice what you're learning. It's not enough to just send somebody to go, say "Okay, you're going to do one day of training," and then they come back and say "Okay, I have this skill now." They have to have an opportunity to practice at it, and practical application to apply to really learn the skill.

(Moderator 1) [unintelligible] time.

(Participant 5) It's time, and it's having something to intentionally say "I'm going to be using this to learn. I'm going to apply what I'm learning to something that's tangible—part of your-your regular work."

(Moderator 1) Okay.

(Participant 4) I-I know it's nice having training opportunities out there, but that's exactly the problem. I mean, you go to some of this technical training and you don't come right back and begin applying it. You're just supposed to treasure the knowledge that you use later; you're not going to [inaudible] see its application.

(Participant 3) Yeah, and I think that was something we hit upon in one of the, uh, SharePoint user group meetings, that SharePoint's one of those tools where you play with it a bit and you learn more about how it works, how it doesn't work, and what features you like best, and, uh, you know, even after your training you're not, you know, SharePoint itself is not the solution; it's a framework to build your solution in. So it's not like Excel where you come back and you have all, you know—you're just putting data inside of it and using functions that exist. To use the SharePoint you have to understand your business and understand your processes, and that takes time to think about that and process it. And as far as barriers, it's all of the above, you know, culture, time, uh, availability of training. I know our training costs money here, right? I used to run the technology training program at Illinois State—everything was free. We filled classes upon classes. We offered it to everyone—faculty, staff and students. That was wonderful.

(Moderator 1) What about [Participant 1] or [Participant 2]? Is there any factors that you can think of that enhance or constrain workplace learning, in your experience?

(Participant 1) The timing, for even—like say, training is great, but having the time to take away from work to actually go to the training, and also when you come back do you [unintelligible] to have access to what you need to supplement the training that you just went for? Just having access to that and getting everyone on board to utilize the same information that you brought back.

(Moderator 1) Right.

(Participant 4) I think there's a quality component associated with it. In other words—and we would learn best, obviously, if we had a person over our shoulder that can tell us exactly how it works in our current situation, as opposed to taking this—taking a course where 90% of it is really not going to apply to you, or at least not going to apply to you in the immediate future. So that's a constraint—I mean, if you had somebody there to help you directly—so we—our team ballooned in its existence. We started off with just a couple people and then we ballooned it, and we designed our workspace purposely to be open as opposed to being cubicles. We had [unintelligible], so that the idea was that when they were beginning to learn something over here and they could easily shove their chairs over, so—and then there was the opportunity for them to-to, you know, look perplexed or-or voice, and then somebody next to them could help. So that was really good in the early stages. Um, we've since matured out of that, unfortunately. Everybody's got their headphones on and nobody's talking to each other anymore. So, um, but I guess that's an—I guess that's an example of-of immediate interaction specifically to what you're doing is-is the best learning you ever get, and so anything just doesn't feel as valuable. Going to—going to full days of training to just get a couple tidbits out of it takes a lot of patience, and—

(Moderator 1) Right, right.

(Participant 3) I think sometimes there's a fear of actually applying what you've learned. I know a lot of people in my group have taken the Lynda.com training on SharePoint, but yet they're afraid to do anything at all in SharePoint. They're relying upon me to do it, because they won't

take those—even the most basic steps of creating a document library, period. I don't know what the fear is, but I mean, SharePoint is meant to be—

(Moderator 1) Maybe of breaking something, because it's such an unknown.

(Participant 2) And I-I must be the only, um, outlier that doesn't actually work on a campus. Um, one of the biggest challenges for us, um, in [department] is when I'm sitting in my office, technology is great. The reality that a lot of people on campus don't recognize yet is that a lot of places we work, the broadband is virtually nonexistent, and so you can't really use technology to its fullest extent, because if you go out into the fields and are working with someone, you don't have connectivity. And we all have iPads, and it was kind of funny when they bought them for us, because they said "Oh, you can just go to McDonalds anywhere." Uh, well I'm telling you, some of my communities—I have an entire county where not—there's not a McDonalds in it, you know, so connectivity—even in our offices in some of our counties we have difficulty. So…

(Moderator 1) Yeah, that's a good point. That's a good point. So how do you all learn in the workplace? Um, we've kind of touched on it. How does your work group facilitate learning? Do you use technology to facilitate it? Is there employer support? Do you prefer—we kind of talked about the over-the-shoulder, um, but do you prefer self-study? So I guess just in general, how-how do you learn in the workplace? What works for you, and how does your work group facilitate learning?

(Participant 3) This is [Participant 3] again. I personally self-study. I just kind of dive into a topic, and I follow, you know, connections between things, and I learn things I might pick up later and…I know it's kind of hard to describe how I learn things. You know, I start on one topic and I follow a few threads and I find I learn something that I'm going to find valuable, you know, in a couple weeks, and that's just the way it works, and SharePoint's one of those things where I'll see a feature that "Oh, I'm going to—I'm going to need something like that," and I wasn't necessarily looking for that, but I found it along the way. I-I don't—I've never taken a formal, uh, SharePoint class except for, you know, the ones on Lynda, and those were more kind of review of what I knew, but they were very good.

(Moderator 1) Mm-hm.

(Participant 5) So our group has time card [unintelligible]. They have a certain percentage of time in the year that they can use—

(Moderator 1) Oh, okay.

(Participant 4)—for professional development, and within that category includes attending conferences or the time it might take for [unintelligible] courses or taking some on-campus available courses. So they—as well as with that we also—because we're on campus and people get tuition waivers, that's where something might fit in, some course they might be taking in college and things like that, so it's just a—it's management's commitment to [unintelligible] flexibility to do it. I guess it could be facilitated a bit more though by, I guess, encouraging

people to be proactive in choosing—it's kind of not always reminded, by "Hey, if you see something out there, you know, just let us know" [unintelligible] to ask.

(Moderator 1) Mm-hm. Okay.

(Participant 5) I only—I really only learn things when I have a specific problem that I'm looking to solve. So I'm-I'm looking to solve a problem, and I might say "SharePoint might be a good way to explore solving that," so I'll give it a try, and, uh, maybe it—well, an example is for setting up our SharePoint infrastructure we've—I've got a bunch of different things that I want to solve, like doing a database migration, how do we track that and do the project management on that, um, how do we handle change requests. And I tried SharePoint with a couple things and was like "Oh, that didn't really work. It just fell off the plate," or "Oh, I actually needed a form library, not a document library." Um, that helps me learn that. For, uh, our department also gets professional development funding, um, which for my staff I see particularly well-used when they go to a conference and they find other people who are solving problems that we have or that are handling an issue in an innovative way. They'll come back and they'll try implementing that for us, um, and help us with [unintelligible]. And then there are several people who really love to pursue the certification, the technical certification, so they go get the specific technical training and then they come back and they do the exams. And I find that those are less effective for our organization overall, because most of the technical training is on the 90% of things that they don't need to know for our particular applications.

(Moderator 1) Yeah.

(Participant 4) You pay for their certification [unintelligible]?

(Participant 5) Our policy is that we'll pay for them to take the official training, and then to take the test the first time, but if they fail it, the retest [unintelligible].

(Moderator 1) So to what extent are technology changes communicated to the employees in your department? So if we're going to make a change in technology, um, how do people find out about it? To what extent is there any notification? [laughing]

(Participant 5) In-in our group they're the ones that are initiating the change. They're-they're starting it, and then it's more of a—we probably spend more time working on the communication aspect of "Here comes a big technology change" than we do actually implementing the change. (Moderator 1) So who—who are you telling?

(Participant 5) I'm representing the [department], so we have our-our [department] IT is doing—implementing the change, or like with SiteMinder, [unintelligible] SiteMinder, we're the ones that are on the hook for doing the actual work, but then we have to communicate to all of the [department staff], all of the civil service staff and all of the patrons "Hey, on a particular date this particular web application is going to act weird."

(Moderator 1) Are you offering any kind of support or training when you send out those communications?

(Participant 5) It depends on the change.

(Moderator 1) Okay.

(Participant 5) There was one—I can remember one about a year ago where we went from our homegrown vacation and sick-time reporting system to using the engineering application, and when we did that we said everybody—we're going to give everybody individual one-on-one training. We had human resources come in and assist us. We have a user education committee that assisted us so that everybody could come in one at a time and see exactly what it was that we were doing and how it was going to affect them. Um, and that-that turned out to be incredibly positive. There were so many people who didn't realize that they were losing their benefits at the end of the year because they were letting them accrue beyond the maximum value.

(Participant 4) So ours will come, um, through like seminars, or most often it's kind of in the middle of a brief email saying "The system's changing. You should upgrade to such and such version." Um, so it's not really a—it's not really a super-planned-out opportunity. You just—you just kind of see the need and the pressure growing, and then you realize you're going to have to upgrade your skillset, so that's kind of how it goes. We did—we recently changed our time tracking [unintelligible]. It was a little bit comical in how they did it, because we received the training like three months before we could actually use the software.

(Moderator 1) Oh.

(Participant 4) [Unintelligible] everybody forgot by that time.

(Moderator 1) Right.

(Participant 4) It made everybody sign in, so everybody had to have training, and it had a formality about it that-that you almost kind of want to say "Come on, just let us dig in instead."

(Moderator 1) What about [Participant 1] or [Participant 2]? How do you all receive communication on when there's a change to technology?

(Participant 2) They say "By the way, we're going to upgrade!"

(Participant 5) That's right, that's right.

(Participant 2) [laughing]

(Moderator 1) Okay [laughing]. That's what thought you might say, but—

(Participant 2) "This is your code and-and figure it out," and for the most part—I mean, we have technology staff with [department] that is great in terms of helping us walk through changes, um, but we generally have very little notice. Like when they might—we recently got rid of our

internal drives and are storing all of our documents on Box, and a lot of people had a lot of problems with that.

(Moderator 1) Okay.

(Participant 1) Oh, and like she said, we have like a limited amount of time [unintelligible] send us the email saying "This is changing. We'll offer training after we do the change," so sometimes we don't really have a lot of time [unintelligible] adjust the transition, and by then they have a help desk in place so they know we're coming with the questions, and complaints sometimes as well.

(Moderator 1) Okay. So how do your workplace learning experiences—so think about these things we've just been talking about—affect your acceptance of a knowledge sharing technology in the workplace, so the way you're told about these communication—or these technology changes, and how do they affect your acceptance when somebody has a-a new technology or a knowledge-sharing technology specifically, like SharePoint, in the workplace?

(Participant 4) Well we have—we accept that change is necessary, kind of realize you have to keep up, but we're very skeptical of the value of that change, um, whether or not [unintelligible], because everybody's had some bad experiences with—and I think it's the rare upgrade that makes you excited that you're really upgrading [unintelligible] "I'm so glad I upgraded." You know, the other ones are kind of like "Well, I have to learn something new." There's a lot more bother associated with [unintelligible] if anybody can get a timesheets update that works, I'd be amazed.

(Participant 1) [unintelligible]

(Moderator 1) Yeah. Go ahead [Participant 1].

(Participant 1) I think for us, because it happens—I guess depending on where you've been and how long you've been there, after a while you just kind of get used to it, you just know that it's coming, so it's just a matter of preparing yourself and just bracing yourself for that change, and sometimes it's kind of hard to transition because once you—by the time you adapt to the new program, something else has come along to replace it, so it's just a matter of dealing with that and trying to get everyone on board.

(Participant 5) The first impression working with it is a big factor. So if you just jump into SharePoint and say this is—"We're going to use SharePoint for everything now," and somebody sits there and they're confused about it, they may never get comfortable with it, but if you show them the "Oh, look, here's an automated workflow where you put in a document here and it's going to get approved and go automatically right back to you," and it works well, then that's a lot more accepting.

(Moderator 1) Right, right. So to what extent do you think workplace learning plays a factor in acceptance and use of SharePoint? We kind of talked about that on campus. Um, so do you think

workplace learning plays a factor in the acceptance and us, I guess, of SharePoint on campus? Or not?

(Participant 4) I'd just echo what he said. It's first impressions—I have bad first impressions of SharePoint. I'm not rushing out to use it. [unintelligible] I hear it's coming along, I think "Oh, so you guys are using [inaudible]"

(Participant 3) And SharePoint in particular is one of those tough ones, because, you know, you go out and get "SharePoint training," you learn how to use SharePoint out of the box, and as I said before, it's not a solution, it's a platform for developing solutions, and people don't necessarily understand that, so they come back from classes expecting it to solve their problems, and that—you know, they soon learn that it didn't solve all their problems; they have to actually do things, uh, and that kind of disillusions them and, you know, and they get frustrated and they don't' adopt things as readily, and then they become skeptical and it just snowballs. Uh, you know, it's—you know, so sometimes, you know, people think that they should get SharePoint training whereas, you know, maybe they should be getting training on the solutions built in SharePoint, you know, after they've been built by other people. I don't know. It's tough. Or learn how to build business solutions in SharePoint to meet their needs, not just out-of-the-box SharePoint. I've-I've seen that happen quite a bit with SharePoint, and that's why the people in our group have taken to SharePoint [unintelligible], but yet they're afraid to click buttons.

(Moderator 1) Mm-hm. Okay, just—so in the interest of time, I just want to move on to the last set of questions. And some of these, by this point we've kind of touched on little pieces here and there, so we won't' have to redo all the questions probably. But describe how knowledge sharing takes place in your department in general. You talked about Box, email. I mean, are there any other specific ways that knowledge sharing is taking place today in your department or your unit? Like you want to learn something from the person that's, you know, has been here 30 years and they're getting ready to leave next week, you know… Has it been documented all along? IS it when they run out the door, you know? [laughing]

(Participant 5) Box and email, the wiki, [unintelligible]. In some cases—we do this less now than we used to, I think just because of the personalities of the people that are there—but we would do some pair programming where people would sit down and walk an individual through a process. Um, we're starting to adopt SharePoint a little bit for that. We still have people struggling to use the right medium for the right thing. For example, one of our most senior IT people today sent out 9 Word documents as email attachments that were "Here are report-outs from a retreat," sent it out via email to a mailing list of 250 people instead of the 100—the almost dozen other options for file sharing that we could have used.

(Moderator 1) Are there any other ways—anybody else—besides the ones that [Participant 5's] mentioned that we've talked about that you're sharing knowledge?

(Participant 4) SharePoint and Box, pretty much, file shares, the wiki. That's, yeah…

(Moderator 1) Okay.

(Participant 5) We still have some whiteboards around.

(Moderator 1) Okay.

(Participant 5) To write workflows and targets and where things are at, [unintelligible] and things like that, so…

(Moderator 1) Okay.

(Participant 5) But we did have [unintelligible]—

(Participant 1) [unintelligible] email and file share.

(Moderator 1)Email and file share, [Participant 1], okay.

(Participant 1) Yeah, mm-hm.

(Participant 3) Morse code. Wait…

(Moderator 1) [laughing] Do you want that in the notes [Participant 3]?

(Participant 3) No.

(Moderator 1) Okay. So what do you like most about SharePoint? What do you like least? Maybe just top best and worst.

(Participant 5) Um, the form building is very powerful and very unique.

(Participant 3) I like the fact that it's a platform that's integrated with our [unintelligible] directory. It doesn't require a separate credentials. You can build a lot of different solutions in it and solve a lot of different problems. It's not the answer to everything, but it's an acceptable solution for a lot of different things, uh, in the workplace. One of the things I don't like about it is its rather difficult to brand properly. I would like to see more, you know, branding of SharePoint at Illinois, like, uh, features, but that is challenging.

(Moderator 1)And I know that you-your users get into it, [Participant 4], because they have to to do a business process—

(Participant 4) Yeah.

(Moderator 1) –so is it just because it's too clunky? It's just an extra login?

(Participant 4) It seems like there's more—for what the value we're getting out of it, it's too much overhead going into it, so, um, it just seems—I guess it's maybe the way the sites have been made; they're-they're complicated.

(Moderator 1) Maybe not intuitive.

(Participant 4) I would—I would prefer somebody just put a link in an email, and I could click on it and it gets me to it, but that's not how SharePoint seems to work with us. It seems to be they tell you to get into SharePoint and to find it under such and such directory, and that's more confusing than-than a link to U of I box, or even a link to a share on our drives. So it seems like it's got more overhead than-than it's worth.

(Moderator 1) The sites—I'm curious—the sites that you're connecting into, are they higher education, or the business kind of—

(Participant 4) No, they'd be government. They'd be the consultants working for the government.

(Moderator 1) Okay. I'm just curious.

(Participant 4) They'd be national. So they're managing systems all over the country.

(Moderator 1) Okay.

(Participant 3) That's one-one of the things I'd put in as a dislike is, you know, I guess it's kind of one of the ones that [Participant 5] was saying about the right tool for the right job. You know, interfacing with consultants and things like that, it's not that good of a tool, you know, our campus service, um, for interfacing with the outside world, um, whereas a-a Box folder would be a more appropriate way to share files with-with that type of situation, and you have kind of the exact opposite, where you're being forced to use a lot of different ones with the outside entities, where we might have a lot of outside entities, uh, needing to interface with our one folder.

(Participant 4)[unintelligible] we've seen some okay applications inside of it, like they've—they're organizing the course, their course offerings and things like that, but you keep asking that—you keep thinking that it's not quite as good as a web page.

(Moderator 1) Mm-hm.

(Participant 4) Um, or that it's got a little bit more of a barrier to entry than-than a well-done website.

(Moderator 1) Okay. Um, the next couple of questions we've touched on, but I'll just ask if there's anything additional you want to say. What barriers have you encountered trying to use technology in general at work, and what barriers have you encountered in terms of getting technology training you want or need? Is there anything additional that we haven't talked about, any kind of barriers to just using technology or getting training for technology?

(Participant 5) Definitely the-the platform requirements. We have tools that it—we have like separate tools that we need to use that require different versions of Java, and of course neither of them is the one that's secure.

(Moderator 1) Right.

(Participant 3) I think as far as barriers, um, is going in a bunch of different directions, different platforms, different solutions, and without regard to integrating them all. SharePoint's just one of them, and they duplicate data, they duplicate functionality, and it's—it becomes a nightmare of technology to have people keep everything straight, and a lot of it has, you know, login—separate logins. Uh, so duplicate data tables, knowing what the authoritative source of data is, uh, becomes quite cumbersome, and to try to be a technologist and try to get people to adopt a technology when it is so complex, not by the technology itself but by the decision-making processes that brought the technology into being, that makes it hard.

(Moderator 1) So the-the last, um, question I have is what factors do you think influence whether employees adopt and use SharePoint as part of their job, just in general? If you were to say what factors would you pick—it doesn't have to be the digital equity, doesn't have to be workplace learning. I mean, it can be those things, but are there other things, or—that you think would affect adoption and use of SharePoint? Or have we kind of covered it all? Which is possible…

(Participant 4) Yeah, for me it's just that we seem to find alternatives. We even use an online subscription to something called Basecamp, which allows us to track tasks and things like that, so we just keep finding other solutions.

(Moderator 1) Because they're easier, simpler…

(Participant 4) Yeah.

(Moderator 1) Okay.

(Participant 4) They seem to—exactly right, they seem to be easier to use, um…

(Moderator 1) Okay.

(Participant 5) SharePoint is somewhat of an oddity to me, because every technology that you're going to implement has got some kind of a user curve where there are early adopters, and then more people get onboard and then you have late adopters that don't, but-but SharePoint really seems to be very, very polarizing, where you're either an early adopter or you're never going to touch it, and there's nobody in the middle.

(Moderator 1) That's interesting.

(Participant 5) It's really hard to get people to come aboard from either direction. I've even had experiences where we would say, like, just for an example, "The budget spreadsheets are going to be managed in SharePoint from now on," and they will say "Well I guess we're not doing a budget then."

(Participant 3) Yep. I've had—in—

(Moderator 1) So even if there was training in place, even if—do you think that that would still…?

(Participant 5) Yeah, it's—the people that are for it really want to push very hard to make it work for as much of it as they can, and the people who are against it just don't want to see any value in it at all, or maybe more commonly they find other tools that are easier to use, because maybe they're not trying to do as much with one tool.

(Participant 4) Yeah.

(Participant 3) Well it's like us, the [unintelligible] versus, you know, a Swiss army knife of tool, I guess, approach. I know in-in the group I used to be with, the word SharePoint was followed by about a five-minute, you know, tirade of expletives from some people, without even, you know, them knowing much about it, uh, and it's—it, in my opinion, it's more of disillusionment as its design in SharePoint rather than SharePoint itself. And I've seen some really bad things done in SharePoint, um, but once you, you know, once people get an opinion sometimes, it's hard to, you know, turn the other way, even if there is a benefit. A lot of its culture.

(Moderator 1) Right. [Participant 1] or [Participant 2], do you have anything, um, any factors? I know you don't use SharePoint, but—that might influence whether employees adopt or use it, just based on what you've heard, I guess?

(Participant 1) [unintelligible] just everyone's learning curve, so there—the value.

(Participant 2) Well, and it could be my old age that I'm a little cynical, but frankly, within [department], until they say "You're going to use it and it's the only way to access something that you need," we will have people who refuse, and you know, it's unfortunate, but—and I don't know the capabilities of SharePoint since we don't have it, you know, but we had people that resisted Box until the very last minute. There's literally nothing difficult about Box, so I-I suspect that just by the nature of the diversity of staff that we have—I mean, like we have secretaries that I have to explain that there's a tab on the bottom of, um, Excel so that they can find another spreadsheet. So, you know…

(Moderator 1) Right, right.

(Participant 2) There's such a wide array, and then we have people who are, you know, so technology, uh, savvy that they can figure anything out. So, you know, pretty much it's just a-an administrative decision that says "You will learn this" and then people are forced to.

(Moderator 1) Okay. That's all the questions I have, but is there anything else that any of you would want to share with me, just about—I mean, just these topics in general? Anything—

(Participant 4) Why did you choose this topic?

(Moderator 1)Why did I choose this topic? [laughing] Because I actually am one of the main people on the SharePoint shared service on campus, and initially my research project was actually something completely separate from that, and it was, to be quite honest, very hard to work full time with my mind one place and doing research in another place, so I decided to do what I was doing every day, and, um, that's really the reason I came up with it. But digital equity kind of is, um, comes from what really my passion is, and so I was able to kind of mix that into this, because, uh, racial identity theory is kind of where I was at, and so I was able to kind of bring that into this project.

(Participant 2) So [Moderator 1], for those of us who are—at least for [Participant 1] and I who don't really have a good feel for what SharePoint is, what *is* SharePoint?

(Moderator 1) [laughing] So it is a collaborative and knowledge sharing platform, as [Participant 3's] been talking about. So it's not—it's not like a Microsoft Word or Excel where its' just a program and you can do a certain number of tasks and this is what it's meant to do. You can build—you can build upon it whatever you want it to do for you. You want to have workflows, you want to have a file share system, you want to, you know, have all your emails and your calendars, you can do that in SharePoint. And I'm happy to send you some information outside of this, just to give you some information on it if you want to see what it's all about and know about the shared service.

(Participant 2) Yeah, especially, you know, as most people—I'm sitting here multitasking while I'm [unintelligible]—

(Participant 1) [unintelligible]

(Moderator 1) Right.

(Participant 2)—a phone call, and I just got an email from a colleague at [university] that we're talking about doing a collaborative project, um, that the [government department] will fund very heavily, and so I'm just sort of curious, because it's literally building a, um, a matrix type of thing for different funding for disasters, so—

(Moderator 1) Right, no, that could be—

(Participant 2)—I'm curious what-what capabilities it might have.

(Moderator 1) Right. No, I can, um—I can email you after, um, and we can talk.

(Participant 2) That would be fabulous.

(Moderator 1) Yeah, okay. So thank you again everyone for coming and participating. This is the last of my focus group sessions, I have all my surveys, I can move forward. Um, if you want to be entered into the drawing for another $99 gift card, which falls under the $100 rule, which IRB never heard of until I said something to them [laughing]. So for the two of you on the phone, if you just want to shoot me an email that you want to be entered, I'll put you in, and for those in

the room, there's a little slip of paper here. If you just want to put your contact information of how you want me to contact you if you win, I'll probably be doing the drawing, um, if not yet this afternoon, it'll be early next week. So I'm going to go ahead and stop the recording.

APPENDIX J

Additional Quantitative Analysis

Computer Experience as Moderator to Facilitating Conditions on Use Behavior

A multiple regression analysis was conducted to test if facilitating conditions

significantly predicted use behavior of SharePoint in the higher education workplace as

moderated by computer experience. The results of the regression in step one indicated that

facilitating conditions and computer experience explained 19.3 percent of the variance ($p <$

.001). Facilitating conditions and computer experience significantly predicted behavioral

intention (β = .349 and β = .223, $p < $.001). The interaction of facilitating conditions and

computer experience, in step two of the regression, predicted use behavior of SharePoint,

explaining 19.9 percent of the variance (β = .560, $p < $.05). This increased the variance by .06

percent from the first model. Table J.1 presents the results.

Table J.1

Computer Experience as Moderator of Facilitating Conditions-Use Behavior Relationship

					Overall Model			
Predictors	B	SE B	β	p	Total R^2	ΔR^2	F	p
Step 1:								
FC	.210	.028	.349	.000***				
Experience	.252	.052	.223	.000***	.197	.193	47.769	.000***
Step 2:								
FC	-.079	.145	-.131	.589				
Experience	.019	.127	.017	.882				
FC*Experience	.068	.034	.560	.044*	.205	.199	33.256	.000***

*Note. *$p < $.05; ** $p< $.01; ***$p < $.001.*

Workplace Learning Climate Factors

A multiple regression analysis was used to test if workplace learning factors significantly

predicted employee's intent to use SharePoint. The results of the regression indicated that

workplace learning climate factors explained 22.47% of the variance (p < .001). WL1 and WL2

both significantly predicted behavioral intent (β = -.153 and β = .481, p < .001). The outcome of

the testing is summarized in Table J.2.

Table J.2

Workplace Learning Climate Factors (Organizational) as Predictors of Behavioral Intent

					Overall Model			
Predictors	B	SE B	β	*p*	Total R^2	ΔR^2	F	*p*
WL1	-.204	.060	-.153	.001**				
WL2	.615	.058	.481	.000***	.228	.224	57.281	.000***

Note. * *p* < .05; ** *p* < .01; *** *p* < .001.

A multiple regression analysis was used to test if workplace learning factors significantly

predicted employee's use behavior of SharePoint. The results of the regression indicated that

workplace learning factors explained 11.7% of the variance (p < .001). WL2 significantly

predicted use behavior (β = .346, p < .001). The outcome of the testing is summarized in Table

J.3.

Table J.3

Workplace Learning Climate Factors (Organizational) as Predictors of Use Behavior

					Overall Model			
Predictors	B	SE B	β	*p*	Total R^2	ΔR^2	F	*p*
WL1	.012	.037	.016	.740				
WL2	.252	.035	.346	.000***	.122	.117	26.859	.000***

Note. * *p* < .05; ** *p* < .01; *** *p* < .001.

Digital Equity Factors

A multiple regressions analysis was used to test if workplace learning factors (i.e., WL1

and WL2) significantly predicted behavioral intention to use SharePoint in the higher education

workplace as moderated by digital equity factors (i.e., gender, race, SES, and computer

experience). The results of the regression indicated that WL2 as moderated by gender predicted

behavioral intention to use SharePoint, explaining 23.6% of the variance (β = -.283, p < .01). The

results of the regression also indicated that WL2 as moderated by computer experience predicted

behavioral intention to use SharePoint, explaining 24.3% of the variance (β = .673, p < .01).

The outcomes of the testing is summarized in Table J.4.

Table J.4

Gender and Computer Experience as Moderators to WL2 as Predictor of Behavioral Intent

					Overall Model			
Predictors	B	SE B	β	p	Total R^2	ΔR^2	F	p
Female*WL2	-.347	.120	-.283	.004**	.246	.236	25.004	.000***
Experience*WL2	.204	.065	.673	.002**	.253	.243	25.981	.000***

Note. * p < .05; ** p < .01; *** p < .001.

A multiple regression analysis was used to test if workplace learning factors (i.e., WL1

and WL2) significantly predicted use behavior of SharePoint in the higher education workplace

as moderated by digital equity factors (i.e., gender, race, SES, and computer experience). The

results of the regression indicated that WL1 and WL2 as moderated by gender predicted intent to

use SharePoint, explaining 14.4% of the variance (β = -.541 and β = -.250, p < .01 and p < .05).

The results of the regression also indicated that WL2 as moderated by race predicted use of

SharePoint, explaining 12.3% of the variance (β = .283, p < .05).   Income also moderated WL2

in the prediction of use of SharePoint, explaining 17.3% of the variance (β = .500, p <.001).

Computer experience was just above the threshold of .05 at .063 for significantly moderating

WL2 as a predictor to use behavior. The outcomes of the testing is summarized in Table J.5.

Table J.5

Digital Equity Factors as Moderators to WL1 and WL2 as Predictors of Use Behavior

					Overall Model			
Predictors	B	SE B	β	*p*	Total R^2	ΔR^2	F	*p*
Female*WL1	.223	.075	.541	.003**				
Female*WL2	-.174	.073	-.250	.017*	.155	.144	14.092	.000***
White*WL2	.194	.091	.283	.034*	.135	.123	11.951	.000***
Income*WL2	.094	.026	.500	.000***	.197	.173	8.409	.000***
Experience*WL2	.071	.038	.409	.063	.216	.206	21.222	.000***

Note. * $p < .05$; ** $p < .01$; *** $p < .001$.

A multiple regression analysis was used to test if digital equity factors significantly predicted employee's intent to use SharePoint. The results of the regression indicated that digital equity factors explained 8.8% of the variance ($p < .001$). Level of education and job position significantly predicted behavioral intent (β = -170 and β = -.215, $p < .01$). The outcome of the testing is summarized in Table J.6.

Table J.6

Digital Equity Factors (Individual) as Predictors of Behavioral Intent

					Overall Model			
Predictors	B	SE B	β	*p*	Total R^2	ΔR^2	F	*p*
Gender								
Female	-.094	.178	-.027	.599				
Race								
White	-.131	.205	-.031	.523				
Position								
Faculty	-.707	.250	-.170	.005**				
Education								
ProDoc	-.879	.257	-.215	.001**				
Income	.130	.067	.102	.054				
Experience	.041	.097	.021	.674	.102	.088	7.280	.000***

Note. * $p < .05$; ** $p < .01$; *** $p < .001$.

A multiple regression analysis was used to test if digital equity factors significantly predicted employee's use behavior of SharePoint. The results of the regression indicated that digital equity factors explained 10.7% of the variance (p <.001). Individual income and computer experience significantly predicted use behavior (β = .187 and β = .275, p < .001). The outcome of the testing is summarized in Table J.7.

Table J.7

Digital Equity Factors (Individual) as Predictors of Use Behavior

Predictors	B	SE B	β	*p*	Total R^2	ΔR^2	F	*p*
						Overall Model		
Gender								
Female	-.099	.100	-.049	.326				
Race								
White	-.034	.116	-.014	.766				
Position								
Faculty	-.186	.141	-.078	.189				
Education								
ProDoc	-.211	.145	-.090	.147				
Income	.135	.038	.187	.000***				
Experience	.311	.055	.275	.000***	.121	.107	8.777	.000***

Note. * $p < .05$; ** $p < .01$; *** $p < .001$.

Workplace Learning Climate, Digital Equity Factors and PE, EE, and SI

A multiple regression analysis was conducted to test if performance expectancy, effort expectancy, and social influence significantly predicted behavioral intention to use SharePoint in the higher education workplace as moderated by both workplace learning climate and digital equity factors in the model at the same time. The results of the regression in step one indicated that performance expectancy, effort expectancy, social influence, workplace learning, and digital equity factors explained 45.9 percent of the variance (*p* < .001). Performance expectancy, social influence, WL1, WL2, level of education, and individual income significantly predicted behavioral intention. When incorporating workplace learning and digital equity factors as

moderators in step two of the regression, the interaction between social influence and gender and the interaction between social influence and job position significantly predicted behavioral intention to use SharePoint ($\beta = .294$ and $\beta = -.315$, $p < .05$); and the variance increased to 46.8 percent. Table J.8 presents the results.

Table J.8

Workplace Learning Climate and Digital Equity Factors as Moderators to Performance Expectancy, Effort Expectancy, and Social Influence-Behavioral Intention Relationship

					Overall Model			
Predictors	B	SE B	β	p	Total R^2	ΔR^2	F	p
Step 1:								
PE	.332	.070	.230	.000***				
EE	.047	.068	.030	.491				
SI	.451	.062	.319	.000***				
WL1	-.160	.053	-.120	.003**				
WL2	.348	.053	.272	.000***				
Race								
White	.100	.159	.024	.532				
Gender								
Female	-.022	.137	-.006	.875				
Education								
ProDoc	-.501	.200	-.122	.013*				
Position								
Faculty	-.229	.196	-.055	.245				
Income	.124	.052	.098	.017*				
Experience	.116	.077	.058	.135	.474	.459	31.024	.000***
Step 2:								
PE	-.345	.492	-.239	.483				
EE	.868	.548	.564	.114				
SI	.117	.477	.083	.806				
WL1	.045	.254	.034	.859				
WL2	-.040	.253	-.031	.874				
Race								
White	.490	.773	.117	.526				
Gender								
Female	.559	.672	.159	.406				
Education								
ProDoc	-1.421	1.039	-.347	.172				
Position								
Faculty	.955	1.024	.230	.351				

Table J.8 Continued

Predictors	B	SE B	β	p	Total R²	ΔR²	F	p
						Overall Model		
Income	-.059	.252	-.046	.816				
Experience	-.016	.458	-.008	.972				
PE*Female	-.087	.151	-.110	.564				
PE*White	.149	.178	.169	.403				
PE*ProDoc	-.220	.209	-.212	.292				
PE*Faculty	.050	.198	.046	.800				
PE *Income	.071	.061	.287	.242				
PE*Experience	.053	.090	.195	.554				
EE*Female	-.246	.148	-.335	.098				
EE*White	-.024	.173	-.029	.888				
EE*ProDoc	.274	.211	.286	.194				
EE*Faculty	-.001	.220	-.001	.995				
EE*Income	-.053	.060	-.215	.383				
EE*Experience	-.067	.099	-.258	.500				
SI*Female	.267	.131	.294	.043*				
SI*White	-.288	.152	-.295	.059				
SI*ProDoc	.168	.189	.136	.377				
SI*Faculty	-.403	.188	-.315	.033*				
SI*Income	.041	.047	.145	.382				
SI*Experience	.059	.083	.207	.480				
WL1*PE	.033	.054	.143	.539				
WL2*PE	.004	.062	.016	.951				
WL1*EE	-.092	.053	-.424	.083				
WL2*EE	.084	.047	.367	.074				
WL1*SI	.015	.051	.068	.763				
WL2*SI	-.003	.053	-.013	.951	.516	.468	10.780	.000***

Note. *p < 0.05; **p < .01; ***p < .001.