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Organization-Stakeholder Interaction Through Social Media: A Tri-level Investigation, Categorization, and Research Agenda

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ORGANIZATION-STAKEHOLDER INTERACTION THROUGH SOCIAL MEDIA:
A TRI-LEVEL INVESTIGATION, CATEGORIZATION, AND RESEARCH AGENDA

A Dissertation
Presented to
the Graduate School of
Clemson University

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy
Management

by
James Edward Burlison
May 2016

Accepted by:
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ABSTRACT

The increasing proliferation of social media use by organizations has amplified the need to address the means by which organizations can utilize this new form of communication most effectively. Social media offer organizations an enhanced ability to communicate with outside stakeholders, made possible through unique communication characteristics and an increased level of communicative connectivity. This dissertation advances our understanding of social media directed organization-stakeholder communication by investigating the phenomenon across three levels. At the global level, we present a categorization of interaction behaviors, with prescriptions for researching each category across three research perspectives. At the organizational level, we utilize three case studies to describe how different organizations can implement social media uniquely, differentiated by the degree of emphasis on regulated or empowered communications. At the individual level, we examine the motivating factors which influence an individual's desire to use a personal technology (e.g. social media) for a work-related purpose. Our findings contribute to the growing literature on organizational social media use in two forms. For practice, we explicate numerous mechanisms which both enable and improve the use of social media for stakeholder interaction. The three essays uniquely describe how organizations can increase the effectiveness of social media interaction strategies. For research, we enhance our understanding into the utilization of social media and motivate future research on this new form of communication.

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OVERVIEW OF DISSERTATION RESEARCH

This dissertation aims to forward our thinking regarding how and why to use social media as a means of creating value for organizations. Social media have changed the nature of how organizations interact with the outside world (Tapscott & Williams, 2010). Enhanced abilities to collaborate with stakeholders have opened up new avenues for value generation, such that social media are viewed as transformative technologies with the potential to revolutionize an organization's standing within both the business community and the world at large (Sterne, 2010).

A recent study by McKinsey & Company notes that nearly \$1 trillion is currently left unrealized through the inefficient underutilization of social media in organizations (Chui et al., 2012). This figure underscores the enormous potential that is available if organizations are able to fully harness all that social media have to offer. In recent years, scholars have begun to investigate how to unlock this potential by explicating the relevance of social media in professional settings.

Fundamentally, social media are communications media, technologies which enable disparate entities to communicate on a connected platform (boyd & Ellison, 2007). The inter-connectedness of the communication offers exciting opportunities, as individuals and organizations are able to collaborate together like never before (Kaplan & Haenlein, 2010). Scholars have coined the phrase "produsage" to represent activities where individuals and organizations work together to create value, rather than leaving such activities to organizations alone (Horan, 2013).

While the research community has begun the investigation into value creation through social media, many questions remain. In their framework for research on business transformation through social media, Aral, Dellarocas, and Godes (2013) remark that a thorough examination of the transformative power of social media must ask questions at multiple levels. At the global level, we must understand the nature of how organizations can interact publicly through social media. At the organizational level, we must understand how organizations strategically implement social media differently depending upon their needs and constraints. At the individual level, we must understand how employees use social media to enact these strategies, and identify the motivations to use the technologies to achieve professional aims.

The primary objective of this dissertation is to investigate organizational social media use at each of the three levels (global, organizational, and individual). We aim to describe how social media is made actionable and provide direction for future research at each level. The three essays are focused on extending our understanding regarding current social media use by organizations and offering means by which this phenomenon can be researched further. Each of the three essays is described in detail below.

The first essay investigates social media from the global perspective, describing the value-creating behaviors organizations can enact through interacting with outside stakeholders. We focus on the communicative aspect of social media in proposing a categorization of behaviors (titled monitoring, disseminating, and enabling) which differ depending upon the role of the organization in social media communication (receiver, sender, and moderator). Furthermore, we advance a research agenda for studying the

behaviors from three research perspectives. Each perspective provides a different means for investigating organizational social media use. The Knowledge Management perspective focuses on the information that is transferred by individuals and/or organizations and the environment in which it is transferred. The Communication perspective guides our understanding into the operational specifics of each behavior, revealing the methods necessary to increase the effectiveness of social media communication. Finally, the Economics perspective offers the motivation for each behavior, noting how differing activities involved with social media use can contribute value to organizations.

The second essay looks at social media from the organizational perspective, recognizing that not all organizations will implement the technologies in the same manner (Aral et al., 2013). This essay focuses on identifying and describing the different strategies organizations can use to enable innovation through social media. In contrast with the other two essays, this study takes on somewhat of a practitioner focus, seeking to illustrate tactical strategies for organizations to follow. We build upon the foundational strategies of end-user computing (Gerrity & Rockart, 1986) to define three different social media strategies that differ according to the degree to which the organization emphasizes regulation and empowerment among its social media accounts. We test a series of hypotheses through an analysis of three case studies, using organizations which have enacted the three social media strategies. An evaluation of the hypotheses is presented, along with a set of propositions for further research into differing strategies for social media-enabled transformation.

The third essay looks at social media from the individual perspective, noting that social media are only useful within organizations if utilized by their individual employees. Due to the personal nature of social media (Smith, 2011), the use of such technologies in the work domain requires a form of repurposing, or the alteration of the nature of use. During the interviews for the second essay, many employees at each organization noted that the catalyst for using social media for work purposes was the recognition of potential congruence with their prior social media experience. This led to the development of a research model based upon a continuance perspective, where an individual's future use is determined through the evaluation of prior outcomes. We present an operationalization of a new construct in IS literature, representational fidelity (Burton-Jones & Grange, 2012), and describe how congruence between an individual's personal and work contexts motivates technology repurposing.

In summary, this dissertation aims to illuminate the vast potential of social media to create value for organizations. For the field of IS research, it advances our understanding of social media use at three different levels. For practitioners, it provides prescriptions regarding not only how to use social media, but how to increase their effectiveness. The three essays herein examine the global, organizational, and individual perspectives to describe current social media use and promote future research on this important phenomenon.

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ESSAY 1

ORGANIZATION-STAKEHOLDER INTERACTION THROUGH SOCIAL MEDIA: A CATEGORIZATION AND RESEARCH AGENDA

ABSTRACT

The proliferation of social media in organizations has increased dramatically over the past decade. Responding to the growing rate of adoption, researchers have intensified the attention paid to understanding how social media can be used most effectively in organizational settings. Specifically, many researchers have called for greater attention to be paid to unearthing the intricacies involved with organizational-stakeholder interactions. In this essay, we present a framework for investigating organizational social media interaction, focusing on the role of the organization in communicating with its outside stakeholders on social platforms. The research framework illuminates opportunities for future research across three categories of interaction behaviors (monitoring, disseminating, and enabling) and three research perspectives (knowledge management, communications, and economics). By doing so, we motivate future research which will examine the full breadth and depth of organizational social media interaction with outside stakeholders.

INTRODUCTION

In recent years, social media have given rise to a dramatic increase in connectedness between organizations and outside stakeholders (Baird & Parasnis, 2011; Hanna, Rohm, & Crittenden, 2011). New social technologies have noticeably reduced communication barriers, granting freedom for two-way interaction between the two parties. Individuals both inside and outside the organization are increasingly able to rapidly and frequently communicate with one another through networked connections, made possible by the advent of social platforms (Kane, Alavi, Labianca, & Borgatti, 2014; Piskorski, 2014; Rapp & Ogilvie, 2015).

Such interconnectedness creates the potential for new value-producing activities for organizations (Bughin, Chui, & Manyika, 2012). For example, the health care industry is in the midst of a radical transformation due to social media communications, as patients, doctors, and health care providers have a common platform on which to share information and communicate (Hawn, 2009). As a result of this interconnectedness, over 80% of small-to-medium-sized businesses (LinkedIn, 2013) and nearly all of the Fortune 500 (Barnes & Lescault, 2014) utilize social media as a part of their business operations.

In response to the escalating proliferation of social media in organizations, research on social technologies has increased substantially within the past decade (Aral et al., 2013). Researchers have begun to investigate how public social media can generate business value (Larson & Watson, 2011). The majority of this research has focused on marketing and brand building efforts, with social media positioned as a means of

increasing product sales through advertising and community building (Berger, Klier, Klier, & Probst, 2014).

In addition to marketing and brand building, organizations can use social media to improve product development, enhance business operations, and improve customer service (Chui et al., 2012). In this new world, organizations and outside stakeholders share knowledge throughout the value chain, collaboratively co-creating value for one another through the reciprocal exchange of information (Chua & Banerjee, 2013). Outside stakeholders are no longer viewed by organizations as pure content consumers, but active participants in business processes, enjoined with organizations as collaborative partners (Bruns, 2007).

Consequently, it would be incomplete to investigate the public use of social media in organizations as merely an instrument for marketing and brand building. Instead, we must take a more comprehensive approach to the examination of how social media can be used by organizations to interact with the outside world (Berger et al., 2014) and extend our understanding of how such behaviors can be most effectively implemented. This is a necessary step if social media research is to provide relevant recommendations to organizations.

The continued proliferation of social media in organizations makes it necessary for researchers to investigate how, when, where, and why organizations use social media to interact with their outside stakeholders. Because social media can be used in such a multitude of different manners (Aral et al., 2013), it is important to address the totality of

interaction behaviors from a variety of perspectives. In order to begin to investigate regarding these key ideas, we center this essay on two main research questions:

- *What are the major behaviors organizations can enact in social media interaction?*
- *How can researchers investigate these categories of behaviors from different perspectives?*

This essay develops a framework aimed at motivating studies focused on investigating organizational interactions with outside stakeholders through social media. We contribute to the literature through describing current phenomena and directing future research on public social media interaction. In doing so, we offer a framework for future research studies that will provide practical insights to organizations on a topic of great relevance.

The essay is organized as follows. First, we review social media definitions, noting that social media are used largely for information sharing between connected parties. Specifically, we focus on identifying the unique characteristics of social media interactions which distinguish them from other forms of interaction. Next, we develop a research framework for the investigation of such interactions in organizations. Three social media behaviors and three research perspectives will be used to construct the framework. For each behavior and perspective, we describe how researchers can extend our understanding of social media interaction. The end result is a prescriptive framework for researchers to investigate how organizations use public social media to interact with outside stakeholders.

Social Media

Research on social media has grown with the exponential rise in user adoption over the past decade (Berger et al., 2014). Within this large volume of studies, there has been considerable discourse surrounding the definition and categorization of social media. Some researchers categorize social media as user-focused (e.g. Facebook) vs. content-focused (e.g. Twitter) platforms (Berger et al., 2014). Others focus on individual motivations, either hedonic or utilitarian (Pillai & Mukherjee, 2011). Even more differentiate technologies according to purpose, e.g. communication vs. human networking (Beer, 2008).

Recognizing that there are differences among platforms (Aral et al., 2013), social media will be evaluated as communications media which allow for interactions with outside stakeholders. Social media are, in essence, communications media, platforms which operate as mediators of communications between users (Kane et al., 2014). While the act of interacting is not novel (e.g. Albert, Goes, & Gupta, 2004; El Sawy & Bowles, 1997; Ray, Muhanna, & Barney, 2005; Tan, Benbasat, & Cenfetelli, 2013), the manner in which organizations interact with the outside world is distinctive through social media (Aral et al., 2013; Treem & Leonardi, 2012). Thus, in order to form a research framework for investigating organizational social media interaction, we must focus the discussion on the characteristics which separate social media interaction from other means by which organizations interact with outsiders.

Prior research identifies numerous means by which social media offer characteristics which differ from other means of communication. When communicating

via social media, users communicate in a unique manner (Treem & Leonardi, 2012), exchange unique forms of information and knowledge (Hemsley & Mason, 2013), through online networks which are distinct from other communication networks (Kane et al., 2014). Throughout this essay, we will discuss many of these unique factors and how they enhance the ability of organizations to interact with their outside stakeholders. For example, Majchrzak, Faraj, Kane, & Asad (2013) describe how social media offer the opportunity to engage in “meta-voicing,” where information is conveyed through sharing the information of others or through responding to other communications (e.g. “liking”).

While “meta-voicing” is a unique characteristic of social media information, our broad description of the unique facets of social media will center not on the information conveyed, but the nature of the interaction between organizations and their outside stakeholders. Thus, unique informational characteristics will be discussed within the framework, but across the entire framework we will discuss broader interaction-level characteristics which distinguish social media from other forms of interaction. Through an evaluation of prior definitions of social media from existing IS literature, we have distinguished three central themes: access, identification, and reach. A summary of each theme follows.

Access – Social media increase the visibility of information exchange, such that individuals and organizations have greater access to each other than before (Treem & Leonardi, 2012). Whereas outside stakeholders were once loosely connected to organizations, social media provide a more direct connection which limits the need for intermediaries (Chui et al., 2012; Hemsley & Mason, 2013). Additionally, the public

nature of social media communications affords an additional ability, whereby organizations can monitor and evaluate the communications between other users (Larson & Watson, 2011). The enhanced access provided by social media platforms allows organizations the ability to establish connections with outside stakeholders and increase the strength of those connections through direct information exchange.

Identification – Social media decrease the anonymity often present in online interactions through the establishment of user profiles (Ellison & boyd, 2013). Information exchanged through social media is connected to a user, whose profile offers identifiable information and an associated history of communications (Treem & Leonardi, 2012). It is through these profiles that communications persist, thereby providing additional context which enhances the information exchanged. Thus, when organizations and outside stakeholders interact through social media, their interaction is more transparent and more contextualized than other forms of interaction (Chui et al., 2012).

Reach – By allowing users access to a broader network of other users, social media increase the reach of individual communications to an almost unprecedented extent (Shi, Rui, & Whinston, 2014). Social media offer a popular instantiation of “masspersonal communications,” whereby individual information is exchanged with an immense, broad audience (Walther et al., 2010). Interactions on social media offer extended reach due to both the increased connectedness of users and the ability to quickly and efficiently share information across the network (Hemsley & Mason, 2013). Through

viral communications, information can reach large audiences in very little time (Kaplan & Haenlein, 2011).

These three distinguishing characteristics (access, identification, and reach) offer challenges and opportunities to organizations as they seek to interact with outside stakeholders through social media. A summary of the characteristics, along with illustrative references from social media definitions, is provided in Table 2.1.

Table 2.1 – Social Media Characteristics

Quality	Description	References in Literature
Access	Social media offer individuals and organizations easier and more direct access with one another.	<p>“Individuals can interact in social ways even across different countries or time zones.” “They allow for direct connections between individuals and organizations, when previously those individuals had to go through intermediaries.” (Chui et al., 2012, p. 18)</p> <p>“...various social media platforms, many of which are completely independent of the producing/sponsoring organization or its agents, magnify consumers’ ability to communicate with one another.” (Mangold & Faulds, 2009, p. 360)</p> <p>“...the form of the knowledge [can be] altered to make spanning organizational boundaries more practical.” (Yates & Paquette, 2011, p. 11)</p>
Identification	Social media interaction is not performed anonymously, but with identifiable users with distinct profiles.	<p>“[Social media networks] have uniquely identifiable profiles that consist of user-supplied content, content provided by other users, and/or system-level data...” (Ellison & boyd, 2013, p. 158)</p> <p>“Social technologies also impose greater transparency, accountability, and competitive pressure on individuals and organizations by exposing information about their behaviors.” (Chui et al., 2012, p. 19)</p> <p>“Social networking sites are applications that enable users to connect by creating personal information profiles...” (Kaplan & Haenlein, 2011, p. 63)</p>
Reach	Social media interaction increases the scale of communication, both in the number of potential recipients and the sources of information.	<p>“...a platform whereby content and applications are no longer created and published by individuals, but instead are continuously modified by all users in a participatory and collaborative fashion.” (Kaplan & Haenlein, 2010, p. 61)</p> <p>“Individuals can maintain a far larger number of relationships.” “Companies can engage consumers in natural conversations or observe the unprompted and unfiltered observations that are recorded in social platform interactions.” (Chui et al., 2012, p. 18)</p> <p>“...the emerging social media can beat even their mainstream competitors in terms of speed, flexibility, and reach...” (Shi et al., 2014, p. 124)</p>

Social media interaction represents the exchange of information between and among organizations and outside stakeholders facilitated through social platforms. This form of interaction differs from other forms of interaction in that social media enhance the access between individuals and organizations, increase the level of identification among those interacting, and extend the reach of communications, both in transmitting and receiving information. In the next section, we develop a framework for future research on social media interaction which accounts for the unique characteristics of communication on social platforms.

FRAMEWORK

Our framework for future research on social media interaction is comprised of two components. First, we propose a categorization of potential organization-level interaction behaviors. These behaviors (monitoring, disseminating, and enabling) organize and classify our framework based upon the varying activities organizations can enact to interact with stakeholders through social media. Next, we present three different research perspectives by which to investigate these behaviors. The resulting nine categories will comprise a research framework into investigating how organizations can account for the challenges and take advantage of the opportunities provided by the unique characteristics of social media communication.

Interaction Behaviors

Social media permit the exchange of information among individuals, organizations, and other users on social platforms (Ellison & boyd, 2013). The unique

characteristics of social media offer numerous behaviors which extend beyond traditional communication behaviors. For example, the enhanced access provided by social media offer organizations the ability to monitor conversations between other users (Laine & Frühwirth, 2010). Prior research has explicated numerous avenues for social media interaction, offering the factor which differentiates the means by which information can be extracted or shared through social platforms (e.g. Gallagher & Ransbotham, 2010; Larson & Watson, 2011). They offer that the differentiating factor between these different behaviors is the role of the organization in each form of communication. Thus, we can categorize these behaviors by looking to traditional communication theory and delineating the diverse roles taken up by organizations in social media interaction.

Shannon and Weaver's Model of Communication provides a useful representation of traditional communication (Cobley & Schulz, 2013; Shannon & Weaver, 1948). They define the primary roles involved in any communication as transmitter (the sender of information) and receiver (the beneficiary of information). Using these two roles, we can classify the categories of social media interaction behaviors by distinguishing the roles enacted by the organization and its outside stakeholders. We assume all communicators involved in such social media interaction as belonging to one of two groups: the organization and outside stakeholders. "Outside stakeholders" refer to any entity (individual or organization) which has an interest in the organization and the ability to influence it (Savage, Nix, Whitehead, & Blair, 1991). Examples of outside stakeholders include customers, potential customers, competing and complementary organizations.

From there, we can describe the types of external communication by investigating the different pairings of these groups. The potential categories of social media interaction behaviors, from the perspective of the organization, include instances where the organization is the transmitter of information, the receiver of information, and the moderator of communications where outside stakeholders are both the primary transmitter and receivers of information. Table 2.2 provides a summary of the three categories of social media interaction behaviors.

Table 2.2 - Categories of Social Media Interaction Behaviors			
Primary Transmitter	Primary Receiver	Category of Behaviors	Description
Outside Stakeholders	Organization	Monitoring	The act of using social media to gather existing information that is being disseminated by outside sources.
Organization	Outside Stakeholders	Disseminating	The act of sending information to the outside world through social media.
Outside Stakeholders	Outside Stakeholders	Enabling	The act of influencing the communications between outside stakeholders through social media.

Monitoring (Transmitter: Outside Stakeholders; Receiver: Organization) - Monitoring involves all activities wherein the organization “listens” to communications disseminated by outside stakeholders. Our classification of monitoring behaviors includes the reception of communications sent directly from outside stakeholders to the organizations and the appraisal and evaluation of communications between outside stakeholders which are of interest to the organization (Gallaughar & Ransbotham, 2010). Social media provide opportunities for organizations to monitor individual

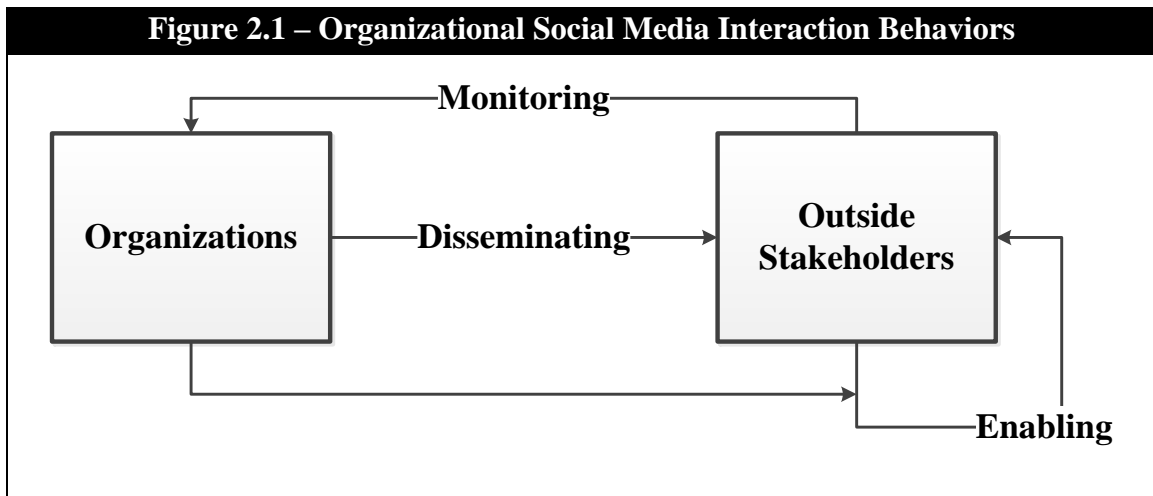
communications or aggregate public communications for deeper insights (Johnson, 2012).

Disseminating (Transmitter: Organization; Receiver: Outside Stakeholders) - Disseminating involves all activities wherein the organization is sending communications to outside stakeholders. Similar to monitoring, organizations can enact disseminating behaviors at the individual or aggregate level. Individually, for example, organizations can use social media to manage customer relationships through engaging dialogue (Baird & Parasnis, 2011). More broadly, organizations can use social media to inform outside stakeholders about activities, products, services, or other forms of suitable knowledge (Gallaughar & Ransbotham, 2010). Through dissemination, organizations are given the opportunity to share information with their outside stakeholders. Numerous opportunities abound for organizations to utilize dissemination to achieve a variety of aims.

Enabling (Transmitter: Outside Stakeholders; Receiver: Outside Stakeholders) – Organizations can influence communications without consistent, active participation. A large aspect of social media utilization involves the organization initiating conversations between outside stakeholders and allowing those stakeholders to communicate with one another. One inherent challenge to the management of social media communications is in creating an inter-network (governed by the firm) in the midst of an open network (governed by no-one) (Carlsson, 2003). Organizations can use social media to direct other conversations to gather information, alter communications, generate hype, etc. (Larson & Watson, 2011). Enabling involves all activities where outside individuals are

both transmitting and receiving communications which are mediated or initiated by the organization.

A summary of the social media interaction behaviors is presented in Figure 2.1.



Categorizing social media interaction behaviors helps us organize future research on this topic, but the identification of behaviors alone is insufficient for developing a complete research framework. Recent calls for future research on broad social media use note the need to provide a more nuanced understanding of how to more effectively enact social media in organizations (Aral et al., 2013; Berger et al., 2014). Doing so requires a purposeful investigation of each category of interaction behaviors across a variety of different research perspectives. In the next section, we present three perspectives by which researchers can investigate social media interaction. These perspectives provide a direction for further investigations into how organizations can most effectively use social media to interact with outside stakeholders.

Research Perspectives

Social media enable information exchange between parties (S. Fox & Jones, 2009; Kaplan & Haenlein, 2010; Xiang & Gretzel, 2010). In order to promote a research framework for the continued study of social media enabled information exchange, we must understand that there are many different lenses by which to study this interaction enabled by social media. These different lenses offer unique perspectives for understanding the many different organizational interaction behaviors made available by social media.

Returning to the general communication process (Shannon & Weaver, 1948), if we categorize social media interaction behaviors according to the role portrayed by the organization, then we can delineate among research perspectives according to the different facets involved in communications. Our aim in delineating research perspectives is to present a research framework not merely for identifying interaction behaviors, but for further investigation into how they can be performed most effectively. McCloy, Campbell, and Cudeck (1994) define performance in any task as a function of three mechanisms: declarative knowledge, or the knowledge of what to do in a given situation; procedural knowledge, or the knowledge of how to do that which you desire; and motivation, the driving force behind the intended behavior. Thus, we can look at social media interaction from three components: what, how and why. In this section, we offer three different research perspectives for studying social media interaction which adhere to the what/how/why model of performance.

Knowledge Management (What) – In order to investigate what is being communicated through social media interactions, we can look to research on knowledge management in organizations. Knowledge management, in its most basic form, is a collection of processes which involve the creation, acquisition, storage, and distribution of knowledge and information both internally and externally (Alavi & Leidner, 2001). Social media have opened up new avenues for each of these processes, such that the fundamental nature of knowledge management has changed due to social interactions (Hemsley & Mason, 2013). Thus, it becomes important to use a knowledge perspective to investigate social media interaction in two forms. First, we must distinguish the different types of knowledge that can be acquired or shared through interaction behaviors. For example, Krüger, Stieglitz, and Potthoff (2012) describe how organizations can use disseminating behaviors to share information about their brand with outside stakeholders. Second, we must investigate how knowledge and information differ when transmitted through social media networks. We will discuss, for instance, how the increased identification of social media communications enhances an organization’s ability to determine the credibility of information (Westerman, Spence, & Van Der Heide, 2014), thus increasing the quality of information gathered through social media interactions. The knowledge management perspective gives us a lens by which to research the “what” of social media interactions.

Communication (How) - Whereas the knowledge management perspective helps us understand what is communicated through social media interaction, the communications perspective helps us understand how that information is best transmitted

and received. The unique characteristics of social media change the manner in which users communicate (Treem & Leonardi, 2012). Thus, it is vital that we understand how best to communicate on social platforms, so as to most effectively use this new form of interaction (Aral et al., 2013). For example, while an organization may use monitoring behaviors to extract customer knowledge about specific products (Larson & Watson, 2011), research from communications notes that the organization must interpret customer communications according to the platform, as individuals communicate differently in different environments (Gouws, Metzler, Cai, & Hovy, 2011). This speaks to the importance of researching how information is disseminated in social media interactions, which we discuss using the communications perspective.

Economics (Why) – The third perspective pertains to the understanding as to how each category of behaviors contributes to firm value. Said Cameron (2006), “...value creation is the objective of every enterprise, every worker, and every leader” (p.4). While prior research has elucidated many of the activities involved in social media interaction, there is presently a dearth of research as to how social media interaction aids the larger objectives of organizations (Berger et al., 2014). From this perspective, we can evaluate, for example, how monitoring behaviors extract knowledge which enhances the knowledge-based resources of the firm (Trainor, 2012). The economics perspective focuses research on how social media interaction behaviors provide value to organizations.

It is important to note that, while our research framework will present each research perspective independently, the potential for overlaps is quite apparent. We will

present some topics for future research from one perspective which may have implications for another. For example, we may discuss the credibility of social media information from the knowledge management perspective, focusing on credibility as a characteristic which can be uniquely identified through social media communications. Credibility could also be discussed from the communications perspective, focusing on how organizations can increase the credibility of information they share or determine the level of credibility through proper communications techniques. Owing to the potential for overlaps, we will seek to avoid discussing the same topic multiple times in the framework, but that does not preclude us from recognizing that aspects of certain topics, or proposed research questions, can have implications for more than one of the research perspectives contained in the framework. We address opportunities for complementary research in our closing discussion.

Table 2.3 – Research Perspectives		
Perspective	Focus	Purpose
Knowledge Management	What types of knowledge can be transmitted or received through social media interaction and how this knowledge differs when communicated through social networks	Understanding of the opportunities to increase and share knowledge through social media interaction
Communication	How the unique characteristics of social media communications provide opportunities and challenges for exchanging information across public networks	Communication Effectiveness – clear understanding from all parties when interacting through social media
Economics	Why social media interaction behaviors contribute value to organizations	Awareness of the impact of social media interaction on business value

The framework articulated in this paper provides a research framework for studying our three categories of social media interaction behaviors from three different research perspectives (see Table 2.3). Through each combination of behavior and research perspective, we will outline how researchers can investigate social media interaction and provide direction for that research. This review is not intended to provide an exhaustive list of studies on social media, nor is its aim to investigate every possible avenue for researching the phenomenon. Rather, the framework should provide an organizing mechanism for investigating social media interaction behaviors.

The order of the behaviors is presented in order of degree of interaction with outside stakeholders. Monitoring is the most passive category of behaviors, with minimal active involvement in the conversation by organizations, so it is theorized that organizations will delve into this set of behaviors first (Branthwaite & Patterson, 2011). Disseminating represents a more active degree of interaction, where organizations share information, often in response to the results of monitoring behaviors. Enabling offers the most complex set of mechanisms, as the organization attempts to influence the communications of others.

MONITORING

Monitoring behaviors include all instances where an organization utilizes social media to gather information that is disseminated by outside sources. There are many different behaviors within this category, but the primary aim of the behaviors is to utilize existing information to improve the organization (Gruhl, Guha, Kumar, Novak, & Tomkins, 2005; Spangler et al., 2009). Inherent to this idea is the notion that valuable

information is being generated by outside sources, and that organizations can gain access to this valuable information through the utilization of social media (Pak & Paroubek, 2010). For example, the United States military uses social media to bring in information for the purpose of aiding commanders with determining enemy positioning. By investigating communications made on social media platforms, the military can form a much better estimate regarding where critical troops are positioned, and when they will attack. This has dramatically improved their strategic ability in war scenarios (Mayfield III, 2011). There is significant value in gathering information and knowledge from outside sources. Monitoring behaviors provide organizations with the ability to extract such value through social media.

In this section, we describe three different research perspectives that could be used to investigate social media monitoring. The knowledge management perspective describes the different types of information which can be gathered through monitoring and the manner in which that information is different when gathered through social networks. The communications perspective centers on the “listening” component of monitoring, elucidating our understanding regarding how organizations can most effectively understand the social communications of their outside stakeholders. The economics perspective describes how and why monitoring contributes value to the organization, noting the resources made available through gathering socially communicated information. We begin with the knowledge management perspective.

Knowledge Management Perspective

The central purpose of monitoring, from the knowledge management perspective, is to identify and bring in knowledge from information that is communicated by outside stakeholders through social media. The goal of monitoring from this perspective is to expand the organization's knowledge base through extracting knowledge that is disseminated on public social networks. Organizations can gather information from individual communications or through an aggregation of related communications (Larson & Watson, 2011). In discussing the knowledge management perspective, we focus on identifying areas where researchers can illuminate the role of social media to gather useful knowledge from outside stakeholders.

The ability of an organization to effectively utilize outside knowledge is referred to as its absorptive capacity (Matusik & Heeley, 2005). According to literature on absorptive capacity, the first step in utilizing knowledge is identifying and extracting the knowledge from outside the organization (Cohen & Levinthal, 1990). An organization's ability to utilize outside knowledge is outside the purview of this study, but the facilitation of that utilization through knowledge extraction is pertinent, due to the involvement of social media interaction. In gathering outside knowledge, we can look at two different challenges: identifying the many different types of knowledge that can be extracted through social media (Fan & Gordon, 2014), and understanding the characteristics of knowledge and how they may change when disseminated through social media (Majchrzak et al., 2013).

Prior research confers that the first step in utilizing outside knowledge is the recognition that outside knowledge exists (Cohen & Levinthal, 1990). Organizations are becoming far more aware that knowledge is not something that is limited to their internal databases, but something that is socially constructed and made available both inside and outside the organization (Berger & Luckmann, 2011; Inkpen & Tsang, 2005).

Organizations which operate solely on their own internal knowledge are operating at a distinct disadvantage relative to their competitors, primarily due to the new, collaborative business environment brought about by social media (Hagel III, Brown, & Davison, 2010). As firms collaborate with one another and begin to share knowledge, they are more adept at discovering the need to expand their own knowledge bases through interaction (Powell, Koput, & Smith-Doerr, 1996).

The multitude of connections made available through social media channels offer organizations the ability to collect information from a much wider array of individuals than through traditional communication channels. This enhanced access opens up opportunities to gather in knowledge and information from a variety of different sources (Larson & Watson, 2011). For organizations to maximize their knowledge management efforts using social media, they must be aware of the many potential sources of knowledge available on social networks.

Social media provide a common platform where organizations can connect with different types of outside stakeholders, thus providing numerous sources of useful information. A significant amount of prior research has described the use of social media to extract information *about* customers (e.g. Baird & Parasnis, 2011; Buttle, 2012; Chua

& Banerjee, 2013; Gallagher & Ransbotham, 2010). Organizations, through monitoring, can discover customers' preferences, characteristics, values, etc. Social media can also be used to extract information *from* customers, such as information relevant to product/service design and execution (Chua & Banerjee, 2013; Fan & Gordon, 2014). Thus, through monitoring the communications of customers, organizations have the opportunity to extract two different types of information, that which pertains to the customer and that which pertains to the organization.

However, customers are not the only sources that can provide information through social media monitoring. Recently, researchers have begun to investigate the use of monitoring in increasing competitive intelligence (He, Wu, Yan, Akula, & Shen, 2015). Social media can be used to gain insights into competitor activities, to compare public sentiment toward competing products, etc. Future research should continue to investigate how social media monitoring can be used to gather information about not only competing organizations, but other organizations that have impact on operations. Savage et al. (1991) discuss other forms of stakeholders such as suppliers, governmental organizations, etc. from which organizations could also draw valuable information. The enhanced access provided by social media offers numerous opportunities for organizations to gather valuable information.

Social media affect not only the different types of knowledge that are available to organizations, but also the characteristics of the knowledge being disseminated. For example, social media afford the opportunity for what Majchrzak et al. (2013) term "meta-voicing," whereby users add meta-knowledge through reactions to content shared

on networks. Examples of meta-voicing include re-tweeting content, commenting on content, “liking” content, etc. This presents a different form of insight that organizations can gather through monitoring behaviors. In this new form, organizations can gain knowledge about customers by observing and gathering their preferences toward other content disseminated through social media (Gallaughar & Ransbotham, 2010). The increased reach of social media increase the number of ties for each user (Hemsley & Mason, 2013), such that users are connected to larger quantities of content to provide meta-voicing.

The increased reach of social media also increases the amount of content made available to the organization, thus adding to the difficulty in gathering the most relevant and/or authoritative sources of knowledge in monitoring behaviors (Fan & Gordon, 2014). Whereas the increased reach exacerbates this problem, the increased identification offers the ability for organizations to determine credibility, a key resource in the effort to extract valuable knowledge through social media monitoring.

Researchers have noted the importance of credibility in determining selection of outside information (Kerstetter & Cho, 2004). Information that is disseminated through social media gains credibility not only through what is communicated, but through the individual doing the communicating (Westerman et al., 2014). With such a large abundance of information transmitted, the difficulty is often not in finding the information, but finding information from a source that can be trusted (Pee, 2012). With the millions of communications sent every day over social media, determining which sources can be trusted to provide relevant knowledge is often difficult (Kang, 2010).

Because no formal controls are present to prevent individuals from presenting false knowledge or inaccurate information, the responsibility lies with the organization to determine what knowledge is accurate and deserving of being brought into the knowledge base (Harrysson, Metayer, & Sarrazin, 2012). Early investigations into determining the credibility of social media information have evaluated the number of followers (Jin & Phua, 2014) and the timing of postings (Westerman et al., 2014) as potential sources of credibility.

Knowledge gathering through social media monitoring offers ample opportunities for future researchers. Research questions abound within the two key areas we discussed. First, researchers should examine how the increased access provided by social media allows for information gathering from different sources. How can social media be used to gather information both about and from customers? What information can be gathered both about and from other types of stakeholders (e.g. competitors, government entities, etc.)? For example, can social media be used to gain valuable information about a current (or potential) supplier partner? If so, what information can be gleaned?

Second, researchers should examine how the increased reach and identification provided by social media alter the methods and considerations involved in gathering knowledge through social media monitoring. How do the unique characteristics of social information (e.g. meta-voicing) change the way organizations gather knowledge? What characteristics of social information enhance or reduce credibility when shared on social platforms? Whether through these or other avenues, researchers can investigate the

different types and characteristics of information that organizations gather as a means of increasing their knowledge.

Communications Perspective

While the knowledge management perspective illuminates our understanding regarding what can be gleaned from monitoring social media communications, the challenge remains as to how organizations can most effectively understand what is communicated. The communications perspective centers on investigating how organizations can accurately gather information that is disseminated by outside stakeholders. Research on monitoring, from the communications perspective, is geared toward understanding how organizations can increase the effectiveness of their social media monitoring activities. Thus, in this section, we will discuss relevant research opportunities for developing such an understanding. Specifically, we will center our discussion on research which investigates how social media alter the messages that individuals and organizations communicate on social platforms and how social media alter the style in which those messages are communicated. Through developing these understandings, researchers can aid organizations in grasping the “how” of social media monitoring in a more effective manner.

Classic communications literature states that when an organization is on the receiving end of a communication made by an outside individual, one difficulty lies in the decoding of the message (Hall, 1973). Because social media communications are often text-based, organizations must be able to decode a message from a grouping of written text, which is not always written in a language that is easily understood (Gouws et

al., 2011). Organizations must look beyond the text to interpret what the individual (or group) is actually trying to say (Sitz, 2008) . This challenge is compounded when the unit of analysis shifts from one communication made by one individual to a large volume of communications made by a vast number of individuals in a group setting. In this instance, the challenge is not only in accurately deciphering the messages, but in determining which communications to consider, and which to ignore.

As communications through social media are unsurprisingly different than communication on other channels, researchers must investigate how the unique facets of social media communication impact the ability of organizations to properly understand the communications of others. Social media offer enhanced access to outside stakeholders, thus providing avenues for gathering interesting information. Nonetheless, the nature of social media communications changes how organizations gather this information. In the following discussion, we present numerous challenges and opportunities associated with enhancing our understanding regarding how organizations can most effectively gather information from outside stakeholders.

As social media offer greater identification in communications, individuals are more apt to change the manner in which they communicate due to the decreased level of anonymity (Fox, Cruz, & Lee, 2015). Not only are communications viewed by a large number of individuals, but these individuals can view information about the communicator on the social platform. As organizations seek to increase the effectiveness of their monitoring, they must understand how individuals alter their communications when identified on such a large network of users.

The public visibility of communications through social media impacts the style of communication, offering distinctive challenges that must be addressed by researchers (Kraut, Rice, Cool, & Fish, 1994). Individuals will change the manner in which they communicate when they are aware that their messages are seen by others (Kivran-Swaine & Naaman, 2011; Naaman, Boase, & Lai, 2010). Often, the “self” that is being presented to a group is not the “self” that is being presented apart from that group setting (Abrams & Hogg, 1990; Israel & Tajfel, 1972). When communicating through a social channel, the individual will defer to his social identity, differentiated from other identities, which impacts the manner in which he communicates (Schlenker, 1980; Tajfel, 2010).

Because communications sent through social media are more easily identified with the sender, individuals are apt to alter not only the style of communications, but also the content of those communications. For example, a study of Twitter posts made by politicians revealed that there were large discrepancies between the communications made by the politicians and the actual actions taken in the time following the communication (Shapiro, Hemphill, & Otterbacher, 2012). In the context of human resources, researchers pose the question as to whether or not organizations should use social media to predict the future performance of job applicants (Bohnert & Ross, 2010; Brown & Vaughn, 2011; DeKay, 2009). One significant problem that organizations face when utilizing social media is that, often, there is an insignificant link between attitudes and behaviors expressed through social media and the attitudes and behaviors seen in the workplace (Slovensky & Ross, 2012). Thus, it is important for researchers to examine

how organizations can account for these discrepancies when “listening” to social media communications.

Not only do social media affect the information that individuals communicate, but also the method they use to communicate that information. When communicating over a channel, individuals use terminology and symbols that only exist within the bounds of the communications medium. Communications are often presentations, where individuals are, in essence, putting on a show before a wide audience (Goffman, 1959). The symbols and terminology they use in the performance impact the manner in which they communicate. For example, text message (and subsequently, Twitter) communication brought about short-form messages, where a premium was placed on the number of characters in a message. This encouraged greater usage of acronyms and shortened versions of words (Gouws et al., 2011; Safko, 2010). Shortened communications have also brought about the use of emoticons, small icons which act as non-verbal surrogates to characterize emotional communications (Derks, Bos, & Von Grumbkow, 2008).

Many have noted the significant challenge present in deciphering the symbols and terminology used when communicating through social media (Gouws et al., 2011; Palmer, 2012; Safko, 2010). Prior research indicates that communications media form their own language over time. For organizations to properly decode social media communications, they must be able to speak the language of social media, specifically that of the platform on which the information is communicated. This is an interesting avenue for future research on social media monitoring.

Finally, the increased reach afforded by social media offers organizations the opportunities to listen to a large quantity of communications simultaneously. Rather than having to individually select communications, as would be the case in other forms of communication, social media offer the ability to aggregate communications, discovering a unified (or diversified) voice among a large volume of messages. In addition to the challenges presented previously, organizations must also consider who is doing the communicating, as the goal is to ensure that right individuals are providing the necessary information (Fan & Gordon, 2014).

One challenge in aggregated communications is accounting for information which may be missing. Researchers speak of the “Spiral of Silence,” where individuals, when communicating in a public social space, will censor their opinion if they feel it will be unpopular with the group (Noelle-Neumann, 2006). For some in the minority, silence is a better option than going against the group (Salmon & Kline, 1985). A 2014 Pew Research investigation showed individuals were less likely to share information on social media platforms if they felt their opinions differed from others on the network (Hampton et al., 2014). When communications in social spaces are confined to those messages delivered by the majority, organizations risk inadvertently excluding necessary communications which entail essential information.

Alternatively, organizations must also be cognizant of including unnecessary communications. For example, many organizations use social media as a means of evaluating public sentiment regarding an issue, product, service, etc. (Gallaughier & Ransbotham, 2010). Recent research into sentiment analysis has investigated the

mechanisms for determining sentiment across summated message streams (Godbole, Srinivasaiah, & Skiena, 2007; Nasukawa & Yi, 2003; Wilson, Wiebe, & Hoffmann, 2005). Many have begun to explore the nature of analyzing social media communications for the purpose of extracting meaning (Asur & Huberman, 2010; Bollen, Mao, & Pepe, 2011). One of the greatest challenges in sentiment analysis is filtering out the conversations on a topic that have nothing to do with determining sentiment (Kennedy, 2012). One ripe area for future research, which can build upon recent work (e.g. Liang, Caverlee, & Cao, 2015), involves providing recommendations to organizations regarding how and why to select specific communications for determining general sentiment. Doing so can aid organizations in separating the signal from the noise (Moray & O'Brien, 1967).

The common thread underlying the communications perspective on social media monitoring is that organizations must account for the manner in which social media change how individuals communicate. Information communicated through social channels is often different from other forms of communication, both in content and style. Our discussion should spur numerous research questions for investigating these differences. For example, how can organizations accurately evaluate their customers, when individuals are apt to alter their message in public social settings? How can organizations properly account for the stifled opinions of the often silent minority? How does the altered style of socially communicated information change an organization's monitoring strategy? Do different platforms have different styles, and if so, how can organizations develop an over-arching strategy if communication is so diverse? Future

research on social media monitoring, from the communications perspective, should seek to answer and build upon these and other pertinent questions.

Economics Perspective

The economics perspective of social media monitoring focuses on articulating the value afforded to the organization by this category of behaviors. Many researchers have noted that social media have altered and enhanced the nature of value creation in organizations (Bruns, 2007; Bruns & Schmidt, 2011). The primary source of this realization has come from the recognition that the responsibility for value creation needs not rest solely within the bounds of the organization, but can be shared with outside stakeholders through interaction behaviors such as monitoring (Bechmann & Lomborg, 2013; Katzy, Bondar, & Mason, 2012). In this section, we will describe how monitoring can be investigated from the economics perspective. Specifically, we will call attention to two facets of this understanding: how social media monitoring creates new valuable opportunities and how organizations can use monitoring to enhance the value of processes which may already exist within the organization.

Because of social media's reach, monitoring enables organizations to extract information from an extended, larger, and more diverse pool of potential sources (Larson & Watson, 2011). The interconnectedness of organizations with their outside stakeholders has shifted the nature of value creation from the organization alone to a more co-creation across social media communities. Researchers refer to this new environment as "Prodsusage," whereby outside stakeholders are viewed as both producers and users of valuable content (Horan, 2013). Prodsusage characterizes the new world of

value creation, one in which the responsibility for content creation has shifted from being solely in the hands of the organization to a balanced sharing of responsibility between the organization and outside stakeholders (Bruns, 2007; Bruns & Schmidt, 2011; Tapscott & Williams, 2010). Through monitoring, organizations are able to capture valuable insights regarding products and services which can be used in the development of innovations (Heidemann, Klier, & Probst, 2012). By gaining the ability to connect with such a broad array of stakeholders, social media have allowed organizations the opportunity to include others in processes further up the value chain, gathering valuable information which can be used to develop new products or services (Kozinets, Hemetsberger, & Schau, 2008).

Social media have also enhanced the value of existing activities, especially those which entail capturing information about outside stakeholders. For years, marketing researchers have highlighted the important role of market information in influencing organizational decision-making (Glazer, 1991; Javalgi, Martin, & Young, 2006; Moorman, Zaltman, & Deshpande, 1992). Through gaining identifiable customer information, organizations can be better informed regarding how to structure their core business operations (Slater & Narver, 1995).

One of the most significant predictors of the usefulness of information is the trust placed in the source of the information (Moorman et al., 1992). With traditional market research, organizations were forced to trust two different groups. First, they must trust market researchers, who gathered the information; and second, the market itself, the source of the information. Researchers have noted the lack of trust present when individuals are asked to give an opinion versus situations in which an opinion is provided

without asking (Cooke & Buckley, 2008). Through social media monitoring, organizations can gain insights from customers without influencing their communications through direct contact (Bughin et al., 2012). Social media bring to organizations not only new information, but a wider pool of information sources (Hardey, 2009). Thus, social media provide value to organizations by increasing their level of trust that expressed opinions are unencumbered by intermediaries and more accurately reflect the intentions of the outside stakeholders.

Through the monitoring of social media communications, organizations can use comments and suggestions made by current and potential customers to inform pricing strategies and decisions (Smith, 2009). For example, a hotel management staff could utilize social media monitoring to discover that there is an expected increase in demand forthcoming for hotels in their area (Chan & Guillet, 2011). By discovering this information, they could create a short-term promotion to capture this demand and increase their revenue.

In summary, we have discussed how social media provide value to organizations, through increasing the trust placed in outside information and reducing the informational asymmetry between organizations and their outside stakeholders. Social media allow organizations to gather valuable information which can be used at numerous points along the value chain. Additionally, this information is derived directly from the source, rather than through an intermediary, who may influence the accuracy of the information.

One interesting avenue which offers some insights into the role of trust in information sharing environments lies with virtual team research. Within this literature

stream, some have begun to promote social media as tools which can be utilized for collaboration in virtual teams (Culnan, McHugh, & Zubillaga, 2010). If an organization was to seek collaboration with outside stakeholders in a virtual team setup, then the unique facets of social media could improve the trust between the two parties, which is an important facet in virtual team success (Furumo, 2009).

Future research on social media monitoring from the economics perspective must continue to investigate how this category of behaviors provides value to the firm. Our discussion should provide some interesting research questions surrounding how monitoring both enhances existing practices and offers new practices for organizations. Regarding new practices, for example, how can organizations enhance the value of their product offerings through monitoring stakeholder communications? Can monitoring behaviors be utilized as a means of replacing some research and development (R&D) activities? Regarding existing practices, how does the reduction of intermediaries increase the value of capturing customer information through social media monitoring? What role do monitoring behaviors play in enhancing the value of each step along the value chain? Can the ROI of social media monitoring be properly assessed, if it functions as an enhancement to existing activities? These are but a few of the many questions that researchers could examine as they investigate monitoring from the economics perspective.

DISSEMINATING

Whereas monitoring involves activities whereby the organization gathers communications from the outside world, disseminating represents those activities

whereby the organization sends communications to outside stakeholders through social media (Hanna et al., 2011). In these activities, the goal is to “speak,” rather than to “listen.” For example, the federal government has recently developed a new initiative encouraging officials to utilize social media for the purpose of educating and informing the general public (Bertot, Jaeger, & Hansen, 2012; Bertot, Jaeger, Munson, & Glaisyer, 2010; Jaeger & Bertot, 2010).

Social media have provided organizations a direct link to outside stakeholders, offering tremendous opportunities to connect and share information (M. Zhang, Jansen, & Chowdhury, 2011). Each of our research perspectives illuminates different issues for organizations seeking to use social media to disseminate information. The knowledge management perspective centers on what types of information can be shared, and how that information differs when communicated on social platforms. The communications perspective centers on how to share information, focusing on increasing the effectiveness of transmitting communications through social media. The economics perspective centers on why organizations enact social media dissemination, focusing on the value that is offered through sending communications on social media.

Knowledge Management Perspective

Similar to our discussion on monitoring behaviors, the knowledge management perspective on social media disseminating focuses on the distribution of information between organizations and outside stakeholders. Inversely from monitoring, when discussing disseminating behaviors, this perspective seeks to understand the sharing of information, flowing from the organization to outsiders (Larson & Watson, 2011). In this

section, we will describe how researchers can investigate disseminating behaviors with an emphasis on knowledge and information distribution.

One of the primary purposes of organizational social media interaction is to connect and share information with outside stakeholders (Gallaughier & Ransbotham, 2010). One way to look at information sharing through disseminating is in terms of two key knowledge management practices (Alavi & Leidner, 2001): knowledge sharing, or the sharing of information to increase the knowledge of others; and knowledge creation, whereby knowledge is shared so that it can be developed further. Ample opportunities abound for researching each of these processes.

Many organizations use social media to share knowledge about the company (e.g. its products, services, company culture, etc.) with customers and other stakeholders (Berger et al., 2014). Often, this information is shared for marketing and brand building purposes (Tuten & Solomon, 2014), but organizations share information for many other reasons. For example, organizations can use social media disseminating behaviors to provide customer support (Neti, 2011). Because social media offer increased access and identification, organizations can share information with a larger potential pool of stakeholders, and can target the information to an identifiable selection of those stakeholders (Jothi, Neelamalar, & Prasad, 2011).

The increased reach of social media allows organizations to be connected with a high volume of users simultaneously. This allows organizations to actively participate in the “meta-voicing” process we described in the section on monitoring (Majchrzak et al., 2013). From the organization’s perspective, meta-voicing entails the re-distribution of

information discovered through monitoring behaviors. In this sense, the organization is still operating as a “megaphone” (Gallaughner & Ransbotham, 2010), but through sharing the information of others. For example, organizations can “re-tweet” positive customer comments to increase the knowledge of other stakeholders regarding the quality or products or positive overall perceptions of the organization (Nyangau & Bado, 2012). Thus, we can look at the information sharing aspect of social media disseminating both as a means of imparting organizational information to outside stakeholders and as a means of re-distributing the information and experiences of others to a broader audience.

In addition to understanding the different types of information to share, organizations are also faced with the questions as to how much information to share. Some offer that certain types organizational knowledge can be a source of competitive advantage, and thus should not be shared (Convertino, Ganoe, Schafer, Yost, & Carroll, 2005). The interconnectedness presented by social media has increased the likelihood of leaked information, such that organizations must reevaluate whether complete knowledge sheltering is even possible (Molok, Chang, & Ahmad, 2010). Others note the importance of transparency, recognizing that through sharing information, organizations can increase stakeholder trust (Rawlins, 2008). Nonetheless, organizations which share information must decide how much of that information to share. The strategic choice regarding how much information to share and the degree of transparency is often difficult for organizations to make (Thøger Christensen, 2002).

Not only can organizations use disseminating behaviors to share information, they can also create new knowledge through interactions. Social media remove one of the key

barriers to knowledge sharing by establishing connections between organizations and outsiders. Through these connections, organizations can find opportunities to share knowledge and see it combined and enhanced through outside entities. By sharing organizational information, outside entities are brought into the “co-creation” process, whereby they can actively participate in value creation (Grover & Kohli, 2012; Kohli & Grover, 2008). Social media offer the ability to produce “collaborative intelligence” (i.e. “collective intelligence) (Lévy, 2013), whereby knowledge is produced through the contributions of a community. In order for this to occur, organizations must share information through social media, as this presents the opportunity for elaboration and refinement (Vuori & Okkonen, 2012). Organizations can increase the quantity and quality of their knowledge through social media disseminating behaviors.

Future research on social media disseminating should elaborate on these concepts, specifically focusing on the information which organizations share on social platforms. As we discussed, organizations can share information to increase stakeholder knowledge or to encourage a collaborative process which increases their own knowledge. Nonetheless, further investigations can expound upon the different types of information that can be shared to achieve both purposes. What information (and how much information) should organizations share with outside stakeholders? Researchers should also examine how the different characteristics of social communications change the nature of knowledge sharing. What role do new practices such as “meta-voicing” play in the dissemination of organizational knowledge? Can organizations use re-broadcasting behaviors (such as re-tweeting) to distribute the knowledge of other stakeholders? These

are but a few of many questions that can elucidate our understanding of social media dissemination from the knowledge management perspective.

Communications Perspective

Researching social media disseminating, from the communications perspective, entails an investigation into how organizations can most effectively send communications to outside stakeholders through social media. In this section, we will present some broad means of investigating the communicative aspect of disseminating. Specifically, we will describe two main aspects of social communications. First, we will describe research which examines how organizations ensure that their communications are accurately conveyed on social platforms. Second, we will describe research on the audience of communications, and the challenges associated with ensuring that communications are received and read. While many other aspects of social communications can be examined in this arena, the following examples should provide illustrations as to how researchers can examine social media disseminating from the communications perspective.

One of the challenges in social media disseminating pertains to the ability of organizations to accurately send communications in such a way that they can be decoded properly by the recipient (Richardson & Gosnay, 2010). Some researchers have undertaken this challenge in two forms. First, researchers note the importance of adhering to the style of communication which is most appropriate for the intended audience (Sanders, 1984). de Moor (2010) describes social media communications as operating within a socio-technical system, one in which contextual factors of both the social environment and the technical arena influence message interpretation. Social media have

their own style, and this style influences the manner in which individuals exchange information (Derks et al., 2008). For example, Twitter posts exist within the context as defined by Twitter, offering unique characteristics. Messages sent through Twitter with the purpose of directing communities or coordinating tasks are likely to be ignored, as the short-term nature of the medium makes difficult the task of gaining commitment from community members (de Moor, 2010). The increased access provided by social media allows organizations to communicate on varying platforms with varying audiences. Researchers must continue to examine how organizations can communicate their messages effectively on different platforms and directed at different groups.

Second, researchers note that social media communications must be sent in a manner so as to ensure they are interpreted effectively. The actual message intended by the communicator is less important than how the message is interpreted by the recipient (Hirschová, 2011). The increased reach of social media communications impacts message interpretation, in that a wider audience is exposed to each communication (Treem & Leonardi, 2012). As such, scholars have begun to investigate the ramifications of message misinterpretation in social media communications (Bruce et al., 2013; Junco & Chickering, 2010). The call is for a greater understanding regarding how transmitters of information can carefully ensure that such misinterpretation is held to a minimum (Sadovnikoff & Jurchak, 2012). As the same communication can have many different interpretations (Littlejohn & Foss, 2008), social media offer the potential that a message may be misinterpreted when distributed over a wide audience.

Numerous researchers in various practical disciplines see message misinterpretation as a reason to avoid using social media for communications, issuing a strong caution to practitioners (Fawcett & Baguley, 2011; Krawitz, 2012; Oakley & Spallek, 2012; Sbicca & Wesson, 2012). Thus, a ripe area for further research into social media disseminating entails evaluating how organizations can limit the misinterpretation of communications sent to outside stakeholders.

While one consideration in social media disseminating is the message being conveyed, another is the audience which is receiving the message. With social media, determining an organization's audience can be quite difficult (Bernhard & Abukar, 2012; Fisher, 2003). There is a stark difference between the audience that an organization wants to see the message, and the audience who actually sees the message. Organizations often have limited control over who receives their communications (Shapiro & Anderson, 1985). Nonetheless, it remains a goal for organizations to align the audience they wish to receive a communication with the audience that actually receives the communications. The enhanced access offered by social media allows organizations to send communications to individuals they would not ordinarily be able to communicate with, but this presents a unique difficulty in attempting to determine who among this wider audience is actually reading the organization's communications.

Communications sent through social media are only impactful if actually read by the proper audience (Macnamara, 2013). For a message to have an audience, it must be viewed by outside stakeholders. The great multitude of information available through social media presents a significant amount of noise for outsiders to filter through. One of

the great challenges in this type of medium is for an audience to actually hear a message among an ever-present stream of “babble” (Pichora-Fuller, Schneider, & Daneman, 1995).

Research indicates that one central strategy for encouraging a target audience to connect with the organization is through establishing connections across multiple media outlets. Using numerous avenues for the same message increases the visibility of the message to the outside individual. The more frequent the communication between the individual and the organization across multiple outlets, the more willing the individual will be to establish multiple links with the organization (Haythornthwaite, 2005; Haythornthwaite & Wellman, 1998). Accordingly, frequency of past communication increases the opportunity for future communication between an organization and an outside individual (Wellman, Quan-Haase, Boase, & Chen, 2002).

Another factor which increases the likelihood of audience reception is tie strength (Gilbert, 2012; Gilbert & Karahalios, 2009). The closer the tie between the organization and its audience, separate from social media interactions, the more likely it will be that the individual will seek to connect with the organization through social media channels (Pappalardo, Rossetti, & Pedreschi, 2012). Social media have not only reduced the barriers to communication, but have increased the ability of organizations to develop relationships with outside individuals (Waters, Burnett, Lamm, & Lucas, 2009).

Increasing the likelihood of an audience receiving a message is only one part of the equation. The next consideration is that the intended audience actually read the message. The ability of an audience to devote attention to a message is referred to as

audience involvement (Wang, 2006). The challenge of maximizing audience involvement is different from audience message reception, as it has less to do with visibility and more to do with the message itself. One of the central determining factors in improving the likelihood of an audience member reading a message is to align the message with the individual (Miller, 1976). The enhanced level of identification offered by social media allows organizations to more accurately align their communications with their audience.

The issue of audience involvement has received modest attention from researchers recently. Some have noted the difficulty organizations face in determining how many individuals actually follow through and read their messages (Kietzmann, Hermkens, McCarthy, & Silvestre, 2011). They describe the “imagined audience,” where the actual number of individuals reading a message differ from expectations based upon follower counts (Marwick, 2011). While researchers recognize that different strategies can produce different levels of audience engagement (Neiger, Thackeray, Burton, Giraud-Carrier, & Fagen, 2012), further research can expound upon the factors which most proximately influence an audience member’s intention to read communications sent from organizations through social media.

The preceding highlights many ways in which researchers are beginning to investigate social media dissemination from the communications perspective. Nonetheless, within the scope of this inquiry, numerous research questions are presented. For example, we first described how researchers can investigate the means by which organizations properly encode their communications. Future researchers can continue this investigation. How can organizations account for the different styles of communication

present in different social platforms? What strategies can be employed to ensure that messages are being properly interpreted? Can organizations protect the interpretation of a communication after it has been disseminated?

We also discussed research on uncovering how organizations can ensure that a message is received and read by the proper recipients. Here, too, are numerous research questions that can be addressed. What factors increase an outside stakeholder's likelihood in connecting with an organization? How can organizations determine whether a communication's intended audience actually reads the communication? How can organizations increase the strength of their network ties, so as to increase the likelihood of audience involvement? Researchers should examine these questions, and many more, as they investigate dissemination from the communications perspective.

Economics Perspective

The economics perspective for investigating social media disseminating focuses on understanding how such behaviors provide value to the firm. In this case, research seeks to identify the manners by which sharing information with outside stakeholders through social media impact the organization through increasing value. In this section, we will describe some of the ways in which future researchers can investigate social media disseminating from the economics perspective. Specifically, we will heed the call of Heidemann et al. (2012) and look at the value-adding impacts of social media disseminating at both the early and late stages of the value chain.

Most of the research on social media activities focuses on the latter stages of the value chain and the impacts of disseminating behaviors on marketing and brand building

efforts (Berger et al., 2014). Directly, organizations can utilize the increased access and reach of social media to enhance outside stakeholder awareness of products, services, organizational activities, etc. (Chua & Banerjee, 2013). Because social media offer the ability for users to re-broadcast information, the potential exists for an enhanced form of “viral marketing,” where a vast audience is given exposure to information in a very short amount of time (Kaplan & Haenlein, 2011; Scott, 2013).

Indirectly, sharing information through social media can encourage relationship building, which can in turn impact the latter stages of the value chain. One of the motivations for developing social media platforms was the ability to connect disparate individuals and groups with the purpose of relationship building (boyd & Ellison, 2007). Relationships can add value to organizations through a variety of mediators. Researchers note the opportunity for organizations to gain social capital through sharing information (Wasko & Faraj, 2005). Through active participation in a social setting, organizations can gain better standing within the community, a valuable resource in the social environment (Knack & Keefer, 1997; Portes, 2000). Deepening the strength and increasing the number of relationships established through social media affects the standing of the organization (Ellison, Vitak, Steinfield, Gray, & Lampe, 2011). When organizations develop relationships with outside stakeholders, they increase their amount of social capital within the social community (Ellison, Steinfield, & Lampe, 2011). This effects is also seen at the individual level, as dialogue-based, two-way communication between organizations and stakeholders has been shown to increase key marketing objectives such as purchasing intentions (Colliander, Dahlén, & Modig, 2015). Interactions with customers increases

their emotional attachment (Hudson, Roth, Madden, & R. Hudson, 2015), which increases customer loyalty (Vlachos, Theotokis, Pramataris, & Vrechopolous, 2010). Thus, researchers can continue to investigate how organizations can directly and indirectly impact the latter stages of the value chain through social media disseminating.

Recently, greater attention has been paid to the manner by which social media disseminating can impact the earlier stages of the value chain. Specifically, researchers have called for further investigation into how organizations can share information for the purposes of improving their product/service development efforts (Berger et al., 2014). Organizations often share information for the purpose of value co-creation (Grover & Kohli, 2012), where ideas are refined and expanded through collaboration (Inkpen, 1996). Through disseminating, organizations can invite outside stakeholders into the development process, offering the potential for more valuable innovation (Kaplan & Haenlein, 2010). Communicating with outside stakeholders increases trust (See-To & Ho, 2014) and loyalty (Luo, Zhang, & Liu, 2015), both of which facilitate the value co-creation process (Randall, Gravier, & Prybutok, 2011). The ability to collaborate with outside stakeholders has been offered as a dynamic capability and a source of competitive advantage (Allred, Fawcett, Wallin, & Mangan, 2011). Thus, another means of investigating disseminating behaviors from the economics perspective is to look at the early stages of the value chain, understanding how sharing information with outside stakeholders ultimately leads to greater value for the firm.

Researching social media disseminating, from the economics perspective, can look at many different means by which sending communications and sharing information

with outside stakeholders can increase firm value. Researchers have consistently called for greater research in all stages of the value chain (Berger et al., 2014; Heidemann et al., 2012). In this section, we focused on the means by which social media dissemination can add value across different areas along the value chain. Regarding the early stages of the value chain, how can sharing information with outside stakeholders add value to product/service development efforts? Can sharing product information early in the development process lead to competitive advantage? Regarding the latter stages of the value chain, how does the viral nature of social communications increase the value of social marketing efforts? Can organizations indirectly add value through developing and strengthening relationships with outside stakeholders?

These are but a few of the many research questions which underlie the value-based approach to studying social media dissemination. Numerous other opportunities persist to investigate this behavior. For example, we did not discuss the relationship between dissemination and stock market valuation. Other researchers could follow this perspective and investigate how an organization could shape its disseminating in order to affect how it is valued in the marketplace. Our discussion should provide a starting point for future research, but many other opportunities abound for studying dissemination from the economics perspective.

ENABLING

Enabling differs from monitoring and disseminating in its purpose. Whereas monitoring entails listening to communications to gather information and disseminating entails sending communications to provide information, enabling has neither the specific

intent to send or receive communications. Rather, enabling behaviors aim to incite, or direct, the communications between outside stakeholders. Larson and Watson (2011) describe these behaviors as “community development,” whereby organizations use social media to construct virtual environments where outside stakeholders can communicate with one another. The organization, in these behaviors, serves as the initiator and moderator of the community, aiming to benefit from the discussions therein. The moderating role of organizations in influencing social media conversations offers rich opportunities for organizations, and unique questions for researchers to address (Choi & Arriaga, 2012).

We will discuss how researchers can investigate enabling behaviors from our three perspectives. Through the knowledge management perspective, we will describe research on knowledge creation through community building, and the activities organizations can enact to create new types of knowledge by enabling communications. Through the communications perspective, we will describe research on group communications, and how organizations can encourage and direct the communications of others on social media. Finally, through the economics perspective, we will describe research on the value of community building, and how organizations can benefit from enabling external communications.

Knowledge Management Perspective

Research on enabling, from the knowledge management perspective, focuses on the creation of new knowledge and the sharing of existing knowledge by outside stakeholders, moderated by the organization. In this sense, the organization acts as the

facilitator of knowledge creation and distribution through the formation and regulation of a social media community. Thus, the focus of enabling, from the knowledge management perspective, is more on the environment that is created, and the conversation that is sparked, rather than the knowledge that is shared or gathered (as those behaviors are covered in other categories). The act of enabling involves the creation of act of creating an information-sharing environment or directing the conversations of an existing environment. Our discussion will center on the environments which can be created for organizations to enable conversations.

In this section, we will describe some areas where researchers can investigate enabling behaviors from the knowledge management perspective. Specifically, we will detail two aspects of this phenomenon: the creation of a collaborative environment and the role of the organization in moderating the communications made in that environment. While there may be many other aspects of enabling which can be considered, these should provide a springboard for future research in this domain.

In order for organizations to enable knowledge creation and distribution, they must be able to form an environment in which these activities can occur. Defined in the literature as 'ba,' this common place where information can be shared opens opportunities for collaboration (Nonaka, Toyama, & Nagata, 2000). The increased access provided by social media grants organizations the ability to draw together a varied assortment of outside stakeholders with different knowledge. When disparate individuals, with differing stores of knowledge, come together in a collaborative environment, there exists the potential for knowledge creation (Whipple, 1987). Organizations, through the creation of

online communities, have the opportunity to establish environments which offer such collaboration, offering fertile ground for knowledge creation (Carignani, Andriani, & Toni, 2011).

There are many different structures available when creating a knowledge sharing environment. Carlsson (2003) classifies these structures into three distinct groups. The first group, extra-networks, represents networks that are closed to the public and completely governed by the firm. Inter-networks, while also governed by the firm, are open to outside individuals. Open networks, the final category, are completely open and governed outside the firm. One challenge with enabling behaviors through social media is taking previously existing open networks, which exist as social media platforms, and creating inter-networks within their governing structures. By creating regulated networks that are open to outsiders, organizations can utilize the knowledge creating power of the public to increase their own knowledge base (Kittur & Kraut, 2008).

Research on creating such environments notes the need for an organizing framework. Users must be able to locate one another and operate in a similar “place” in order to share and/or create knowledge (Nonaka & Toyama, 2003). Online “wikis,” or sets of linked web pages created by a collaborative set of users, offer one example of a type of framework that can facilitate the creation of such a knowledge creating environment (Clark & Stewart, 2010; Wagner, 2004). Tools such as “wikis” do not create the knowledge, but rather provide the structure needed for individuals to collaborate and share information. While “wikis” may be one example of a social media-based organizing framework, future research can investigate how organizations can create

different types of frameworks for connecting outside stakeholders through social media. For example, Twitter offers the use of “hashtags” to organize communications. Organizations can use this built-in structure to form a knowledge-sharing community (e.g. Vivacqua & Borges, 2012).

Another challenge for establishing a knowledge creating environment involves understanding that the mere creation of the environment does not ensure that individuals will fully cooperate. Researchers point out that individuals are not always willing to fully divulge all of their available knowledge in an online setting. Research into “vigilant interactions” indicates that individuals are, at the same time, both sharing knowledge and holding knowledge back from other users as a means of personal protection. When individuals feel they can fully trust the other members of the community, when the threat of deception is relatively low, they are more willing to share knowledge rather than keep it to themselves (Sirikka L. Jarvenpaa & Majchrzak, 2010). Organizations must understand how to create an environment in which the individuals contained feel the appropriate level of comfort in sharing their knowledge. The often short-term nature of knowledge-creating networks in social media settings brings a significant challenge in establishing trust within the members of the network (Iacono & Weisband, 1997; Meyerson, Weick, & Kramer, 1996; Robert, Denis, & Hung, 2009). It is here that the increased identification provided by social media can be of aid. Within social communities, trust is increased between users when they are able to identify commonalities between their networked profiles (Golbeck, 2009). Further research can

investigate how organizations can aid outside stakeholders in establishing the necessary level of trust to provide information and communicate in social communities.

Finally, even if outside stakeholders are apt to share information, there is no guarantee that the information they share will be useful. The increased reach of social media increases the amount of information and the number of communications made within a social community. While social media can enable collaboration between outside stakeholders, it is important for organizations to embrace their moderating role in this environment. Without moderation, the discussion can be unfocused and the quality of the content can be suspect (Jianqing Chen, Xu, & Whinston, 2011). In knowledge collaboration environments, not all discussions are entirely focused on the creation and dissemination of knowledge. Due to the social nature of these environments, some discussions can turn to more of the social variety rather than the knowledge creation variety (Jilin Chen, Nairn, & Chi, 2011; Prier, Smith, Giraud-Carrier, & Hanson, 2011). Even when conversations are limited to strictly those which are focused on knowledge creation, the opportunity for distraction persists. Thus, there is ample opportunity for research into how organization can best focus the communications between outside stakeholders on social media.

Future research on enabling behaviors can develop a greater understanding as to how organizations can moderate knowledge processes on social networks. We highlighted numerous areas in which to focus this research, from the generation of the communal environment to the role of the organization in facilitating the activities therein. Opportunities abound for researchers to investigate the methods organizations can use to

most effectively employ the unique characteristics of social media to generate and distribute knowledge. Researchers could examine enabling through answering numerous research questions. What types of environments can organizations create to encourage social media communications? What aspects of social media platforms can organizations use to enable knowledge-creating communications? Do different types of communication environments produce different types of knowledge? How does the environment impact the knowledge that is created by outside stakeholders?

Communications Perspective

From the communications perspective, with enabling, the organization is neither the communicator nor listener. Rather, in this mode of communication, the organization serves as moderator – inspiring, soliciting, controlling, and arbitrating communications between outside stakeholders. Enabling activities offer organizations the ability to extract meaningful information from conversations by influencing the direction of the conversation (Hujanen, 2013). For example, journalists are beginning to realize the impact of social media enabling, directing the general public to communicate on specific topics (Soffer, 2009).

With the communications perspective, our aim is to investigate the “how” of each behavior. Thus, when looking at enabling from the communications perspective, we seek to illuminate how organizations can properly moderate the communications of their outside stakeholders through social media. Our guidance from prior research will be primarily derived from insights on group communications. We will describe some of the challenges involved in organizing and directing group communications, as that is the

function of enabling behaviors. Thus, in this section, we will focus the discussion on avenues by which researchers can focus on the communicative aspect of enabling behaviors. Specifically, we will look at the unique nature of social media group communications and describe how organizations can best direct these communications.

Investigating enabling behaviors from the perspective of group communications must address how such communications differ when confined to a social network. One such separating factor is the temporary nature of the “groups” that are formed. Informality in groups makes membership a fleeting endeavor, causing difficulties for organizations who seek long-term objectives (Riemer & Klein, 2007). Indeed, the increased access and reach of social media give outside stakeholders the ability to connect with a wide and diverse audience, such that stability may be difficult to achieve. Thus, some researchers investigate the loyalty of group members, seeking to understand what causes users to remain committed to communication (Shen, Huang, Chu, & Liao, 2010). Two factors which have been offered are familiarity and similarity, whereby individuals are more apt to remain loyal to a group if they feel connected to the other group members. In this sense, we see where the identification offered by social media can be helpful. Organizations have the opportunity to target individuals in unique ways due to the offerings of social media (Larson & Watson, 2011). Future research can consider the means by which organizations can increase the level of familiarity and similarity of group members to enable more durable group communications.

Another aspect of group communications that may be of interest to research on enabling behaviors involves investigating how organizations can best direct the

communications of others. This line of research seeks to identify different interventions which can be made to focus group communications (Frey, Gouran, & Poole, 1999).

Group communication is improved when group members are able to properly identify the purpose of their communications (Swigger, Thomas, & Brazile, 1993). The lower richness of computer-based communication media, compared to face-to-face communications, decreases the ability of groups to properly establish the objective of their communication (Li, 2007). Thus, researchers can examine the means by which organizations can moderate group communications on social media, specifically investigating the ability to aid outside stakeholders in identifying a common objective.

One rich area for investigating group communication moderation is in regards to conflict management, a key consideration in virtual team research (Chiravuri, Nazareth, & Ramamurthy, 2011). Focusing the communications of others could be a means by which to reduce the inherent conflict of computer-mediated information sharing. Indeed, researchers have identified social media as a ripe area for future research on virtual teams (Gilson, Maynard, Young, Vartianen, & Hakonen, 2015). The concert of existing virtual team research and social media enabling could bring out some interesting questions for future inquiry.

Researching enabling behaviors from the communications perspective is difficult, given the often passive role of the organization in the actual communications process. Nonetheless, prior research offers some guidance as to how organizations can exert influence in the communications of others. The relative dearth of existing research in this area offers numerous research questions which can expand our understanding. For

example, how can organizations direct communications in such a manner as to increase loyalty in a virtual community? What factors increase an individual's likelihood in joining a conversation initiated by an organization? What interventions can organizations enact to focus and/or direct the communications of others on social media platforms? Many opportunities abound for studying enabling behaviors from the communication perspective.

Economics Perspective

Research on enabling behaviors, from the economics perspective, focuses on identifying how the moderation of communications between outside stakeholders influences firm value. In this section, we will describe some avenues by which researchers can assess the value of enabling behaviors. Specifically, we will exemplify research from this perspective in two areas. First, we will discuss the value of offloading valuable activities to outside stakeholders, particularly through behaviors such as crowdsourcing. Then, we will discuss the value of communications between outside stakeholders, even if those communications are not directed toward the production of valuable content or information. Through these two avenues, and possibly many more, researchers can illuminate how enabling communication between outside stakeholders provides value to organizations.

Similar to our discussions on monitoring and disseminating, we can discuss enabling behaviors through the lens of “produsage,” whereby outside stakeholders assume some of the responsibility for value creation (Bruns, 2007). Rather than repeat these discussions, we will instead describe the unique facets of enabling, specifically

those which offer minimal involvement on the part of the organization. With enabling, the organization is directing communications, rather than actively participating, as in disseminating. Therefore, while disseminating involves a collaborative element of content production, with the organization supplying information and knowledge in order to co-create, enabling involves the offloading of value creation to outside stakeholders.

For nearly three decades, scholars have recognized the value to organizations made possible through the allocation of activities to outside sources (Gonzalez, Gasco, & Llopis, 2006). Outsourcing was popularized around the late 1980's when organizations began to offload key processes to other firms to allow for greater focus and reduced costs. Gilley and Rasheed (2000) define outsourcing as “the fundamental decision to reject the internalization of an activity” (p.764). Through allowing outside stakeholders the opportunity to bear the responsibility of an activity, organizations began to see benefits through lowered costs and increased quality in core areas (Adler, 2003; Lacity & Hirschheim, 2012). Outsourcing enables organizations allocate resources in areas that can be of more value (Lacity & Hirschheim, 1993; Quinn, 1999).

Social media offer organizations ready-made platforms for a new form of outsourcing (Tapscott & Williams, 2010). Social media have enabled the continuation of the evolution of outsourcing, significantly increasing the availability and opportunity to utilize the wisdom of crowds (Gao, Barbier, & Goolsby, 2011; Yates & Paquette, 2011). Dubbed “crowdsourcing,” this new phenomenon offers greater returns at even lower costs to the organization (Constantinides, Romero, & Boria, 2009). While crowdsourcing behaviors are feasible prior to technological advances (von Hippel, 1988), scholars note

that the enhanced access and reach of social media have reduced some of its complications (Surowiecki, 2005).

For example, some t-shirt retailers no longer take the sole responsibility of design conception. Numerous retailers have begun allowing outside individuals to create designs that the organization uses to sell to other customers. Through minimal incentivizing, the companies enable outsiders to create content that they use to add value (Leimeister, 2010). Other examples include disaster relief organizations, which use social media to detect dangerous situations and other large-scale events (Gao et al., 2011; Rogstadius et al., 2013). Crowdsourcing through social media is widely discussed as a valuable activity, but further research can expound upon the different means by which it provides value. Researchers could focus on the value inherent in increasing the quality of the content, due to the enhanced “wisdom” of the totality of outside stakeholders, while others could focus on the value of offloading the activity, offering organizations the ability to concentrate their efforts elsewhere. Both provide ample opportunities for future research.

While content-specific conversations are valuable to organizations, not all enabling activities focus on initiating conversations that will result in content creation. Some enabling activities are performed solely for the purpose of conversation. The increased identification of social media communications allow individuals to know who is doing the communicating. When individuals recognize that the sources of organization-specific communications are individuals outside the organization, the power of those communications is often increased.

Warranting Theory is built upon the notion that individuals place a greater degree of credibility on content that is outside the control of the organization over content that the organization has created (Walther, Van Der Heide, Hamel, & Shulman, 2009). The idea is that individuals often place more trust in information if they know the organization has no capability to censor it and tailor it to their own desires. Marketing researchers speak of the value of “earned media,” which entails content created by outside stakeholders without being purchased by the organization (Stephen & Galak, 2012). Thus, the awareness of the source of the information, provided through the enhanced identification of social media, can increase the value of communications between outside stakeholders.

Inherent to both of these concepts is the notion that encouraging conversations between outside stakeholders which is topically focused on the organization can be of great value. In this sense, the “content” that is being communicated is not created for the organization to use, but rather to inform other outside stakeholders and potentially influence their behavior. As the number of outside stakeholders involved in these communications increase, so does the value of the outside communications (Plangger, 2012). Thus, not only do social media offer the ability to enable content creation for the organization, but also the ability to enable communications which influence the behavior of other outside stakeholders.

Future research on social media enabling can look at the value from a variety of angles. We have highlighted two in particular, focusing on the outsourcing of content creation and the generation of valuable outside conversations. Nonetheless, significant

questions remain in both of these arenas. Regarding outsourcing, which activities can be offloaded to outside stakeholders through enabled communications? How do such outsourcing behaviors reduce costs and increase value for organizations? Regarding valuable conversations, how does the mere communication about an organization between its stakeholders provide value? Can organizations increase the value of their brand simply through the initiation of outside communications? If so, does this value extend beyond brand development? As the search for identifying the ROI of social media behaviors continues (Kumar & Mirchandani, 2012), we must continue our investigation as to how such behaviors, such as enabling, add value to the firm.

DISCUSSION

Our framework offers a means of illuminating and categorizing the different activities and lenses which researchers can use to investigate social media interactions between an organization and its external stakeholders. The framework contributes to the literature by describing three sets of activities that can be used to parsimoniously describe how social media can be used to enable interaction with external stakeholders and to inform strategic processes. Our aim in presenting this framework is to help organize existing research as a means of addressing gaps in current social media literature (Aral et al., 2013; Berger et al., 2014).

One of the unique contributions of this framework is the presentation of different research perspectives by which to examine how organizations use social media to interact with their environment. While existing research has identified many types of organizational behaviors (e.g. Gallagher & Ransbotham, 2010; Larson & Watson,

2011), our framework provides a nuanced view of how researchers can investigate each category of behaviors. For example, two researchers may both be interested in examining social media monitoring. One researcher may look at monitoring from the knowledge management perspective, describing the unique capabilities of social media to extract knowledge about competitors. The other researcher may take a communications approach, seeking to understand how organizations can best interpret the communications of competitors when sent through social media. These different perspectives offer different research questions, as they approach their examinations from different angles. One centers on the knowledge that can be gleaned, while the other focuses on the mechanism of extracting that knowledge and how to maximize its efficiency. Through the combination of research across different avenues, we can gain a deeper understanding regarding each of the different social media interaction behaviors. Our framework encourages thoroughness through explicating different means of investigating each behavior.

In developing a research agenda around our framework, we offer that researchers could utilize the framework in two different manners. First, researchers could use a *within-category* approach, aiming to illuminate our understanding of one specific interaction behavior from one specific research perspective. For example, a researcher could look solely at monitoring from the communications perspective. Second, researchers could use a *between-category* approach, aiming to illuminate how facets of one category impact one or more others. For example, a researcher could examine how facets of monitoring impact an organization's disseminating activities. No matter the

approach selected, our framework offers opportunities to advance our understanding of organizational social media interaction. In order to provide salient recommendations for future researchers, we offer expanded descriptions of each of these approaches.

Within-Category Research

One approach to conducting research within our framework would be to concentrate on studying one individual category. Such research would investigate a specific category of interaction behaviors from a specific research perspective. This would be a natural fit for the manner in which we developed the framework, as the nine categories were presented as distinct entities. As such, our descriptions of the categories also offered specific research questions which were aimed to spur research within. An exemplary selection of these research questions is presented in Table 2.4.

Table 2.4 - Illustrative Within-Category Research Questions

Knowledge Management	Monitoring	How can social media be used to gather information both about and from customers?
		What types of information can (and should) be gathered from outside stakeholders?
		What characteristics of social information enhance or reduce credibility when shared on social platforms?
	Disseminating	What information (and how much information) should organizations share with outside stakeholders?
		What role do new practices such as “meta-voicing” play in the dissemination of organizational knowledge?
		How can organizations use re-broadcasting behaviors to distribute the knowledge of other stakeholders?
	Enabling	What type of environments can organizations create to encourage social media communications?
		What aspects of social media platforms can organizations use to enable knowledge-creating communications?
		Do different types of communication environments produce different types of knowledge?
		How does the environment impact the knowledge that is created by outside stakeholders?
Communications	Monitoring	How can organizations accurately evaluate their customers through social media monitoring?
		How do organizations account for the inherent discrepancies between expressed opinions and actual positions?
		Do different platforms have different styles, and how do those differences hinder the development of an overall monitoring strategy?
	Disseminating	How can organizations account for the different styles of communication present in different social platforms?
		What strategies can be employed to ensure that messages are being properly interpreted?
		How can organizations determine whether a communication’s intended audience actually reads the communication?
	Enabling	How can organizations increase the loyalty of outside stakeholders to an established virtual community?
		What factors increase an individual’s likelihood of joining a conversation initiated by an organization?
		What interventions can organizations enact to focus and/or direct the communications of others on social media
Economics	Monitoring	How can organizations enhance the value of their product offerings through monitoring?
		Can monitoring be utilized as a means of replacing R&D activities?
		What role do monitoring behaviors play in enhancing the value of each step along the value chain?
	Disseminating	Can sharing product information early in the development process lead to competitive advantage?
		How does the viral nature of social communications increase the value of social marketing efforts?
		Can organizations indirectly add value through developing and strengthening relationships with outside stakeholders?
	Enabling	Which activities can be offloaded to outside stakeholders through enabled communications?
		How does the mere communication about an organization between its stakeholders provide value?
		Can organizations increase the value of their brand simply through the initiation of outside communications?

These research questions are certainly not exhaustive, but should provide ideas which we hope will spur research within each of the categories. Should researchers elect to conduct within-category research, we prescribe that they move beyond describing the individual categories of behaviors, as there is already a solid foundation of descriptive work (e.g. Gallagher & Ransbotham, 2010; Larson & Watson, 2011). Rather, we prescribe that researchers direct their studies on illuminating our understanding regarding how to increase the effectiveness of each behavior, from each research perspective. For example, should a researcher desire to examine monitoring behaviors from the communications perspective, we would prescribe that the researcher aim not to define monitoring or describe how it is operationalized, but rather investigate how organizations can most effectively understand and internalize the communications of their outside stakeholders. Since the communications perspective pertains mainly to questions of “how,” we would recommend that researchers focus their efforts into enlightening our awareness of “how best” to go about gathering communications.

Additionally, we prescribe that researchers seek to articulate actionable recommendations for practice to follow. In order to amplify the relevance of our research, we must ensure that it is accessible for practitioners (Benbasat & Zmud, 1999). One way to increase the accessibility of research is to provide actionable recommendations that expound upon the theoretical insights drawn from research. For example, Hoffman and Fodor (2010) provide a large set of actionable ROI metrics that organizations can use to derive the value of their social media initiatives. This paper articulates an economics perspective on social media, offering specific measures by which organizations can

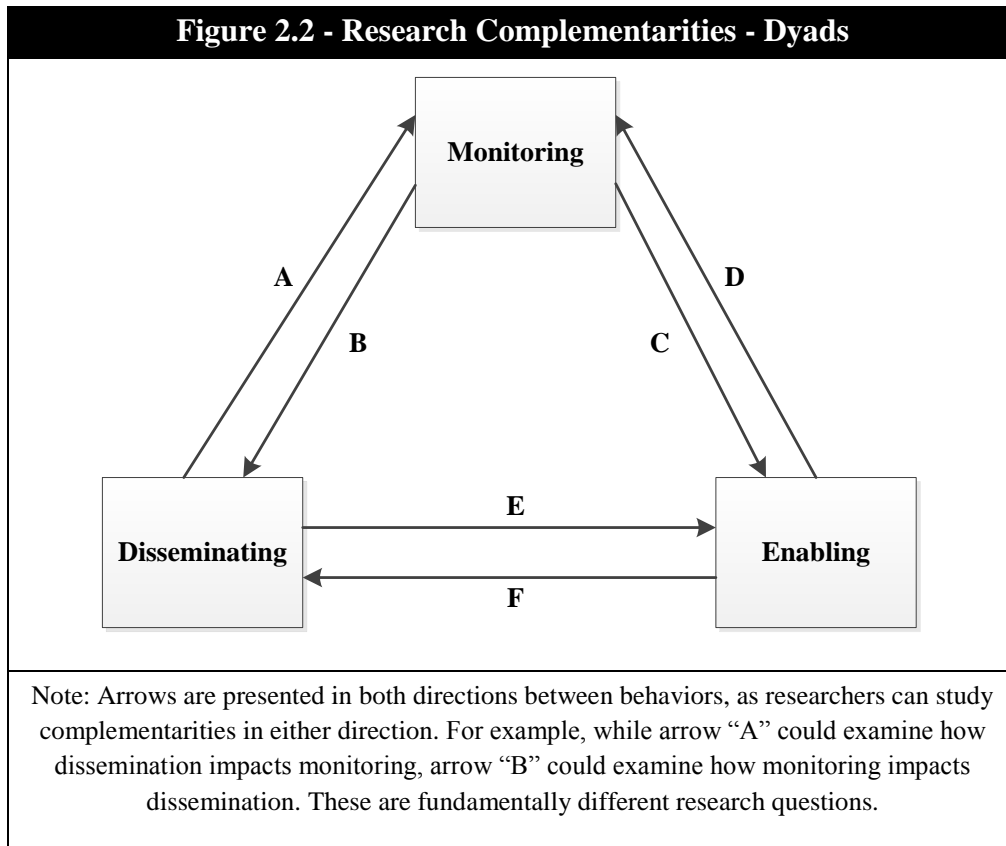
determine how much value was added through social behaviors. We recommend that researchers provide similar actionable recommendations that practice can follow.

Between-Category Research

An alternative approach to conducting research with our framework would be to look beyond individual categories and seek to find complementarities between behaviors. Such research would differentiate itself from within-category research, as the aim would be not to increase the individual effectiveness of one behavior (from one perspective), but rather to seek an understanding regarding behaviors impact each other. In this section, we will detail two different forms of between-category research. First, we will look at dyadic research, which focuses on the effect of one behavior on another. Then, we will look at triadic research, which investigates process flows involving all three behaviors.

Dyadic between-category research would investigate how the execution of one social media behavior impacts another. The focus here would be less on a descriptive account of the activities and more on how organizations can increase the effectiveness of the handoff. This could be investigated from all three research perspectives offered in our framework. For example, if researchers were to look at the complementarity between enabling and monitoring, they could investigate this connection in multiple manners. From the knowledge management perspective, researchers could examine what type of environment is best suited for increasing opportunities to gather specific customer knowledge. From the communications perspective, researchers could examine what communicative actions best direct conversations so as to elicit customers to share knowledge that organizations wish to gather. From the economics perspective,

researchers could examine how increasing the effectiveness of enabling behaviors correspondingly increases the value of monitoring behaviors.



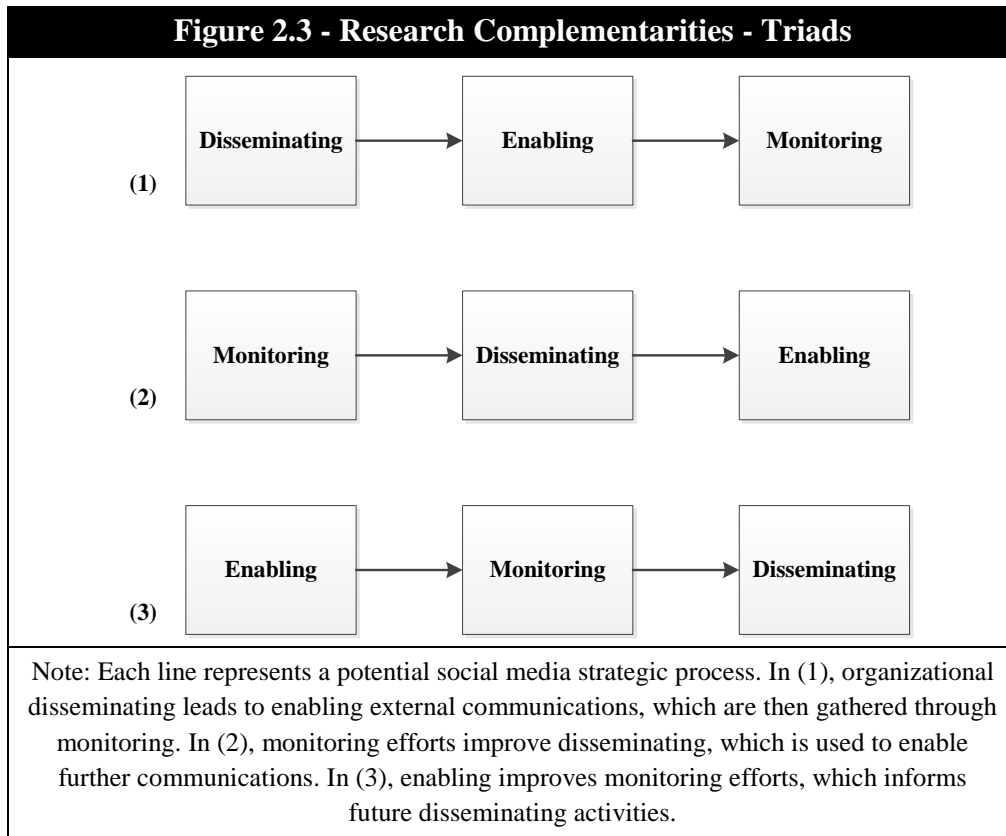
In Figure 2.2, we find six potential research dyads that researchers could examine. For each arrow, numerous potential research questions abound. For example, looking at arrow “B,” which focuses on the relationship between monitoring and disseminating behaviors, researchers could investigate how organizations can monitor social media communications in such a manner as to increase the effectiveness of their disseminating efforts. One interesting study could look at how organizations can target their monitoring activities so as to identify the knowledge that their customers seek. Can organizations determine the knowledge that their customers are lacking, and can they use this

knowledge to inform how they share knowledge through social media communications? Research in this arena might define the effectiveness of monitoring activities in terms of how well they assist the organization's dissemination activities. This is one of many examples of how researchers could use our framework to conduct dyadic between-category research.

Chua and Banerjee (2013), through use of a case study, provide one example of between-category research, by describing how Starbucks uses enabling behaviors (e.g. Facebook questions posed to the community) to focus their monitoring efforts regarding the gathering of customer knowledge. Starbucks utilized poll questions as a means of generating customer communications, which in turn directed those communications toward a subject of interest to the organization. A focused execution of enabling led to a more efficient execution of social media monitoring. Further research could expound upon the observations of this study.

Another form of between-category research which could be enacted is triadic, process-focused research. Such studies would use the three behaviors to develop process flows, describing how organizations can programmatically implement the behaviors in a cogent manner. One example of such a process-oriented social media communications program is as follows. An organization could strategically begin with monitoring external communications. Then, using the results of their monitoring efforts, the organization could use dissemination to re-direct those external communications in its favor (enabling). Whereas the dyadic between-category research discussed earlier focuses on how one behavior impacts another, this triadic between-category research could look at

complete process-oriented strategies. Researchers could utilize case studies to describe how organizations can best enact these strategies. In Figure 2.3, we illustrate three possible processes which organizations could implement for the purpose of strategically implementing a social media communications program.



CONCLUSION

In this essay, we present a framework which organizes and offers direction for future research on organizational social media interaction with outside stakeholders. In doing so, we offer a general categorization of three distinct interaction behaviors, all of which can be investigated from three different research perspectives. The resulting framework provides future researchers with a surplus of opportunities to heed the calls of

Aral et al. (2013), Berger et al. (2014), and others for broader, more directed research on social media and their impact.

In addition to the framework, we offer two different means by which to investigate social media interaction. The first method, within-category research, would have researchers investigating how to maximize the effectiveness of each behavior from each of the three research perspectives. For example, a researcher could examine monitoring from the communications perspective, seeking to increase the effectiveness of organizations in accurately deciphering the communications of outside stakeholders. The second method, between-category research, would have researchers investigating the complementarities which exist between interaction behaviors. For example, a researcher could again examine monitoring, this time from the perspective of understanding how organizations can monitor in such a manner as to improve the accuracy of their dissemination efforts. In other words, how can organizations gather the necessary information to improve the quality of their communications with outside stakeholders? Through either of these means, researchers can improve our understanding of social media interactions.

Social media research has intensified to the point that mere definitions and descriptions are no longer adequate. Berger et al. (2014), in their review of current social media research, note the need to investigate the entire breadth of the phenomenon, looking beyond mere marketing and brand building to a complete discussion of its benefits. Our aim in this essay was to direct research on organizational social media interaction which offers specificity in its purpose (for example, we bounded this

framework on external, organizational use of social media) and breadth in its coverage (through the use of multiple behaviors and research perspectives). While we allow that some aspects of organizational social media interaction may not be explicitly described in this framework, we hope that our discussion motivates future research which expands upon our current understanding. If our aim is to increase the relevance of our research (Benbasat & Zmud, 1999), then we must aim to provide practice with findings which match the breadth of their activities. As organizations utilize social media for a wide variety of purposes (Gallaughier & Ransbotham, 2010), we must be organized in our approach, so as to ensure a totality of coverage. The framework presented in this essay should spark research which accomplishes this aim.

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ESSAY TWO

CREATIVITY VS. CONTROL: ENABLING INNOVATION THROUGH SOCIAL MEDIA TRANSFORMATION

ABSTRACT

Social media offer organizations numerous opportunities to achieve business transformation. For this transformation to take place, the implementation of social media must enable the facilitation of innovation. Research demonstrates that innovation is realized due to novel, useful action. Through a multi-case investigation, this study demonstrates that there are multiple strategies for enabling innovation in social media implementations. Theories of regulation and empowerment provide lenses with which we can view the communicative actions of organizations facilitated by social media. Among our findings, we show that organizations can prioritize regulation or empowerment, or both, in their social media communications. Organizations which prioritize regulation facilitate alignment both across social media accounts and with the remainder of the organization. Organizations which prioritize empowerment can tailor communications to their disparate audiences and foster creativity in their social media communications. Three descriptive case studies illustrate the three social media implementation strategies, with propositions presented for future research into both the antecedent and moderating effects on regulation and empowerment.

INTRODUCTION

Recent technological advances have demonstrated to organizations that the infusion of social media into new and existing business practices can enable transformation (Aral et al., 2013). The increased inter-connectedness of the world has opened new avenues for interaction between organizations and outside individuals, enabling innovative opportunities for value creation. These opportunities are not limited to specific business units (such as marketing or customer service), but permeate the entire organization (Barrett, 2006).

Many organizations have adopted social media as a means for replacing or reengineering existing business processes (Mathiesen, Watson, Bandara, & Rosemann, 2012). For example, companies such as General Motors and Sun Microsystems use blogs to improve transparency and interact with individuals outside their organization (Kaplan & Haenlein, 2010). The introduction of social communication has improved their interactions with the outside world. However, transformation cannot be achieved through the mere implementation of social media tools. For innovative change to occur, the implementation must take into account the tasks, people, and structures of the organization (Leavitt, 1965). Utilizing social media in a manner incongruent with the remainder of the organization, or failing to adjust these structures to account for social media, can lead to ineffective use of the new technology (Safko, 2010). Executives at *The Guardian* newspaper have altered the entire makeup of their enterprise to account for new interactions through social media, inviting the public to work alongside journalists and marketers to both produce and promote news content (Tapscott & Williams, 2010).

The most effective social strategies are those which take into account the remaining strategies and activities of the firm (Korsten, Lesser, & Cortada, 2013).

Because organizations are so diverse in terms of strategy and structure, there exists a variety of means for enabling transformation through social media. It has been well established in recent research that implementing social media has the potential to transform organizations (Aral et al., 2013; Elliot, 2011; Gruner, Power, & Bergey, 2013). Social media transformation, however, is more complicated than simply implementing a set of social media tools or creating accounts on various platforms. Implementations are most effective when performed according to the objectives of the organization (Henderson & Venkatraman, 1993). Two organizations may both desire to utilize social media for innovation, but with differing objectives, or operating within different business environments. Therefore, it holds that there are different strategies for enabling transformation through social media. The selection of strategy and the effects of that selection inform the research question for this study:

How do different organizations uniquely enable transformation through social media implementation?

This paper has two complementary objectives. First, through a review of prior literature, we will develop hypotheses and strategies relevant to the understanding of the effects of different methods for achieving social media transformation. These hypotheses and strategies will be confirmed through a multiple case study investigation. Second, we will use the data gathered from the cases to examine what contextual factors influence

both the selection of a social media transformation strategy and the effects of that selection. This secondary analysis will result in the development of propositions for future research into social media transformation strategies.

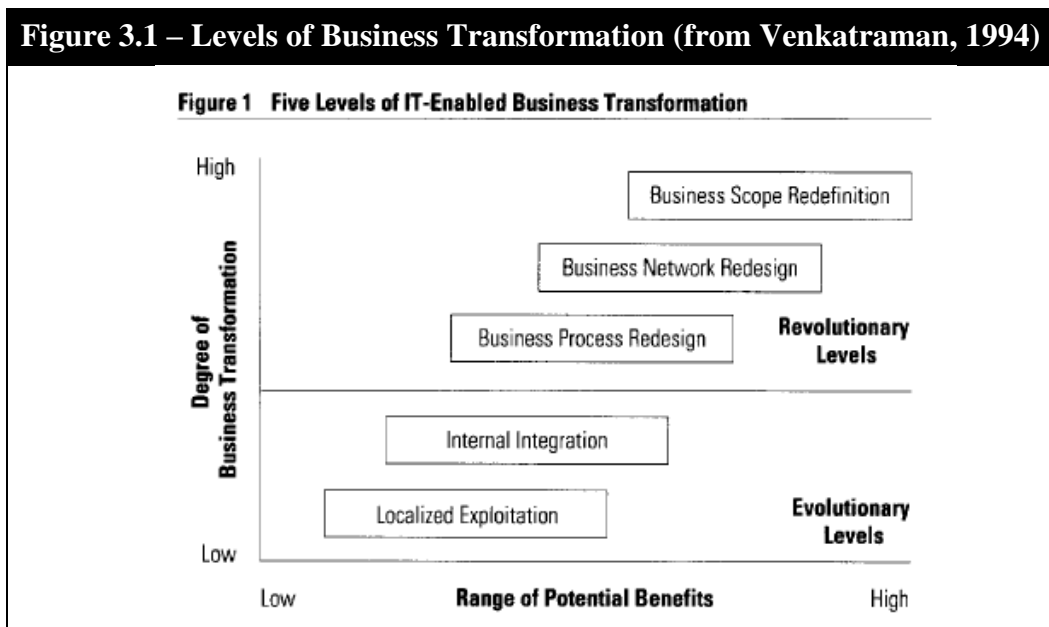
LITERATURE REVIEW

Before we can develop social media transformation strategies, we must grasp the basics of social media transformation. In order to conceptualize social media transformation, we must gain a broad understanding of business transformation, as well as an understanding of the unique characteristics which distinguish social media transformation.

Business Transformation

Business transformation represents the fundamental alteration of an organization in response to a stimulus (Spector, 1995; Venkatraman, 1994). Business transformation is different from similar concepts such as business process re-design or process re-engineering in both the comprehensiveness of the alteration and uniqueness of the resulting opportunities. While the introduction of a new stimulus may occasionally result in a slightly enhanced version of the status quo, transformation entails an entire renovation of the central corporate structure and strategy (Muzyka, De Koning, & Churchill, 1995). Transformation changes the organization's business practice, altering strategy and processes to account for new opportunities. Transformation often involves changes made to facets throughout the entire organization (Prahalad & Oosterveld, 1999).

Though numerous models of transformation persist throughout literature (e.g. Chakravarthy, 1996; Davidson, 1993; Klievink & Janssen, 2009; Venkatraman, 1994 among others), the unifying theme among these models is innovation. Business transformation is fueled by the organization’s willingness and success in innovating across business units and activities (Elliot, 2011). Researchers who have classified forms of business transformation do so with the understanding that the degree of transformation in an implementation is subject to the degree of innovation seen by the organization resulting from that implementation (McKeown & Philip, 2003; Venkatraman, 1994). Figure 3.1 shows how transformation and innovation are intertwined, with the breadth of innovation along the x-axis.



When organizations pursue transformation, they seek to maximize the degree of innovation enacted through the introduction of a stimulus. The path to maximizing innovation begins with an understanding of the nature of innovation. Innovation is

defined as the creation and implementation of useful and novel ideas (Scott & Bruce, 1994). From this definition, we see two aspects of innovation that must be addressed. First, innovation involves creativity, or the generation of novel ideas. Generating ideas which too closely mimic the existing business processes of the organization will nullify the degree of innovation, which will in turn hinder the organization's ability to transform. Second, innovative ideas must be useful, providing benefit to the organization. Usefulness is established via consistency between the idea and the goals or activities of the organization. If an idea lies in contrast to the aims of the organization, it will be of no use. Navigating the difficult dichotomy between novelty and consistency can be difficult for organizations, and offers ripe areas for in-depth research.

Understanding the two facets of innovation provides a path for our understanding of social media transformation. In order to maximize innovation, organizations must recognize the novel capabilities offered by social media. Put simply, how can social media offer unique opportunities in communication and information exchange? From there, organizations must understand how to make those capabilities useful in their organizations. We will see that there are many different approaches to utilizing the unique capabilities of social media, and organizations must find the approach which offers the greatest adherence to their aims. We continue our literature review by identifying the novel capabilities offered by social media.

Social Media

When investigating social media transformation, we must understand what unique characteristics of social media enable the level of innovation necessary to be considered

transformative. While many definitions of social media persist throughout recent literature (e.g. Aral et al., 2013; Beer, 2008; boyd & Ellison, 2007; Kaplan & Haenlein, 2010), we will center our study by investigating the central novel characteristics offered by this new form of communication.

“Social media”, in its most basic form, refers to the interaction of individuals in social settings enabled by technology (Kaplan & Haenlein, 2010). While there are many different ways in which organizations can enable the interaction of disparate individuals, the unifying concept central to social media is the interaction itself. Research on social media has often failed to separate the activity of interaction from the means by which such interaction is performed. In short, we can think of social media platforms as the means, and interaction as the activity.

By centering our study on the activity of interaction, rather than the specific mechanisms for customizing such interaction, we can look for themes that go beyond the limitations of particular platforms. Additionally, we are afforded the opportunity to offer practical insight to organizations regarding how to customize their own implementations based on the recommendations of this study. Just as ERP technology exists in a variety of different forms and is offered by a large number of differing vendors, social media strategies can vary with the selection of platforms and the actions taken within each platform. However, the fundamental nature of social media implementation is not dissimilar from investigating ERP from a wider lens, freed from the restrictions of specifications. Therefore, as we define social media for this study, we will focus on the unifying opportunities afforded by the technology.

Social media are, in essence, communications media, which means that their intended purpose is to share information (Biswas, Olsen, & Carlet, 1992; Chiu, 2002; Collot & Belmore, 1996). This information comes in a variety of forms, from mundane, seemingly nonsensical dialogue to practical, useful business knowledge. What separates social media from other forms of communications media is not the information that is shared, but rather how that information is shared. Kane, Alavi, Labianca, & Borgatti (2014) have provided a research framework for the study of social media in the field of Information Systems. Within their framework, they identified four unique characteristics which delineate social media networks from other network types. These characteristics are presented in Table 3.1.

Table 3.1 – Social Media Characteristics (from Kane et al., 2014)	
Characteristic	Description
Digital Profile	The platform provides a unique user profile that is constructed by the user, by members of their network, and by the platform.
Search and Privacy	Users can access digital content through and protect it from various search mechanisms provided by the platform.
Relational Ties	The platform provides mechanisms for users to articulate a list of other users with whom they share a connection.
Network Transparency	Users can view and traverse their connections and those made by others on the platform.

Central to this set of characteristics comes the understanding that the novelty of social media implementation lies with its ability to offer enhancements to traditional communication. Through offering profiles, search features, relationships, and transparency, social media provide organizations unique abilities to interact with the outside world. However, not all organizations will utilize these communication

enhancements in the same manner. Innovation is a function of usefulness just as much as it is a function of novelty. As we discussed in the introduction, such wide-scale changes to an organization must take into account all facets of that organization (Leavitt, 1965). Two organizations may both implement social media, seeking to change the nature of their interactions, but implement it in different ways. As we seek to classify the strategies for social media transformation, we see that the means by which organizations use social media to communicate tend to differ across two different dimensions: regulation and empowerment. By investigating these two dimensions, and the effects they have on communications, we can learn more as to why organizations use social media in the manners they have chosen.

REGULATION

Some organizations place a high degree of importance on consistency (Rosenzweig & Singh, 1991). Considering the potential for dramatic variation when communicating across a large number of social media accounts, these organizations seek to achieve such consistency in their social media use. One strategy used by businesses to ensure consistency is to regulate the actions of those representing the organization.

In this context, regulation refers to the act of controlling social media communications across the organization's disparate accounts. Regulation uses control as a means of achieving alignment, both vertically and horizontally in the organization. Horizontally, it results in consistency across business units, departments, or product lines. Vertically, regulation produces alignment between the strategic use of social media and the strategic aims of the firm. Regulating communication can lead to congruence across

many different aspects of the organization. In order to develop the concept of regulation in the context of social media transformation, we must first define regulation, and then determine its relevance for our context.

Regulation Defined

In the broadest possible sense, regulation is regarded as the act of utilizing control as a means of eliminating variability. This definition is best understood through examples. In politics, regulation involves the removal of variability in policy decisions (Chari & Kehoe, 2009). Economists note the negative impact of inconsistency when institutions are allowed the opportunity to change behaviors in response to outside actions (West, 1997). In psychological terms, regulation can be seen as an internal process whereby an individual utilizes control to reduce the frequency and voracity of severe emotions (Eisenberg & Spinrad, 2004). Natural scientists describe the human body's ability to regulate through organized control in an effort to prevent undesired physical outcomes (Ganong, 2000). Common to these examples are two central facets of regulation. First, regulation places a higher degree of purpose on the larger context than the individual, smaller contexts. The state is more important than the organizations. The self is more important than the outbursts, etc. Second, regulation utilizes control to establish consistency among potentially inconsistent elements. It is in this consistency that we see the relevance in evaluating regulation as it pertains to the ambitious attainment of innovation through social media interaction.

Social Media Effects

When viewing regulation through the lenses of referent disciplines, we gain a deeper sense of one of the strategic dimensions of transformation. Regarding the “higher purpose” element of regulation, regulation ensures that communications are more concerned with the core message rather than their contextual relevance. Evaluating the extent of regulation in an implementation involves looking broadly at the purpose of use, rather than the methods of use. Organizations which emphasize regulation will place a high degree of importance on *what* is being communicated and a lesser degree of importance on *how* it is being communicated.

Regulation, in one sense, can be viewed horizontally, as a means of achieving consistency across the organization. This type of consistency lies between departments, individuals, or other facets of the organization. Regulation ensures consistency by reducing the ability of individuals to adapt to the specific demands of a given context (Levine, Stern, & Trillas, 2005). The more consistent the message conveyed through social media, the more likely it will be that the message adheres to the needs of the organization. Through consistency across the organization, the usefulness of social media interaction will increase.

Hypothesis 1: Social media strategies which emphasize regulation will result in a greater degree of message consistency across different areas of the organization.

Regulation can also be thought of vertically, ensuring consistency between the social interactions of business units and the overall strategy of the firm. Alignment

between the business activities of the firm and the strategy of the firm is brought about through organizational, technological, or personnel-focused means (Broadbent & Weill, 1993). Highly regulated environments will allow organizations the opportunity to ensure consistency between the communications made through social media and the intended strategy of the firm. It is expected that, when organizations emphasize regulation, the messages communicated through social media channels will align with the organization's overall business strategy.

Hypothesis 2: Social media strategies which emphasize regulation will result in a greater degree of alignment between the use of social media and the overall strategy of the firm.

EMPOWERMENT

While regulation looks at the level of consistency in message, empowerment focuses on the ability of individuals to customize that message according to the needs of their context. Many organizations desire agility to operate within dynamic environments (Sull, 2009; Tallon & Pinsonneault, 2011; Zain, Rose, Abdullah, & Masrom, 2005). An organization emphasizing empowerment will allow individual account managers the power to differentiate their communications, customizing them for the appropriate audience. In order to understand the role of empowerment in social media transformation, we must first answer two key questions. First, what is empowerment? And second, how does empowerment impact social media use in organizations?

Empowerment Defined

Empowerment, in its most basic form, refers to the granting of power to an individual or group of individuals who previously did not have power (Burke, 1986). When we speak of power in organizational contexts, we refer to the authority or degree of control possessed over organizational resources (Conger & Kanungo, 1988). Empowerment is not a broad construct, but is specific to a context. An individual may be empowered to complete one task while restricted from exercising authority over a different task (Thomas & Velthouse, 1990). Therefore, empowerment represents the act of granting authority or control of a specific task from individuals in higher positions in an organization to those in lower positions.

When discussing empowerment, researchers draw an important distinction between what they term “actual power” and “perceived power” (Rappaport, 1987). Actual Power, sometimes referred to as “political empowerment,” pertains to the structural granting of power within an organization. When managers alter organizational strategy or modify the decision-making authority for a specific task, they are granting actual power to certain individuals or groups. Conversely, perceived power (or “psychological power”) refers to the internal motivations enveloping the individuals for whom power is granted. This type of power goes beyond the mere granting of authority and includes the stimulation necessary to perform a task (Conger & Kanungo, 1988). When these two forms of power are granted to individuals, they combine to complete the total definition of empowerment in organizations. Individuals that have both the external

ability and internal desire to exert control are most likely to utilize their power to take action.

Social Media Effects

The impact of empowerment on social media utilization pertains to the effects seen when organizations give lower-level employees the power to customize their interactions with outsiders through social media. Interaction is possible when communication is performed by any level of the organization, but through empowering lower-level employees, a number of consequences emerge.

Communications theory indicates that individuals are most likely to connect with a communication when they find personal relevance to the message (Miller, 1976). Communications are at their most effective when the style of the communication is matched between the sender and receiver of the message (Giles, Coupland, & Coupland, 1991). Because social media offer organizations the ability to interact with vast, diverse audiences, there emerges the possibility of communicating with a wide range of individuals. Organizations, and individuals alike, desire to customize their communications to match the intended audience (Marwick, 2011). In the situation where an organization is communicating with multiple audiences, the need arises to be able to customize communications to each audience.

When an organization chooses a social media transformation strategy that emphasizes empowerment, the individuals responsible for communicating with the organization's array of audiences are granted greater freedom to customize their communications. When communication decision-making is dispersed, the organization

may become more agile, thus more able to react to the demands of diverse audiences. Empowerment offers an increased ability in the lower levels of the organization to customize the style of communication to match the intended audiences. Through this customization, the organization is better able to communicate in the diverse styles which distinguish their diverse audiences.

Hypothesis 3: Social media strategies which emphasize empowerment will have more tailored communications with diverse audiences.

From the perspective of the employees, empowerment results not only in an increase in responsibility but a redefinition of purpose. Individuals, when empowered, are more likely to involve themselves in creative activities which lead to innovation (Zhang & Bartol, 2010). Creativity, in organizational settings, refers to the generation of innovative and effective ideas from individuals granted such power (Amabile, 1988). In times of social or technological change, creativity among employees can have an important impact on organizational performance (Redmond, Mumford, & Teach, 1993). New technologies, such as social media, present numerous opportunities to foster creativity within their users (Burgess, Foth, & Klæbe, 2006). One of the primary antecedents of creativity is individual motivation. While intellectual ability and experience are necessary for creative output, neither are sufficient without the proper motivation (Jung, 2001). Because motivation is a principal effect of empowerment, it is expected that when organizations empower their lower-level employees to utilize social

media, a greater degree of creativity will be observed in the generation and production of new ideas for interacting with outside individuals.

Hypothesis 4: Social media strategies which emphasize empowerment will result in a greater degree of creativity among employees in social media use.

Regulation and empowerment give us mutually exclusive lenses with which to view transformation strategy. The determination of an organization's social media transformation strategy results from the emphasis placed on regulation, empowerment, or both. Knowledge of the effects of each dimension informs our understanding of the motivations for choosing social media transformation strategies that bring out such effects. When organizations consider the best implementation strategy to achieve innovation through social media interaction, they will have to contemplate whether they wish to emphasize regulation and/or empowerment. This paper does not aim to determine the best approach to social media implementation, but rather to demonstrate that organizations differ in their strategies depending on their priorities and strategic objectives. Different organizations may choose different strategies depending upon their needs, but a general framework can be developed which categorizes these strategies into basic depictions.

SOCIAL MEDIA TRANSFORMATION STRATEGIES

The complementary and/or contrasting emphasis on regulation and empowerment helps us delineate the different strategies for social media transformation. These two elements complement one another in forming the overall implementation strategy.

Rudimentarily, we can describe these strategies by presence or lack of emphasis on each variable. As we see in Table 3.2, a strategy characterized by no emphasis on regulation or empowerment is no strategy at all. Business transformation literature emphasizes the coordinated nature of transformation. Thus, we propose that most organizations will begin with no strategy, but shift to one of the three strategies described in this study. Table 3.2 shows how the two variables work together to describe each of the social media transformation strategies¹.

		Empowerment	
		Not Emphasized	Emphasized
Regulation	Not Emphasized	No Approach	Decentralized Approach
	Emphasized	Centralized Approach	Hybrid Approach

Our understanding of social media transformation strategies is informed by prior research which identifies the different approaches to end-user computing. These strategies, initially developed by Gerrity and Rockart (1986), describe different manners in which organizations can allow end-users to utilize their own personal computers in the workplace. While the subject matter of these strategies is now outdated, the division between the strategies is useful to aid our understanding of social media communications.

¹ Though a 2x2 matrix is presented, only 3 of the 4 boxes will be addressed. It is our assumption that a lack of emphasis on both regulation and empowerment is not feasible or desirable for organizations. Such a strategy would involve a select group of individuals acting inconsistently and without control. Thus, a strategy involving no emphasis on either regulation or empowerment will not be included in this study.

Gerrity and Rockart (1986) divided end-user computing strategies into three main entities, based primarily on the freedom and/or control offered by management. Their first strategy, “Laissez-Faire,” allowed any end-user to have his own personal computer as he/she saw fit. The second strategy, “Monopolistic,” went in the opposite direction, with few end-users allowed their own personal computers. The third strategy, “Information Center,” allowed many end-users their own personal computer, while allowing management to keep a repository of centralized knowledge available to all end-users.

We have taken each of the three strategies from end-user computing and mapped them to our understanding of social media transformation strategies. While the context is different, the elements of regulation and empowerment remain similar. We explain each of the three strategies and offer greater detail into how they impact the organization’s approach to social media communications.

Strategy #1: The Decentralized Approach

The decentralized approach to social media transformation can best be described as the “hands-off” approach. This strategy, characterized by an emphasis on empowerment and a lack of emphasis on regulation, most closely resembles the “Laissez-Faire” approach described in end-user computing strategies (Gerrity & Rockart, 1986). In this approach, lower-level employees and differing business units are empowered to select their own tactical approaches for the utilization of social media. Thus, different areas within the organization will have the opportunity to creatively customize their social media interactions for specific audiences. For example, in an organization using

the decentralized approach, there may be a different social media account for each offered product line. The impact of decentralization is seen both in the variety of accounts and in the manner in which each account communicates with each audience.

The de-emphasis on regulation permits individuals and business units to create accounts more freely. This leads to a greater segmentation of audiences, whereby smaller groups of outside individuals are targeted with each account. For example, an organization de-emphasizing regulation may create a social media account for each different age group within an audience segment, rather than have one account for the entire audience. Lacking regulation in message, social media account managers are given the freedom to create their own content and strategy for content distribution independent from other accounts and the remainder of the organization.

By emphasizing empowerment, individual accounts are permitted greater ability to customize the style in which they communicate with their audience. Account managers are free to adapt their message to fit the desires of the audience, and can creatively develop methods for distributing that message through social media. Organizations which emphasize empowerment encourage their account managers to seek new ways of reaching out to their audiences, even if such methods are only appropriate for one specific audience.

Organizations which utilize this approach view social media as a mechanism existing within established social settings. Such organizations view social media as a part of an “ensemble,” a mixture of elements which includes the individuals, social structures, and tools necessary for interaction (Orlikowski & Iacono, 2001). They understand that

individual employees and business units operate within their own social environments, with differing communication needs and expectations. As such, the decentralized view is chosen to allow these subunits the opportunity to utilize social media according to the demands of their own environments. Decentralization of decision-making reduces autocracy and increases innovative behavior within organizations (Grover & Goslar, 1993). By de-emphasizing regulation and emphasizing empowerment in the implementation and use of social media, organizations can allow internal and external social media users to appropriate the technology into their own setting.

Strategy #2: The Centralized Approach

Contrary to the first approach, the centralized approach is characterized by an emphasis on regulation and a lack of emphasis on empowerment. This approach most closely resembles the “monopolistic” approach to end-user computing (Gerrity & Rockart, 1986). In this approach, consistency across individuals and business units is prioritized, with increased regulation and control its facilitator. Whereas organizations which utilize the decentralized approach will see a variety of interaction strategies, organizations which utilize the centralized approach will reduce this variety in an effort to provide a coherent message from the organization across a diverse set of social media platforms and accounts.

Through emphasizing regulation, these organizations seek to limit both the number of social media accounts and the disparity in message distribution across the accounts. By reducing the number of accounts, organizations utilizing the centralized approach can ensure that there are tighter controls on audience disparity and increased

consistency in each audience. For example, a newspaper organization may limit its accounts to different sections of the newspaper, rather than allow individual authors to have their own accounts. This increases the conformity and control with which the organization can communicate. It also ensures an easier means of creating consistency across the various accounts and stronger ties with the remainder of the organization.

By de-emphasizing empowerment, organizations utilizing the centralized approach ensure a consistency in communication style and strategy. Limiting empowerment keeps the decision-making authority higher in the organization, thus ensuring that the style of communication across the organization adheres to the desires of management. We may postulate that organizations which utilize a centralized approach will have strict adherence to specific policies and procedures in place for communicating through social media. In situations where consistency is prioritized above experimentation, where it is more important that an action be in unison with the rest of the organization than creative, the centralized approach will be preferred. For organizations who wish to maintain such consistency, the centralized approach is best.

Organizations which utilize this approach to social media transformation view the technology as a tool necessary for a purpose. These organizations focus on the capabilities and features of the technology rather than the environment in which the technology is implemented (Orlikowski & Iacono, 2001). As such, a more mechanistic approach is used to implement the technology. This mechanistic approach leads to a greater desire for consistency in place of customization, resulting in a greater emphasis on regulation and a de-emphasis on empowerment in social media communications.

Strategy #3: The Hybrid Approach

The hybrid approach is a marriage of the first two approaches, with centralized message and decentralized style/tone. This approach, emphasizing both regulation and empowerment, mirrors the “Information Center” approach to end-user computing (Gerrity & Rockart, 1986). In the “Information Center” approach, individuals were given the freedom to use their own end-user computer, but were provided guidance and instruction regarding its use. The hybrid approach to social media transformation maintains this theme, as lower-level employees are granted the freedom and power to customize their interactions, but are provided with a coherent, consistent message originating from the higher levels of the organization.

This approach views technology as a tool embedded within social environments. As such, organizations which utilize this approach will formalize the implementation of the technology while still providing lower-level employees and business units the freedom to customize the use of social media.

The hybrid approach seeks to provide organizations with the benefits of both regulation and empowerment. By emphasizing regulation, organizations ensure that there is consistency in support and knowledge sharing throughout the organization. However, through empowerment, individual account managers are still provided the liberty to experiment with social media within their own social environments.

The manner in which organizations emphasize both regulation and empowerment is through creating a system of structured freedom. The managed decentralization of this approach grants power to end users, but within a defined structure. For example, in an

organization utilizing the hybrid approach, a new business unit would have the freedom to establish their own social media profile and strategy, but would also have a set of guidelines and lessons learned from past activities within the organization. Accounts are allowed to creatively distribute content, so long as their creative endeavors are approved by the organization. One of the goals of the hybrid approach is to enable empowered individuals to work within their own environments, but to do so with guidance provided by the collective knowledge and structure of the organization (e.g. Royksund, Montri, & Nunamaker Jr, 1988).

Table 3.3 – Hypothesized Differences between Approaches			
	Decentralized	Centralized	Hybrid
Message Consistency	Low	High	High
Strategic Alignment	Low	High	High
Tailored Communications	High	Low	High
Creativity	High	Low	High

The identified social media transformation strategies, along with their corresponding effect-focused hypotheses (see Table 3.3), help us understand the impact of selecting each strategy. The empirical investigation of this study must therefore seek two aims. First, we must confirm the various strategies and their effects on communications in organizations. Second, we must understand what contextual elements determine why organizations choose each strategy, over and above the desire for the hypothesized effects.

METHOD

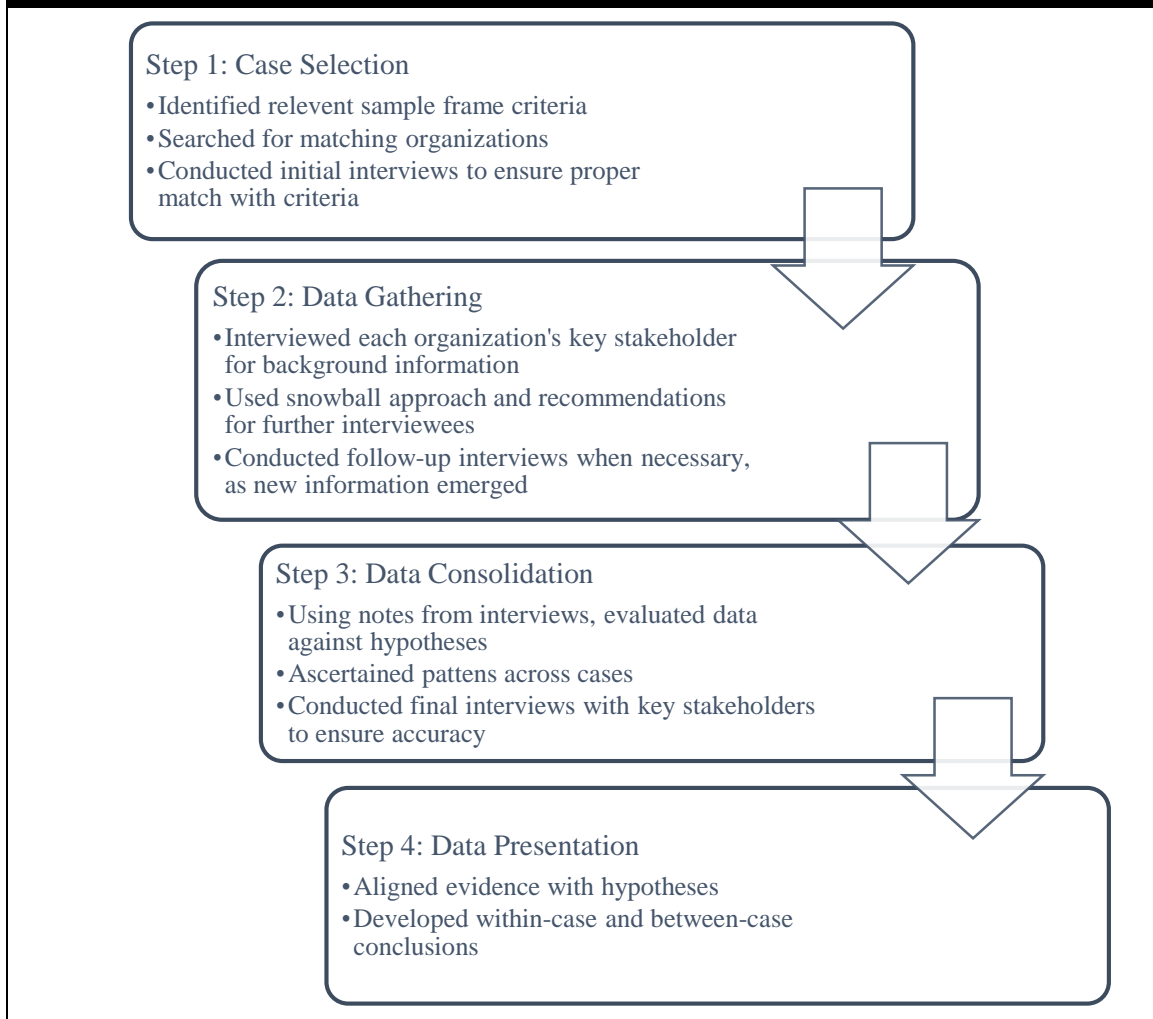
The research question for this study was investigated through the utilization of a multi-case study approach. The case study design is a popular tool for studying business

transformation in organizations (Daniel & Wilson, 2003; Jackson & Harris, 2003; Molla & Bhalla, 2006; Sarker & Lee, 1999). For research questions that primarily attempt to investigate the “how” or “why” certain situations exist, case studies offer the best approach to empirical analysis (Yin, 2009). The novelty of this phenomenon within organizations also lends to a case study methodology, as quantifiable data is relatively less accessible.

Case studies allow researchers to examine illuminating examples of certain phenomena of interest (Eisenhardt, 1989). Often, case studies are used to investigate decisions, specific instances where organizations chose one alternative over another, in an effort to identify the reasons why such a decision was made (Yin, 2009). The goal with this type of methodology is to describe situations and construct relationships through real-world examples.

This particular study was a multi-case study, with three separate cases described. The replication afforded by the use of multiple cases allowed for comparison between different groups (Eisenhardt & Graebner, 2007). The three cases comprised each of the three social media transformation strategies, which were drawn from extant theory on regulation and empowerment. Our methodology adheres to the tenants of theoretical replication, as the selection of cases was made according to the theoretical differences between cases (Yin, 2009). The hypotheses proposed in this study were drawn from regulation and empowerment theory; therefore, the cases selected for study differed according to those variables. A summary of the steps in our methodology are presented in Figure 3.2.

Figure 3.2 – Overall Methodology Procedure [in accordance with Yin (2009)]



Case Selection

Because we used theoretical replication, it was important that our cases differed according to the hypotheses of the study (Yin, 2009). As such, we selected cases which varied according to the different strategies regarding regulation and empowerment. Doing so allowed for comparison between the three strategies, both in terms of the criteria for selection as well as the corresponding effects of their levels of regulation and empowerment. While our cases were different according to the theory used in this study,

all aimed to use social media as a means of communicating with outside stakeholders. This similarity between the cases allowed for inferences across cases, with generalizable implications for all organizations.

The cases selected represent organizations which have implemented social media for the purpose of transformation. Note that the implementation of social media alone would not satisfy the criteria for selection. This study investigated social media transformation, thus in order for an organization to be selected, there must have been an intentional effort to innovate within the organization through the implementation of social media. The organizations selected were chosen for two unique reasons. First, the organizations provided us rare access for interviews and information gathering. Such information is crucial to the completion of a thorough case analysis. Second, through this access, we were able to confirm the commitment to transformation. Each of these organizations has recently intensified its efforts and altered its strategy for social media interaction. For a categorization of the three cases in our study, see Table 3.4.

Table 3.4 – Case Selection			
		Empowerment	
		Not Emphasized	Emphasized
Regulation	Not Emphasized		BigSouth Athletics
	Emphasized	LargePub, Inc.	BigSouth Academics

Data Collection

Data were collected over a three-month period in the summer of 2014 via routinized interviews with key personnel across three different organizations. Interviews and observations are common tools to gather data for the purpose of answering research questions specific to case studies (Eisenhardt, 1989). The goals of the data collection were to confirm the hypothesized strategies for social media transformation and to elaborate on both the mechanisms used to enact such strategies and the contextual factors which encouraged their selection.

Interview subjects represented those most aware of the social media implementation, strategy, and use within each respective organization. Subjects were selected using the snowball sampling strategy (Patton, 2005). For each organization, a key stakeholder was identified and served as the “champion” for our project. This individual helped identify and recruit other interview subjects, providing introductions with each subsequent interviewee. The key stakeholder provided us a list of initial interviewees, with each interviewee offering other potential subjects who could provide further information relevant to our study.

The interviews were conducted in a standardized method, with opportunities for customization where appropriate. While much of the study is predicated on prior theory and a proposed research frame, the nature of case studies is such that adjustments should be allowed in the case of unanticipated answers (Yin, 2009). Due to the variation in job responsibilities and strategy awareness, the general framework of questions was tuned specifically to each interview subject (Yin, 2011).

Each interview asked the subject to offer their opinions and experiences relative to the use of social media in their organization. In addition to answering questions regarding the overall strategy of the organization, we asked each subject for their opinion as to the level of regulation and empowerment offered in their respective role. Each interview typically began with an introductory series of questions regarding the subject’s roles and responsibilities, and then continued with an inquiry into the specifics regarding how the subject uses or interacts with social media within the organization. From there, the subject was asked detailed questions specific to the hypotheses of the study and relevant to the study’s central research question.

Interviews continued until the point of theoretical saturation, whereby the same information was being conveyed by a number of interview subjects independently. When this occurred, a follow-up interview was scheduled with each organization’s key stakeholder, to confirm existing information and ensure that the data gathered was both accurate and complete. Table 3.5 provides summary information for each of the organizations involved in our study.

Table 3.5 – Summary of Cases			
	LargePub, Inc.	BigSouth Athletics	BigSouth Academics
Year Established	1807	1953	1889
Primary Audience(s)	Researchers, Academics, Students, Professionals, Librarians, Book Store Owners	Student-athletes, Recruits, Fans, Potential Fans, Students, Alumni	Students, Alumni, Faculty/Staff, Potential Students, Interested Outsiders
Audience Ambiguity	High	Low	Medium

WITHIN-CASE ANALYSIS

CASE 1: LargePub, Inc.

LargePub is a global provider of knowledge resources specializing in research, professional development, and education. They provide a large assortment of publications, books, journals, training materials, and courseware for researchers, librarians, students, professionals, and other parties.

LargePub began using social media to interact with its stakeholders in 2008. With no central strategy at the time, there was great freedom and chaos in social communications. Employees were allowed to create accounts as they saw fit, leading to the formation of a vast number of unmanaged social media accounts, numbering over 1,000. Many of these accounts communicated infrequently to audiences of very small sizes, with some accounts failing to communicate at all. At the initial phase of social media use at LargePub, most of the communications were unmonitored, with little oversight and almost no controls in place.

Within the past two years, a dramatic shift has emerged within LargePub in relation to the emphasis placed on social media communications. Once a novelty, social media communication is now a central aspect of the organization's marketing and communications effort. The transition period, bridging the gap from the time of no control to today, was marked by restructuring and consolidation. 300 accounts had already been closed, with 200 more scheduled to close soon. LargePub hired numerous individuals to work specifically with social interactions and reconfigured the organization to exert more control over communications. Additionally, the vast number of social

media accounts was reduced dramatically, with many accounts either being closed or consolidated with others.

These two efforts, the structuring of the organization and the closing/consolidation of social media accounts, were the first two indicators that LargePub had selected a **Centralized Approach** to social media implementation. The most apparent indication of this strategy choice lies with the recent formation of the organization's social marketing council. This council, comprised of both social media experts and other business members not affiliated with social across the organization, meets regularly to organize and plan out the central policies and strategies regarding social media use within LargePub. The following are examples of the council's core activities:

1. **Strategic Alignment** – The social marketing council works with each account manager to plan out a core strategy for their social media account. This ensures that not only does every account have a central focus, but that the focus adheres to the central aims of the organization.
2. **Account Coordination** – The council assists account managers in identifying and coordinating with managers of related accounts when opportunities emerge to share content. For example, if the account manager from one of the research units wants to discuss a content communication strategy with someone from the publishing division, the social marketing council will assist these account managers in working together for unified promotion.

3. Communication Accountability – The council meets regularly to ensure that each of the accounts across all areas of the organization is adhering to LargePub’s central strategy and focus. Thus, consistency is prioritized at the inception of a new account and monitored throughout the life of the account.

Founded over two hundred years ago, LargePub employees are acutely aware of the history and reputation of the organization. This unique characteristic lends to their desire for consistency and control. The unique qualities of the company, combined with the strategic decisions as they have enacted social media transformation, provide us an example of the consolidated approach to social media implementation.

Regulation

The interviews made it immediately apparent that LargePub places a high degree of importance on consistency in social media communications, with consistency valued both horizontally and vertically. Horizontally, numerous efforts lend to consistency in content communicated across the different business areas and respective social media accounts. Vertically, we discovered an emphasis on consistency between the activities of the social media accounts and the central aims of the organization. Each of these forms of consistency is described in detail.

For Hypothesis 1, we proposed that social media strategies which emphasize regulation will see a greater degree of message consistency across the organization. Many of our interview subjects spoke to the intentional desire of social media account managers to collaborate with one another when communicating on their platforms. This

collaboration is seen through the organization structure, through the availability of collaboration tools, and through various training and education endeavors underway.

“It’s no longer just people off by themselves, but it’s now a more centralized, thought-out, and supported process.” – Account Manager, LargePub

As mentioned, LargePub has structured their organization to form a social marketing council whose job, in part, is to connect account managers for the purpose of collaboration. The council serves as a reference point for account managers should they need the assistance of others. It also encourages collaboration through monitoring activities, whereby the council often suggests avenues where content can be shared. Smaller accounts are encouraged to redistribute content shared by larger accounts to further promote consistency in communications. As a result of these efforts, LargePub social media communications often contain similar content across different accounts.

***“I basically nick content from other colleagues and make sure it illustrates the broad publishing activities that [LargePub] has.”
– Associate Director, Corporate Communications, LargePub***

Additionally, LargePub utilizes tools for communication and training which encourage collaboration. Every employee with access to a social media account also has access to an internal social tool called Chatter. This software enables communication between account managers, offering ease of access and greater awareness of opportunities for collaboration. Similarly, LargePub has recently undergone efforts to begin training the account managers on a uniform approach to social media communications. This training not only educates the account managers on proper techniques, but increases the homogeneity in content sharing.

Hypothesis 2 centered on vertical consistency, or the degree to which content communicated through social media matches the aim of the organization. Here we also see the effects of the social marketing council. The council is comprised both of individuals with social media expertise as well as individuals who work in other areas of the organization. It offers LargePub the opportunity to develop strategic initiatives which are fully in line with the goals and processes of the entire organization. The charter for the Social Marketing Council states its desire to “make social media more coherent, less duplicative, *more answerable to the business*, and better organized and managed.” By fully integrating social media strategic managers with managers from other areas across the organization, LargePub ensures that there is consistency between its social media initiatives and its various other offerings.

“As we start to move forward with bigger strategies, I might not know the nuances of some parts of the business. It’s [the Social Marketing Council’s] role to keep me in check. It allows me to have the expertise of people within the business.” – Social Media Director, LargePub

The consolidation of social media accounts and the functions of the council offer LargePub great control in governing the actions of its various entities. Every account manager must work with the council to develop a central strategy for their account, and this strategy must align with the goals of the organization. If any situation should arise where the communications of an account lie in contrast to the aims of the organization, the problem can be quickly addressed and brought back to alignment.

Empowerment

At the opposite end of the spectrum, Hypotheses 3 and 4 investigated the effects on tailored communications and creativity. While a degree of tailoring and creativity are encouraged, LargePub's efforts are hindered due to the nature of their social media accounts.

Despite recent efforts at consolidating social media accounts, LargePub still has difficulty identifying the distinct audience for each of their accounts. Many of the interview subjects noted the fluidity of their audiences, with some even admitting that any estimation of audience at any point in time would be merely based on guesswork. Most accounts are product-centered, rather than audience-centered, catering to a variety of individuals. These individuals generally follow no strict adherence to any one account. For example, one account manager we spoke with was responsible for all communications related to research in Psychology. These communications are of interest to students, researchers, practitioners, and others in the publishing industry. Additionally, as individuals progress from students to workers in industry, they may feel it more appropriate to get their Psychology information from an account more focused on job training. Not only do account managers struggle to delineate their audience from other accounts, but there is no account loyalty due to the instability of individuals' occupations. Because of this ambiguity, account managers are keenly aware that each account speaks on behalf of the organization, such that customization is discouraged for fear of disrupting the organization.

“I am very conscious in both my personal and [Twitter Accounts] of not making comments about what is going on in the industry, because I am concerned that people would then think it is [LargePub]’s perspective on what’s going on. I am very careful about taking a neutral stance when it comes to publishing and what’s going on in the industry.” – Associate Director, Corporate Communications, LargePub

The diversity of audiences impacts not only the content that is communicated through each account, but also the tone in which each account manager communicates. When ambiguity in audience definition exists, it hinders the ability of the account manager to fully tailor communications for a defined group. Consider this quote from an account manager responsible for communicating with a wide-ranging audience:

“This is always the challenge in terms of content marketing, because something that appeals to a student may not necessarily appeal to someone senior. That’s certainly one of the challenges that we have with our brand.” – Account Manager, LargePub

This lack of clarity informs LargePub’s desire for consistency over flexibility. It has influenced LargePub’s effort to close unused accounts and combine smaller accounts into larger entities. Because an outside individual may freely move from one account to another, LargePub desires that all of its accounts adhere to some semblance of consistency in content, branding, and tone. Tailored communications and creative endeavors are reduced not because they are not desired by the organization, but because the nature of the audiences with which they communicate. LargePub keeps a close watch on its social media communications to ensure that all creative endeavors are performed within the bounds of an established strategic plan.

“We want them to be creative, to an extent. We don’t want somebody going rogue.” – Social Media Director, LargePub

Table 3.6 – LargePub, Inc. Summary			
Hypothesis	Expectation	Verdict	Support
H1 - Message Consistency	High	Supported	<ul style="list-style-type: none"> • Shared content between account managers • Social Media Council enforces consistent strategies across accounts
H2 - Strategic Alignment	High	Supported	<ul style="list-style-type: none"> • Social Media Council includes employees not involved with social media • Account managers trained to communicate in manner consistent with overall strategy
H3 - Tailored Communications	Low	Supported	<ul style="list-style-type: none"> • Consolidated accounts limit ability to tailor communications • Difficulty identifying unique audience for each account
H4 - Creativity	Low	Supported	<ul style="list-style-type: none"> • Apprehension from account managers to try new approaches • Tight controls over training and education limit ability/desire to creatively use social media

Conclusion

The emphasis on regulation and lack of emphasis on empowerment seen at LargePub exemplify the Centralized Approach to social media transformation. In all facets of the social media community within the organization, there is a concerted effort to adhere to guidelines and establish consistency. The establishment of the social marketing council achieves two main purposes. First, it increases the coordination and thus the consistency of all communications made through social media. Additionally, it decreases the likelihood that any individual social media account will deviate from the

established norms. Through the council and many other strategic endeavors, LargePub has demonstrated the effects of emphasized regulation and de-emphasized empowerment.

CASE 2: BigSouth Athletics

The department of athletics at BigSouth University offers many nationally prominent athletic programs. Their mission is to sponsor broad-based athletics programs that provide educational, athletic and equitable opportunities for student-athletes at the university. With 19 different varsity sports, the athletic department at BigSouth is among the largest in the country, resulting in a wide array of both athletic programs and supporting departments.

Each of the 19 different varsity sports utilizes its own social media account(s), with other supporting departments utilizing accounts as necessary. The nature of the athletic department is one of siloed communication, as each of the accounts has its own stakeholder base and style of communicating. While there are a few situations where collaboration is possible, the majority of communicating is handled independently.

“There are themes that are consistent for all of our teams...but it’s different for tennis than it is for football or basketball.” – Social Media Manager, BigSouth Athletics

The transformation in recent years has come out of a desire to establish a modicum of consistency amidst the siloed communication streams of the organization. This is made more difficult due to the vast differences in communication content, but through the hiring of new personnel and an increased importance placed on social media communication, the strategy has started to change.

BigSouth Athletics exemplifies the **Decentralized Approach** to social media implementation. The account managers at BigSouth Athletics are given a greater amount of freedom than most organizations, primarily due to the clear differences between the accounts. The new personnel hires and increased emphasis on social media have offered some level of consistency, primarily in the areas of branding and communication tone, the account managers are empowered to communicate in the style that best suits their audience with the content that is most relevant.

Regulation

Just as the composition of audiences hindered LargePub's ability to offer empowerment, so do BigSouth Athletics' audiences hinder its ability to regulate. The siloed nature of communication in BigSouth Athletics provides fewer opportunities for collaboration between accounts, and impedes the organization's efforts at both horizontal and vertical consistency.

“I don't get the sense that it's that important to anyone that there be consistency between the sport accounts...Getting information out there is more important than consistency.” – Account Manager, BigSouth Athletics

Regarding horizontal consistency, the limited regulation at BigSouth Athletics prevents most efforts at collaboration. While there are efforts in place to promote consistency in branding and some degree of style (e.g. message tone on the days of games across sports), overall consistency is minimal. Most of our interview subjects expressed some degree of desire for collaboration, nearly all spoke to its impossibility. Take, for example, two accounts within the department: Men's Football and Women's

Rowing. The audiences for these two accounts are distinct, as few individuals will seek information from both accounts. Furthermore, their activities are distinct as well. The impact of men's football events on the women's rowing program is marginal, and vice versa.

“[The strategy] is different for every sport. It’s certainly different for football than every other sport. It’s not like we have to let [the audience] know we have a football team, but we do have to let people know we have a rowing team. So, I wouldn’t say that [the strategy] is the same for all sports.” – Account Manager, BigSouth Athletics

Not only does the audience variation prevent content from being consistent, but the strategy for communicating that content is different as well. The limited emphasis on regulation prevents the organization from centralizing strategies regarding content distribution across accounts. While there is a desire to align the strategy of the accounts with each other, as well as with the organization, such alignment is limited due to the diversity of audiences.

“There’s a specific audience for everyone, differently. People interested in soccer are not necessarily interested in basketball or golf. Having those separate accounts has let us hone in on giving the message to the people that are more interested in it, rather than aggregating everything in one main account.” “You have one overall social media strategy. but you basically have to have fifteen social media strategies.”
– Marketing Manager, BigSouth Athletics

Regarding vertical consistency, there is a distinct, intentional effort on the part of management to ensure that marketing initiatives are communicated to the account managers. However, organization-wide strategic efforts, those which encompass a large

number of accounts, are rare, most often focusing on consistent “hashtags” and graphics². As such, management advises the account managers as to how to best incorporate the organization’s major aims while maintaining the general independence of the individual accounts. For example, on the day of one of our interviews, one of the basketball players announced his intention to turn professional. This was seen by the organization as a significant event, thus management elected to exert more influence on the messages being communicated. Whereas a similar situation at LargePub or BigSouth Academics might involve a large number of accounts all communicating about the event, BigSouth Athletics tends to focus its efforts mostly on the accounts with a degree of relevance. Because information disseminated from one account often lacks relevance to others, it is more difficult for BigSouth Athletics to routinely align its accounts to any one organization-wide strategic aim.

There is a sense within BigSouth Athletics that management is seen more in an advisory, rather than authoritative, role in relationship to the account managers. Management recognizes the need for flexibility with the different accounts, therefore the aim is to work with the account managers to communicate in the most effective manner possible. Lower-level employees are free to develop new ideas (as will be discussed in the Empowerment section), with an understanding that the ideas will be approved by management. Management tends to trust the account managers, as most already work within the communications department. The non-coercive relationship between the

² For instance, BigSouth Athletics often tries to convey the sense of “family” within the athletic department, across all sports. A specific hashtag was created to express this sentiment. While the creation of the hashtag promotes some vertical consistency, the account managers are given the freedom to utilize it whenever they feel appropriate.

marketing department and the account managers, combined with the unsuitability of a high degree of horizontal consistency across accounts, reduces BigSouth Athletics' ability and desire to consistently focus all of its social communications toward a singular objective. Thus, vertical consistency is certainly not absent, but somewhat lower than LargePub and BigSouth Academics, organizations which attempt to exert more control over their social communications and feature greater overlap between their audiences.

Empowerment

The same organizational characteristics which inhibit opportunities for regulation serve to promote opportunities for empowerment. The siloed nature of social media communication at BigSouth Athletics lends itself to a separation of authority, where individual account managers are given great amounts of freedom to both tailor their messages and develop creative ideas.

Regarding Hypothesis 3, BigSouth Athletics places a high degree of importance in tailoring communications for each audience. Each account is responsible for developing its own communication strategy, and these strategies are expected to be distinctly different from one another. For example, the audience for Men's Basketball will communicate very differently from Women's Golf, and vice versa. Therefore, the communications for Men's Basketball use a tone and style more specific to that sport for all communications.

“We give direction to everybody, like ‘this is what you should be trying to do,’ ‘this is what you should be trying to accomplish.’ From there, it’s up to them to do it how they see fit.” “There’s a lot of difference about vernacular and style, so that just naturally makes it different.”
– Social Media Manager, BigSouth Athletics

Regarding message tone and style, there are two key implications to a social media strategy emphasizing empowerment. First, as mentioned, each account will develop its own style over time. One of our interview subjects was the individual responsible for the men's baseball account. He spoke to the traditional focus of baseball, and how that informs the manner in which he communicates with his audience.

“We have certain traditions that only I know about, because I’m there all the time. So, I’ll try to capture those with pictures and videos.”
– Account Manager, BigSouth Athletics

The second implication lies with the infusion of personality in each account. Because the account managers are enabled to communicate as they see fit, the messages emanating from each account tend to take on the personality of the account manager. This is by design. BigSouth Athletics wants its accounts to have personality, a level of informality that larger, more condensed organizations may not be able to emulate. Through empowering its account managers to customize their communications, BigSouth Athletics facilitates the tailoring of communications for diverse audiences. As a result, the communications are more personal and customized for each audience.

Hypothesis 4 looked more specifically at creativity, and the effect of emphasizing empowerment on the generation of creative social media endeavors. At BigSouth Athletics, creativity is both encouraged and prioritized. Just as the style of communications should be tailored for each audience, so should the content and manner of utilizing social media be specific for each account.

“Each of them [account managers] approaches social media use in a different way, and their audiences consume it in a different way. They take the things that they think are good and apply it to their sport.”
– Assistant Athletic Coordinator, BigSouth Athletics

Each sport has its own creative way of promoting events, sharing information, and connecting with fans. Other than the aim for some element of branding consistency, these efforts are largely diverse. One account may utilize a contest to give away season tickets while another may produce a scavenger hunt for students. The most successful ideas are shared among the account managers, thus offering some opportunity for emulation, but the emphasis within the realm of social media is to ensure that each venture adheres to the desires and style of its audience.

Table 3.7 – BigSouth Athletics Summary

Hypothesis	Expectation	Verdict	Support
H1 - Message Consistency	Low	Supported	<ul style="list-style-type: none"> • Reduced collaboration between account managers • Different sports utilize different communication efforts
H2 - Strategic Alignment	Low	Supported	<ul style="list-style-type: none"> • Most efforts at vertical consistency are account specific, not organization-wide • Overall strategy is often somewhat limited in scope • Bi-directional relationship between management and account managers
H3 - Tailored Communications	High	Supported	<ul style="list-style-type: none"> • Communication styles unique to each social media account • Account managers inject personality into their communications
H4 - Creativity	High	Supported	<ul style="list-style-type: none"> • Account managers given freedom to develop new social media strategies • New initiatives implemented with approval from top management

Conclusion

The deregulated nature of BigSouth Athletics' social media communications lies in contrast to the approach of LargePub. Account managers are given a high degree of freedom to communicate as they see fit, customized to their audience. The deregulation is due largely to the varied nature of BigSouth Athletics' audiences. No communication style or strategy could properly account for the disparity between the audiences which are represented by each account. As such, BigSouth Athletics has chosen the **Decentralized Approach** to its social media communications.

CASE 3: BigSouth Academics

The academic side of BigSouth University operates differently from the athletic department. The primary aims of BigSouth Academics are to promote the positive qualities of the university and aid its constituents in maximizing the quality of their education or professional career. BigSouth Academics utilizes approximately 150 accounts, comprised of the various academic departments and support functions (e.g. information technology, marketing, communications, etc.) which seek this aim.

Similar to LargePub, BigSouth Academics began their implementation of social media haphazardly, with little control or strategic plan. Individual units within the organization created social media accounts on their own volition, and little to no effort was made to establish any form of consistency between the accounts. This resulted in a large number of irrelevant and/or "widowed" accounts (i.e. those which no longer regularly communicate with any audience). Finding consistency between the various accounts has become a significant priority in the organization.

“[Before the transformation], there was some sharing...but it was difficult because there was no consistent meeting, consistent talking, consistent working together.” – Marketing Manager, BigSouth Academics

Contrary to LargePub, BigSouth Academics regularly communicates with a variety of well-established audiences. These audience groups (e.g. students, faculty/staff, alumni, etc.) differ greatly both in terms of communication style and desired content. This has created a unique situation where the organization desires both consistency and customization, achieved through a balance of empowerment and control.

BigSouth Academics utilizes the **Hybrid Approach** to social media implementation. They aim to regulate the content which is communicated through their accounts while allowing for customization in style and tone. This seeming contrast is achieved through a variety of aims, but is most exemplified through their use of suggested content distribution. When a significant news article is written by the communications staff, it is sometimes divided into smaller segments. These segments are then sent to a variety of account managers, who have the opportunity to select which segments to send out through their social media accounts. This method allows for control over the content of the message while also allowing for customization as the account managers see fit. By emphasizing both regulation and empowerment, BigSouth Academics gives us a prime example of a strategy which offers both creativity and control.

Regulation

An institution with roots going back centuries, BigSouth Academics places a high degree of importance on maintaining its reputation across all avenues within the university. The organization's broad reach and diverse audience mix encourages the need for consistency both horizontally and vertically. The result is an emphasis placed on regulation in social media communication.

Regarding Hypothesis 1, BigSouth Academics seeks message consistency across its various social media accounts. To achieve such consistency, the organization has hired specific personnel and enacted policies to enhance coordination. Within the past year, BigSouth Academics has hired its first employees whose roles are specific to social communications. These employees have been tasked with the responsibility of working with the account managers to develop strategies and organize content such that it is both relevant and consistent with the strategies of the organization. These individuals act in a similar manner to LargePub's social marketing council, ensuring a coherent strategy across the organization.

“[Before the transformation] there were a lot of great efforts going on in social media, but there was not someone connecting all of them together. There was not someone watching the trends of the industry and communicating them out [to the account managers].” – Director, Digital Marketing, BigSouth Academics

Additionally, BigSouth Academics uses policies and procedures in social media communications to promote consistency. For big events, where multiple audiences are engaged (e.g. the retirement of the university president), the account managers and social media strategists work together to develop a content calendar, itemizing priorities and

creating content, both graphics and specific communications. From there, the account managers will work within the confines of the content calendar to promote the event as it best suits their audience.

“In the fall we did a big media push, and it was a very broad push. As part of that, we did web stories for the [main] website. In that, the marketing team across campus created a spreadsheet where they broke out what the purpose of each story was, how we should promote it, and when each account should promote it. [Account managers] were able to just go in, grab what they needed, copy it, paste it onto their page and send it out.” – Account Manager, BigSouth Academics

Even in the midst of such regulation, there are still elements of empowerment permeating the control.

“Sometimes I would change it up a little bit, maybe tweak the wording, but still going along their basis. It was really set up to be guidelines for us, so we know what the marketing department wanted us to push out.” – Account Manager, BigSouth Academics

In another example, for a commencement ceremony, the social media staff developed a series of graphics with a specific theme and message for use before, during, and after the event. The account managers then devised individual plans to utilize the graphics while filtering the content for their own audience. The account manager communicating with alumni sent out a message different from the account manager communicating with current students, but the core message and graphics used were consistent. Through initiatives such as these, the organization is able to ensure that its message is being communicated consistently across accounts and, concerning Hypothesis 2, in tune with the strategic aim of the venture.

BigSouth Academics sees a large degree of vertical consistency as well, giving further credence to Hypothesis 2. One driver of vertical consistency within the organization is the infusion of social media communications into the daily activities of the firm. BigSouth Academics doesn't separate social media roles from others, rather individuals with other job responsibilities are tasked with social media communications. For example, the social media account for the library is run by a library employee who has other library-related tasks. Such is true with nearly all involved in social media activities. When the university developed a new campaign for attracting high school students, a social media plan was developed to market the initiative. Social media communications, across a number of accounts, were planned in concert with the strategic aim of the campaign. The horizontal consistency offered by the content calendar makes it easier to achieve organization-wide vertical consistency.

The conjoining of social media communications and other responsibilities is one means by which the organization ensures that its social media communications adhere to the overall strategy of the organization. There is no separation of social media from the rest of the firm, so there is little concern that the account managers will deviate from the desired plan. This element, combined with the horizontal consistency offered across the disparate accounts, helps BigSouth Academics align its overall strategy throughout its social media accounts.

“I’m essentially within marketing, so I don’t want to speak poorly of the university, or present the university in a bad light. Even though I don’t technically work for the marketing department, our office does marketing materials. Social media is another form of marketing material.” – Account Manager, BigSouth Academics

Empowerment

While coordination and control are emphasized, so, too, are freedom and creativity. The balance between these two elements is what separates the strategy of BigSouth Academics from others. The organization seeks regulation, but with an influx of freedom. As we will see with Hypotheses 3 and 4, BigSouth Academics encourages freedom and creativity, but with an influx of control.

“They [account managers] have a little bit of freedom. We try to collaborate. I always allow the managers to tell me what they think might work better. [Regarding the push/pull between empowerment and regulation] I would say it’s probably about 50/50.” – Director, Digital Marketing, BigSouth Academics

Regarding Hypothesis 3, BigSouth Academics encourages its account managers to tailor their communications for each audience. Many of our interview subjects noted the decree from management to add personality to their communications, to not avoid the human element in sending out messages. They believe that if communications are vetted, the personality is removed from communication, which in turn limits the power of the message. The relatively siloed nature of their audiences allows for tailoring, and the account managers use this freedom to speak according to the desires of each audience.

***“That’s how the library talks, because that’s how I talk.”
– Account Manager, BigSouth Academics***

The tailoring of communications is encouraged, with a fair amount of latitude. This latitude is not universal, as BigSouth Academics seeks to find the balance between empowerment and control. While many of the account managers we spoke with noted the freedom they enjoy, they also discussed the impact of trust in being granted that freedom

in communications. The account managers are allowed to communicate according to the needs of their audience, so long as they maintain the professional and social standards of the university.

“In my role I have a mission that’s been defined in collaboration with the dean, which is to raise awareness and increase appreciation and understanding of what we do in our college. I measure almost everything I do against that, including what I’m posting and Tweeting.”
– Account Manager, BigSouth Academics

There is a unique understanding among those highly involved with social communications that there are limits to the freedom involved in such communications. Nonetheless, we understood there to be a great degree of tailoring in communications, and the account managers all noted the independence granted by management for such tailoring. This freedom to tailor communications is given because of management’s desire for authentic communications, rather than broad, generalized messages.

“[Tailoring] allows them to customize communications, and make them authentic.” – Marketing Manager, BigSouth Academics

The freedom granted to account managers is extended to creative efforts, helping to confirm Hypothesis 4. Just as each of the accounts within the university contains its own style and tone, each desires a distinct form of content transmitted differently. For example, the account manager for student communications worked with management to formulate a plan to communicate with incoming students in a unique manner. They created a specific “hashtag,” which enabled incoming students to all communicate on a common platform. Just as with tailored communications, the freedom is extended with limited reach. The idea for monitoring incoming student communications came from the

account manager, and she was free to implement the idea. However, this idea was done in coordination with both management and other departments to ensure some element of consistency.

“We encourage innovation...as long as they have proper support. We embrace it, we celebrate it, but...” – Social Strategic Director, BigSouth Academics

Table 3.8 – BigSouth Academics Summary			
Hypothesis	Expectation	Verdict	Support
H1 - Message Consistency	High	Supported	<ul style="list-style-type: none"> • Coordination encouraged through close proximity • Management coordinates messages across disparate accounts
H2 - Strategic Alignment	High	Supported	<ul style="list-style-type: none"> • Dual communication-marketing responsibilities ensure alignment between the social media accounts and the rest of the organization • Content calendar enables strategic push with broad reach across the organization • Organization-wide strategic efforts which span many accounts
H3 - Tailored Communications	High	Supported	<ul style="list-style-type: none"> • Siloed accounts encourage communication diversity • Human element of communications is encouraged
H4 - Creativity	High	Supported	<ul style="list-style-type: none"> • Freedom to try out new communication strategies • Management encourages innovation within social media communication

Table 3.9 – Within-Case Summary		
Hypothesis	Expectation	Verdict
H1 - Social media strategies which emphasize regulation will result in a greater degree of message consistency across different areas of the organization.	LP - High	Supported
	BSAth – Low	
	BSAcad - High	
H2 - Social media strategies which emphasize regulation will result in a greater degree of alignment between the use of social media and the overall strategy of the firm.	LP - High	Supported
	BSAth – Low	
	BSAcad - High	
H3 - Social media strategies emphasizing empowerment will have more tailored communications with diverse audiences.	LP - Low	Supported
	BSAth – High	
	BSAcad - High	
H4 - Social media strategies emphasizing empowerment will result in a greater degree of creativity among employees in social media use.	LP - Low	Supported
	BSAth – High	
	BSAcad - High	

CROSS-CASE ANALYSIS

When analyzing the three cases holistically, there emerge some commonalities which extend our understanding of social media transformation above and beyond the investigation of our identified hypotheses. These broad determinations inform both the influential factors of social media implementation strategy selection and the results of those strategic choices. In drawing our conclusions across the three cases, we offer propositions for future research into both the antecedent influences of strategic selection and the manner in which the emphasis on regulation and empowerment influence social media communication.

Table 3.10 – Future Research Propositions

#	Proposition
1	The clearer the delineation of social media audiences, the greater the emphasis on empowerment in social media communication.
2	The more an organization prioritizes overall reputation, the greater the emphasis on regulation in social media communication.
3	Consistency is enhanced through regulation when social media account managers have close ties to the organization.
4	The relationship between empowerment and creativity is moderated by individual social media self-efficacy.

Antecedent Influences

The primary investigation within this study was to examine the different strategies for social media transformation and the effects of each type of strategy. Secondary to this investigation, we sought to understand why certain organizations would choose each strategy. Prior theory informed our selection of hypotheses, which pertained more to the effects of regulation and empowerment. One general assumption is that the selection of strategy for an organization will be based upon the desire for those effects. For example, organizations which desire tailored communications and creativity will emphasize empowerment, while organizations which desire consistency and control will emphasize regulation.

Supplementary to this assumption are additional insights illuminated through the interviewees of our three case studies. In speaking with those who enact the various social media transformation strategies, we deduced that there are considerations antecedent to strategic outcomes which prompt a greater desire for regulation and/or empowerment. There are factors which alter an organization’s desire for tailoring and

creativity, or consistency and control. We've divided these factors into two categories: audience factors and organizational factors. For each category, we will offer a description and a proposition for future research.

Audience Factors

One category of antecedent influences is audience factors, or those related to the external environment with which the organization seeks to communicate through social media. These contextual factors are typically outside of the control of the organization and often determine the manner or the degree to which the organization communicates with its stakeholders. When speaking with many of our interview subjects, there was a distinct understanding that, often, the decisions regarding social media communication were more a function of the nature of the organization's audiences than any choice made by management.

The audience factor most correlated with strategy selection pertained to the granularity in definition of audience groups. All three of our organizations under investigation communicated regularly with a variety of audience groups. For example, BigSouth Athletics uses social media to communicate with fans, students, alumni, and staff for nineteen varsity sports. LargePub communicates with faculty, students, publishers, librarians, and many others regarding its published material and product offerings. While both of these organizations converse with varied audience groups, one emphasizes empowerment while the other does not. The difference lies not in the number of audience groups, but in the level of granularity seen in the different audiences. BigSouth Athletics is able to clearly define its audience groups, with full understanding

of the unique communication styles and content desired for each network of individuals. Furthermore, the audiences in BigSouth Athletics tend to be more separated, with less overlap of individuals belonging to multiple groups. Conversely, LargePub's audience groups are more ambiguous and loosely defined. They have difficulty delineating the members of one audience from another, and often see outside individuals belonging to a large variety of audiences, changing rapidly from one group to another.

Granularity in audience groups encourages the organization to tailor communications and develop content specific to each group. On the other hand, ambiguity in audience groups encourages greater control and a strategy which deemphasizes empowerment. We propose that one of the audience factors which influence the selection of social media transformation strategy is the degree of granularity in the organization's audience groups.

Proposition 1: The clearer the delineation of social media audiences, the greater the emphasis on empowerment in social media communication.

Organizational Factors

The other category of factors which influence strategy selection is comprised of organizational factors, or internal characteristics or decisions related to social media communication. Just as the outside environment can determine the relative level of emphasis on both regulation and empowerment, so can the internal workings of the organization influence the desire for the two elements. Organizational factors are more under the control of management, typically related to the hierarchy of the organization or

the general strategic aims of the firm. We found numerous incidents whereby aspects of the organization helped determine the strategy in which the organization chose to communicate through social media.

One key area where we saw a difference in organizational characteristics was the degree to which the organizations valued or prioritized reputation. While all three of our case studies included organizations which noted the importance of reputation, some placed it in higher esteem than others. This was most apparent when comparing the Athletics and Academic organizations at BigSouth University. While both fall under the umbrella of the university, the two organizations varied in terms of their desire for reputation management. BigSouth Academics represents an organization established for more than a century, with various institutionalized priorities and norms. BigSouth Athletics, meanwhile, is newer to the marketplace, with the majority of its operations originating within the past few decades. Athletics has fewer institutional restrictions, and thus is freer to make decisions outside the influence of reputation.

When organizations place a greater firm-level emphasis on reputation, they are less willing to offer flexibility and freedom to those who communicate on behalf of the organization. Instead, these organizations will seek greater control over their message, even if that message is spread across a variety of different audience groups. The desire for reputation management at BigSouth Academics encouraged an emphasis on regulation such that even though account managers were empowered to tailor their communications, the tailoring was done in a manner that remained consistent with the aims and guidelines of the organization. The organization publishes a list of social media

guidelines, which speak to the “risks” associated with social media communication. These risks are often due to regulatory or legal restrictions, which can harm the reputation of the university. Through ensuring compliance across the organization, firms can ensure that their reputation is properly managed when communicating via social media.

Proposition 2: The more an organization prioritizes overall reputation, the greater the emphasis on regulation in social media communication.

Strategic Consequences

The analysis of our three cases presented in the “Within-Case Analysis” helped confirm our four hypotheses, all of which centered on the impact of various strategic decisions in regards to social media communications. Further analysis of the three cases produces some surprising deeper insights into the effects of regulation and empowerment in this arena. While the main hypothesized effects were observed, our data suggested that, in some situations, there may be more nuanced effects present than originally anticipated.

Regulation

Hypotheses 1 and 2 fundamentally state that regulation increases the level of consistency both horizontally and vertically within the organization. Indeed, the cases under our investigation which emphasized regulation were more apt to see these effects. What we learned through the interviews was that there are organizational considerations which can moderate the relationship between regulation and consistency, enhancing the outcome and broadening its impact.

The definition of regulation, as presented in our literature review, pertains to the elimination of inconsistencies through control. In our context, regulation prevents inconsistent communication content and/or styles, promoting adherence to a common arrangement. This regulation nearly automatically generates horizontal consistency, as adherence without discrepancies meets the definition of regulated communication. Vertical consistency is more nuanced. For an organization to achieve vertical consistency, not only must there be alignment and control, but the controlled organizational message must adhere to a specific aim. Should an organization regulate its communication, but the messages consistently miss the mark of the organization's strategic aims, then there exists horizontal, but not vertical, consistency. For vertical consistency to be achieved in social media communications, the communications must be both consistent and aligned with the organization.

Our third proposition focuses on how to maximize the unique aspect of vertical consistency, that of organizational alignment. What we observed through our interview data gathering was that some organizations have taken measures, either unintentionally or purposefully, to promote alignment between the social media account managers and the remainder of the organization. Most notably, this is achieved when those communicating through social media are also involved in organizational activities outside of social media communications. At BigSouth Academics, the vast majority of social media account managers have additional responsibilities outside of the domain of social media. In fact, most of our interview subjects saw social media communications as only a small segment of their overall job requirements. They noted that vertical consistency was made much

easier due to the close ties they had with the rest of the university. Instead of creating a situation where social media account managers must be updated with the remaining activities of the firm, these account managers were continuously involved in those other activities, thus keenly aware of the happenings within the organization. While regulation and control generally lead to vertical consistency, we propose that this relationship is enhanced when social media account managers are more closely aligned with the remainder of the organization.

Proposition 3: Vertical consistency is enhanced through regulation when social media account managers have close ties to the organization.

Empowerment

When investigating creativity, we observed a direct relationship between organizations which emphasize empowerment and the level of creativity conducted by their account managers. At BigSouth University, both the Academics and Athletics organizations desire and see creative endeavors by their social media staff. Empowering social media account managers offers the freedom necessary to explore new endeavors and try out new ideas. However, one thing we learned was that not all employees respond equally to empowered freedom.

In speaking to account managers regarding their efforts at creative social media ventures, we generally heard two different types of responses. Some account managers spoke of the freedom offered by empowerment and responded with a positive attitude toward the possibility to try out new ideas. These individuals fell in line with our

expectations, remarking on the impact of empowerment on creativity. Other individuals were not as positive about this effect. Some account managers we interviewed spoke negatively on the effect of empowerment on creativity, instead speaking to the trepidation they felt in innovating through social media. These individuals often spoke of the responsibility in speaking on behalf of the organization, and how empowering the account managers placed the additional weight of responsibility on their shoulders. This, in turn, actually *decreased* the level of creativity in their social media use, as they operated based more on fear than on freedom.

When we investigated this matter further, we learned that there was a stark contrast between the account managers which fell into each of the two groups. The group which spoke of the positive relationship between empowerment and creativity had confidence in using social media, either through long-term use or through using social media in their personal domain. The group which spoke negatively of empowerment had less confidence in their social media use, often lacking experience in social media communications. Our proposition is that a deciding factor in determining the direction of the relationship between empowerment and creativity in an organization is the degree of confidence expressed by the account managers in social media communications.

Proposition 4: The relationship between empowerment and creativity is moderated by individual social media self-efficacy.

IMPLICATIONS

Practice

This study has illustrative and prescriptive implications for organizations who wish to use social media as a means of communicating with outside stakeholders. For organizations considering a formalized transformation through social media implementation or coordination, we have elucidated three different strategies regarding how such transformation can be made possible. The Centralized Approach, Decentralized Approach, and Hybrid Approach were described both theoretically and practically through case studies. We offered the distinct elements of each and depicted how specific organizations made each of these strategies actionable within their own contexts.

Furthermore, we verified hypotheses related to the effects of each strategy on social media communication. We demonstrated how varying levels of emphasis on regulation and empowerment impact the manner in which the organization distributes power and the manner whereby such distribution affects communications. Through the case studies, we saw how organizations which emphasize regulation observe a greater degree of consistency. This consistency is seen horizontally, through message uniformity across different social media accounts. Consistency is also seen vertically, through integration between social media activities and the overall strategies of the organization. Conversely, we discerned through the case studies that organizations which emphasize empowerment are better able to tailor communications and develop creative endeavors for each social media account. When power is distributed throughout the organization, customization is enabled. It is important to note that consistency, tailoring, and creativity

were present in all three organizations, and we would presume that these characteristics are desired by nearly all organizations. However, the differing levels of empowerment and regulation determine the degree of these characteristics and the manner in which organizations enact them.

The elucidation of the Hybrid Strategy is important, as it illustrates how organizations can enable both creativity and control with their social media communications. By describing the approach of BigSouth Academics, we provide managers with a specific instantiation of this strategy. The insights gleaned from BigSouth Academics not only serve to confirm our hypotheses, but also exemplify the means by which organizations can regulate and empower social media communications in a manner which prevents detracting from either objective.

The results of our study should aid organizations in selecting the appropriate strategy for their own social media transformation efforts. Not only should our results inform the strategy selection, but also the mechanisms by which the strategy is enacted. The case study descriptions offer detailed descriptions regarding how each organization structured their activities and personnel to best match the aims of their strategic selection. While it should not be assumed that all strategic initiatives are congruent, our study presents some examples which may provoke new ideas for managers in the future.

Research

This study offers important implications for researchers, both in illuminating insights regarding social media implementation and in developing opportunities for future research to continue this investigation.

First, this study positions social media implementation as a form of business transformation, as the innovative opportunities presented by social media offer organizations with new means for communicating with outside stakeholders. However, consistent with research on innovation (Scott & Bruce, 1994), we recognize that new opportunities are only considered innovative if they adhere to the needs of the organization. Therefore, our investigation offered the means by which organizations can use social media for innovative communication while also maintaining their core values. Future research should continue this investigation, noting the important implication that not all social media implementations are congruent. Whereas our study focused on the effects of different strategies, future researchers could continue the investigation of antecedent influences on each strategy.

Second, for research on social media communication, this study extends social media literature by offering the dyadic effects of regulation and empowerment. By describing the individual cases in our study, we were able to discuss in detail the relationship between power distribution and communication customization, noting that regulation begets consistency while empowerment leads to tailoring and creativity. Regarding regulation, we described two different forms of consistency, horizontal consistency and vertical consistency. The core strategies of LargePub, Inc. and BigSouth Academics offered the means by which organizations can use regulation to establish both forms of consistency. Regarding empowerment, we investigated both tailored communications and creativity, offering that the freedom enabled by empowering individual social media account managers provokes flexibility in communications, such

that the account managers are able to develop exclusive tactics for communicating with disparate audiences. BigSouth Athletics and BigSouth Academics provided specific guidance on how to empower social media account managers, so as to enable tailoring and creativity across the organization.

Finally, while the individual case studies allowed us to investigate the core effects of regulation and empowerment, by looking across the three cases, we were able to identify some common elements which both encourage the emphasizing of regulation/empowerment and moderate the relationship between the emphasis of each aim and its resulting outcome. Regarding antecedents, we noticed that the disparity of the organization's audiences was largely determinant in the selection of the social media implementation strategy. Organizations with clearly defined, disparate audiences, such as BigSouth Athletics, were more apt to emphasize empowerment, as there was a greater need to tailor communications and develop creative approaches for each audience. Organizations with more ambiguous delineations between audiences were less apt to emphasize empowerment, as the relative similarity of their audiences negated the ability for tailoring and creativity. Whereas empowerment was largely determined by audience disparity, regulation was impacted by the organization's emphasis on reputation. Organizations which placed a high degree of importance on reputation were more apt to emphasize regulation, while those which understated the importance of reputation were less concerned with regulation.

Regarding moderation, we perceived an influence on the effects of both regulation and empowerment. For regulation, we demonstrated that organizations which emphasize

regulation will ensure greater vertical and horizontal consistency in their communications. We surmised that this effect was enhanced when the social media account managers had direct ties to other areas of the organization. The more closely the social media communicators were tied to the organization, the greater the consistency of communications. For empowerment, we demonstrated that organizations which emphasize empowerment will ensure greater tailoring and creativity in their communications. This effect seemed to be enhanced due to the degree of social media self-efficacy in the account managers. Creativity was stifled when the account managers were less confident in their ability to communicate through social media.

Future researchers must evaluate these propositions in greater detail. While our case studies provided evidence to suggest the propositions, it is imperative that researchers continue these investigations in broader contexts. The notions of regulation and empowerment are important considerations for managers when selecting the appropriate approach to social media implementation. As we continue to offer managers guidance regarding implementation strategies, it is essential that we investigate all aspects of social media communications, both the antecedent influences and the resulting effects.

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ESSAY 3

BRINGING TECHNOLOGY TO WORK: A REPRESENTATION THEORY PERSPECTIVE ON THE REPURPOSING OF PERSONAL TECHNOLOGIES

ABSTRACT

Individuals increasingly blur the line between technologies used for personal means and those used to complete work-related tasks. The escalating level of capabilities offered by personal technologies has presented opportunities for repurposing personal technologies for work-related tasks. With guidance from Representation Theory, we present a continuance perspective on repurposing, noting that individuals will form intentions to repurpose a technology if they recognize congruence between their prior activities performed with the technology and their work tasks (a concept referred to as representational fidelity). While such congruence offers the potential for repurposing, we also demonstrate that an individual must have confidence in using the technology on his/her work devices. An empirical study of 308 full-time employees largely supports the continuance perspective on repurposing. Our findings suggest that representational fidelity is predictive of work-related usefulness beliefs, strengthened through overlaps in the real-world domains motivating technology use. Furthermore, we found that confidence in using the technology at work is a notable consideration, but for cloud-based technologies such as Facebook Messenger, the consistency in functionality across devices is of minor importance.

INTRODUCTION

In recent years, we have seen a shift in the landscape of organizational technology use, as individuals have begun to repurpose personal technologies to achieve organizational aims. Many individuals have begun to discover the potential to use their personal technologies for work-related tasks (Niehaves, Köffer, & Ortbach, 2012). One example of this new phenomenon lies in the demotion of email as some individuals' sole method of work-related communication. Many of these employees have started to utilize technologies primarily intended for personal use (e.g. text messaging and social media) for their work-related communications, noting that the conversations they create using these personal technologies offer greater congruence with the manner in which they communicate at work (Farrell, 2013). While not originally intended for professional communications, these technologies are beginning to be appropriated by individuals into the work context.

Employees who enact this behavior note that one of the primary drivers of using personal communication tools for work-related communications is a preference for the informal tone and the rapid communication style of the communications they create on their personal technologies (Richtel, 2010). As such, some companies have begun to replace email addresses on corporate websites with social media user names, affording individuals the opportunity to use the personal technologies for work purposes.

The convergence of personal and work-related technologies in the workplace is relatively new, as historically these two entities were largely distinct. Individuals tended to separate technologies used for work-related tasks and technologies deemed more for

personal use (W. Lewis, Agarwal, & Sambamurthy, 2003). The division of individuals' personal and professional contexts encouraged the use of different technologies in each domain (Polites & Karahanna, 2013). Furthermore, individuals were encouraged to use technologies with adherence to their intended purpose (DeSanctis & Poole, 1994). Thus, personal technologies, those intended for personal use, were kept in the personal domain, while work-related technologies, those intended for work-related tasks, were used in the professional domain.

However, recent alterations to the technology landscape have encouraged individuals to reduce this separation. First, as individuals' work lives and personal lives have increasingly converged (Groysberg & Abrahams, 2014), the necessity of contextual separation of technologies has diminished. It has become increasingly common for employees to work from home (Barber & Jenkins, 2014) and play at work (Sørensen & Spoelstra, 2011). While some individuals may find such overlaps to be conflicting (Köffer, Junglas, Chipperi, & Niehaves, 2014), many find a positive impact of blurring their personal and work boundaries (Giddens & Tripp, 2014). As it is becoming more difficult for individuals to define the boundaries of their personal and work lives, some are now less inclined to restrict technologies to one domain vs. another.

Additionally, the increasing capabilities of personal technologies has enabled opportunities for repurposing into the work domain (Baskerville, 2011). The enhanced capabilities of today's personal technologies allow individuals to use their personal technologies in manners that are consistent with their work tasks. With our opening example, the advanced capabilities of personal communications technologies (such as

text messaging and social media) have enabled some individuals to send communications which offer consistency with the manner in which they communicate at work.

Finally, the ubiquity offered by recent advances in cloud computing (August, Niculescu, & Shin, 2014) and mobile devices (Goggin, 2012) has given greater freedom to individuals to use their personal technologies wherever and however they see fit. Technologies are no longer confined by location, as they can be run on a variety of different devices (Buyya, Broberg, & Goscinski, 2010). Some companies have even begun to enact bring-your-own-device (BYOD) policies, encouraging the use of personal devices in the workplace (Giddens & Tripp, 2014). Other companies provide devices with the expectation of work-related use while allowing a degree of personal use (e.g., checking personal emails and social media sites). Such a blending of personal and professional use of technologies makes it easy for individuals to use personal technologies for work-related uses.

We refer to the act of using personal technologies for work-related tasks as repurposing, as the primary alteration lies with the purpose of using the technology. While the complexity and flexibility of today's technological landscape have enabled opportunities for repurposing, we must extend our understanding by investigating why individuals take advantage of these opportunities. At the individual level, it is important to illuminate what drives an individual's desire to repurpose a personal technology for work-related tasks. Thus, the primary research question for this study is as follows:

What factors influence an individual's intention to repurpose a personal technology for work-related tasks?

Recently, some IS researchers (e.g. Loose, Weeger, & Gewald, 2013; Ortbach, Köffer, Bode, & Niehaves, 2013) have begun to investigate technology repurposing by utilizing traditional adoption theories such as the Theory of Planned Behavior (Ajzen, 1991), the Technology Acceptance Model (Davis, Bagozzi, & Warshaw, 1989), and/or the Unified Theory of Acceptance and Use of Technology (Venkatesh, Thong, & Xu, 2012). In adoption scenarios, individuals form behavioral intentions based upon perceptions regarding the future use of the technology. We contend that while these theories sufficiently explain the conscious choice of a new adoption, in many situations it is important to note that prior experience may be a determining factor in future work-related use (Bajaj & Nidumolu, 1998). In this research, we position technology repurposing as a form of continuance, as the decision to repurpose is more closely aligned with the decision to continue using a technology after it has already been used. In this sense, repurposing is a post-adoptive form of use (Jasperson, Carter, & Zmud, 2005), and must be investigated using models which account for the individual's prior experience.

Central to the concept of IS continuance is the notion that individuals develop future beliefs regarding technology use based upon an evaluation of their prior experience with the technology (Bhattacharjee, 2001). The knowledge gained from prior use is utilized to determine whether the technology will be useful in the future. In the simplest of continuance scenarios, when an individual is currently using the technology for work purposes, an individual derives future usefulness beliefs from an evaluation regarding how well the technology is meeting or exceeding expectations. If using the technology

leads to a positive evaluation against expectations, then the individual is inclined to continue using the technology for the same purpose.

However, if the individual is not using the technology for work purposes, then an evaluation against expectations may not be appropriate. If his current use is targeted toward a different purpose, success in that different endeavor may be less relevant for predicting work-related use. For example, if an individual is using a personal communications technology to send pictures from a family gathering, then the degree to which the technology met those personal expectations may not be germane for evaluating its usefulness in work-related tasks. Nonetheless, because the technology has been used, there is prior experience which could still aid in the development of future work-related beliefs.

In this sense, repurposing is neither pure adoption, as the individual is already using the technology; nor pure continuance, as the individual's current use is directed toward different objectives. Thus, to investigate repurposing, we must use a new form of evaluation which accounts for the fact that an individual's prior experience may be directed toward different aims. Because individuals can now use personal technologies for different purposes (Bagayogo, Lapointe, & Bassellier, 2014), on different devices (Buyya et al., 2010), and in different contexts (Niehaves et al., 2012), it is important to evaluate how individuals' complex prior experiences contribute to their desire to use personal technologies for work purposes.

This study seeks to evaluate how individuals utilize prior experience to inform intentions to use personal technologies for work purposes, even if their prior experience

was directed toward outcomes which differ from their current work tasks. We use Representation Theory and research on task switching to examine the antecedent influences of three congruences: congruence in the activities performed through prior technology use (Congruence of What), congruence in the individual's real-world personal and work-related domains (Congruence of Why), and congruence in the technological resources used both outside and inside the work domain (Congruence of How). We will evaluate how these three congruences work in tandem to enable future beliefs regarding technology repurposing.

To begin our investigation, we look to prior literature on continuance behaviors, and the mechanisms which enable the transfer of knowledge from one task to another.

THEORETICAL PERSPECTIVES AND HYPOTHESES DEVELOPMENT

Behavioral Continuance

A consistent observation from psychology, marketing, and IS literature is that individuals possess a strong inclination to continue prior behaviors (Hong, Kim, & Lee, 2008; Malhotra, 2005; Wernerfelt, 1985). Continuation is advantageous, as the cognitive resources required to repeat an action are fewer than those required to try something new (Aarts & Dijksterhuis, 2000). These resources introduce switching costs, which discourage alterations to the status quo (Burnham, Frels, & Mahajan, 2003). Therefore, when possible, individuals will seek to continue as before, as the experience from prior uses grants confidence in a successful outcome (Bhattacharjee, 2001).

Table 4.1 presents each of these different perspectives in detail. While each perspective offers a unique element to the discussion, the common theme among the

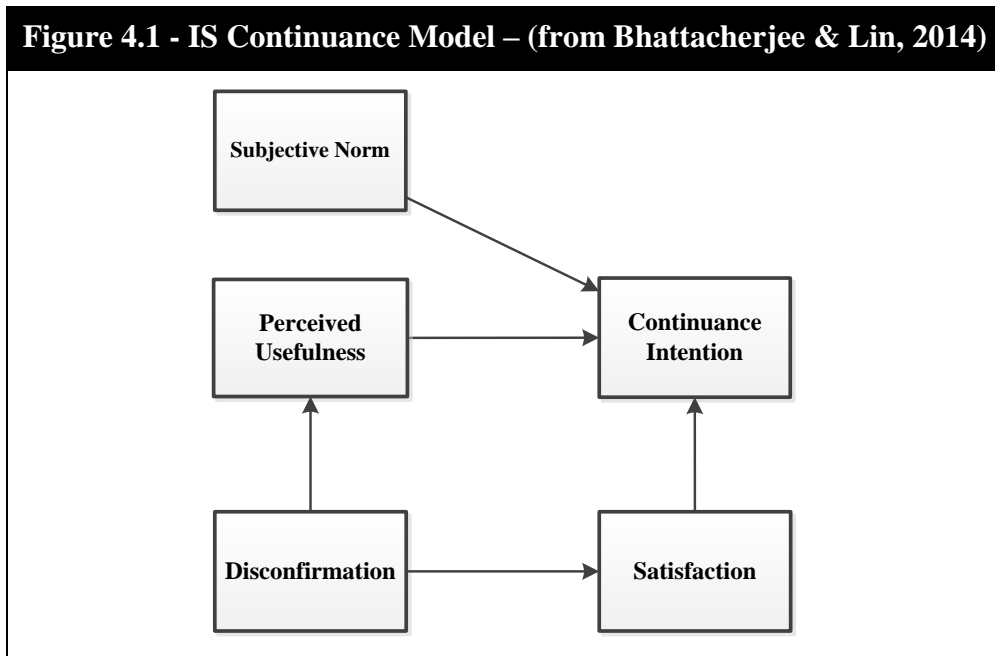
perspectives is that individuals draw upon prior experience to determine if (and how) future behaviors are enacted. The automaticity and loyalty perspectives, while offering guidance, seem most suited for pure continuance scenarios that do not have significant external (e.g., new tasks) and internal (e.g., new psychological needs) interventions. In these scenarios, there is often a concentration on repeating the prior behavior as before. Therefore, we will focus our discussion on the experience perspective, as it seems best suited for our investigation, which seeks to explain the continued use of technologies that may have been used for different purposes in the past.

Table 4.1 - Comparative Views on Continuance

Central Focus	Automaticity	Loyalty	Experience
Description	Individuals repeat actions to save cognitive resources. Repeating a prior action is easier than performing a new action. When the opportunity for continuance is recognized, the individual will give preference to the reactivation of the prior behavior, as it offers a more efficient use of resources.	Individuals, over time, form ties to specific entities. The more pronounced the tie, the stronger the connection. Switching costs prevent new activities, as these costs are saved through repetition.	Prior experience provides information relative to how a technology can perform a task. This prior experience can aid the user in determining its appropriateness for any subsequent activities.
Relevance to Our Study	Continuance is desired for its reduction of cognitive expenditures.	Continuance is desired due to the costs of attempting something new.	Continuance is desired due to the information provided by prior experience.
Relevant References	Aarts & Dijksterhuis, 2000; James, 1890; Louis & Sutton, 1991; Neal, Wood, & Quinn, 2006; Ouellette & Wood, 1998; Polites & Karahanna, 2013; Wood, Tam, & Witt, 2005	Burnham et al., 2003; Chang et al., 2008; Rogers & Monsell, 1995; Wernerfelt, 1985	Bhattacharjee, 2001; Furneaux & Wade, 2011; Hong et al., 2008; Kim & Malhotra, 2005; Limayem, et al., 2007; Vatanasombut et al., 2008; Xu et al., 2012

When an individual repurposes a personal technology for a work-related task, this can be considered an act of continuance, as the individual is utilizing the experience of prior technology use to inform a future behavior. Continuance, as defined in the literature, does not refer to the extension of time spent using a technology, but rather the streamlined re-adoption of the technology under certain conditions (Hong et al., 2008).

Once an individual has used a technology, he has gained experience which can inform the appropriateness of the technology for future tasks (Bhattacharjee & Premkumar, 2004). The experience gained from prior use of a technology helps the user determine whether he can complete work-related tasks using the same technology. Experience influences continuance intentions in two forms: through the development of future work-related beliefs and affective satisfaction (Bhattacharjee & Lin, 2014). If prior experience leads the individual to believe that the technology is useful and he is satisfied with that prior use, then continuance is desired.



Individuals inform future beliefs regarding work-related technology use through utilizing the learning from prior experience. In pure continuance scenarios, beliefs are influenced by the disconfirmation of prior expectations (Bhattacharjee & Lin, 2014; M. C. Lee, 2010; Wu & Kuo, 2008) (see Figure 4.1). However, if the individual is using the technology for other purposes, then those prior expectations may be less relevant for the

prediction of work outcomes. As such, the individual must use other means to determine beliefs regarding the usefulness of the technology for his work-related tasks. Doing so requires a comparison across disparate domains, an evaluation of potentially discrepant prior use against current work-related tasks. To investigate how individuals use prior experience that may be directed toward different objectives, we look to research on representational fidelity.

The Congruence of What: Representational Fidelity

When considering the repurposing of a personal technology, the congruence of prior use and future work-related use is not always guaranteed. The activities performed in work-related scenarios are subject to the needs of the organization (Sun, Bhattacharjee, & Ma, 2009), and may be quite different from the individual's prior activities. For example, consider the use of a personal communications technology. When communicating personally, the individual may send picture-based messages and short videos to his friends. These activities could contrast heavily with his work-related communications, which may involve lengthy messages and file attachments. In this scenario, his personal communications do not align with his work-related communications. Therefore, the degree to which his prior use met (or exceeded) expectations is hardly relevant, as success in sending pictures and videos is unlikely to aid the individual in predicting the work-related benefits from using the technology.

Research on task switching (James, 2008) suggests that when an individual considers a future task, the recognition of similarity between the new task and a task that the individual has already accomplished allows for the transfer of knowledge between the

two tasks. Individuals are more effective in predicting the outcome of future tasks if they can draw upon the experience gained from successfully completing a similar task. Such knowledge is more easily transferred if the tasks under consideration are similar (Carroll & Seppi, 2005). Using the earlier example, if the individual's communications created through prior technology use were congruent with the communications he needs to send for work purposes, then the individual would have confidence that he can send work-related communications using the same technology.

Behavioral discrepancies prevent the individual from utilizing prior learning, such that the individual's perceived ability to complete a task is significantly reduced (Arrington, Altmann, & Carr, 2003). If the consideration of IS continuance is predicated on the use of prior experience, then it is imperative that the prior activities performed using the technology parallel the work tasks, such that the user is able to employ the experience of prior action to determine the usefulness of the technology in the work domain. As such, there must be an evaluation of consistency between the individual's prior use and his future work tasks. In order to capture this evaluation, we look to a relatively new construct in IS literature: representational fidelity.

Representational Fidelity

Burton-Jones and Grange (2012) presented *representational fidelity* as a means of evaluating the congruence between the activities performed using a technology and the activities the individual must perform at work. Representational fidelity is defined as the degree to which the prior use of a technology provides an accurate representation of a domain. By domain, they refer to the activities and information contained in some real-

world system, independent of technology, such as work-related communications or the management of an organization's inventory.

Representational fidelity is a concept derived from Representation Theory, which centers on the idea that a primary purpose of technology use is to create and interact with the representation of a real-world system (Wand & Weber, 1995). Suppose an individual is interested in using a technology to manage the finances of his small business. He would need a technology which provides an accurate picture of his financial information and allows him to manipulate that information in a manner consistent with his work tasks. For example, he may use Microsoft Excel to create a representation of his finances by building a spreadsheet which displays the current status of his bank accounts. He may create charts/graphs to represent the changes to his accounts over time. He may also use formulas to carry out his financial transactions. However, this same individual may recognize that the activities he has performed using Mint.com, which he uses for his personal financial activities, provide a better representation of those activities he needs to perform at work. When managing his personal finances, he has used Mint.com to create visualizations which more accurately depict the changing nature of his accounts, he has created finer delineated budgets which closely mimic his actual work budgets, and he has accessed this information from his mobile device, which provides a better reflection of the on-the-go nature of his work activities. Because the tasks he has performed using Mint.com provide an accurate reflection of his work-related financial tasks, he will believe Mint.com could be useful for those activities in his work domain. In this case, even though the technology and device are different from his work domain, the

faithfulness of the activities he has already accomplished leads him to believe that the technology could be useful for his work activities.

Once an individual has used a technology, his evaluation criteria regarding the future usefulness of the technology will differ from those which were used to determine adoption. In adoption scenarios, individuals may determine the usefulness of a technology subject to the fit between the capabilities of the technology and the needs of future tasks (Goodhue & Thompson, 1995). Lacking prior experience, the individual is forced to predict the usefulness of the technology by forecasting his ability to complete the future task using the technology. However, according to Expectation-Confirmation Theory (ECT) (Bhattacharjee, 2001), in continuance scenarios, where the individual has already used the technology, the evaluation of future usefulness is aided by the individual's prior experience with the technology. If the individual has already completed tasks which are similar to those he must complete in his work domain, then there is no need to consider the capabilities of the technology.

ECT uses disconfirmation as a means of determining future usefulness (Bhattacharjee & Lin, 2014). Effectively, an individual is evaluating the degree to which his prior work-related behavior matches or exceeds his work-related expectations. These expectations are usually confined to some work-related performance outcome. As noted, in repurposing scenarios, such an evaluation may be less relevant, as prior use may have been directed toward a discrepant outcome. Rather, remaining true to the tenants of ECT, we must utilize a construct which evaluates the degree to which the individual's prior use aligns with his work-related tasks. Representational fidelity maps well with this

requirement, as it evaluates the congruence between behaviors which have already been performed and the necessary behaviors of the work domain. While task-technology fit may offer salience in explaining adoption behaviors, representational fidelity is a better measure for repurposing behaviors, as it allows for consistency in the focus of the comparison. As ECT uses a behavioral evaluation (disconfirmation) to predict a behavioral belief (usefulness), we use a behavioral evaluation (representational fidelity) to predict the same behavioral belief (usefulness).

Continuance literature has demonstrated that an individual can determine the usefulness of a technology through an evaluation of prior experience (Bhattacharjee & Premkumar, 2004; M. C. Lee, 2010). With repurposing, that prior experience may have been directed toward a non-work objective. However, when an individual recognizes that the tasks he has already performed are faithful to his desired work-related tasks, then he can use the successful completion of similar tasks to predict usefulness in the work domain. With repurposing, we must change the nature of the prior evaluation, from a comparison against prior expectations to a comparison of how well the prior activities are faithful to the necessary activities in the work domain. An individual's prior communications using a technology may not have led to any work-related productivity, but if they accurately reflect his work-related communications, he may be more inclined to believe that the technology could be useful for enabling such productivity in the future.

In the Introduction, we highlighted the increasing use of personal technologies as replacements for email applications. The reasoning behind this switch is that individuals have begun to recognize that the communications they already send using personal

technologies (such as Facebook Messenger) provide a more accurate representation of their desired communications than the communications they send using an email application. Whereas email communications are more formal and primarily text-based, Facebook Messenger conversations are typically more rapid and can include audio and video clips as a part of the message. According to Representation Theory (Burton-Jones & Grange, 2012), the primary reason why these individuals believe their personal communications technologies to be useful for their work tasks is due to the fidelity between their personal communications and the communications they must send for work.

The similarity between what has been accomplished while using the technology and what must be accomplished inside the work domain allows for the transfer of knowledge, such that the individual can have confidence that using the technology will produce desired outcomes (Rogers & Monsell, 1995). Representational fidelity increases the belief that the technology will be useful in the work domain by providing an accurate representation of the activities the individual must perform in that work domain.

H1: Representational fidelity is positively related to perceived work-related usefulness.

The fidelity of prior use is also important in evaluating the role of satisfaction in predicting repurposing intentions. Satisfaction embodies the affective consequence of prior use, and is a salient factor in determining continuance (Bhattacharjee, 2001). However, just as with perceived usefulness, satisfaction is typically grounded in the

positive or negative disconfirmation of prior expectations (Bhattacharjee & Lin, 2014). If a technology's prior use has been confined to different activities, then the satisfaction from exceeding expectations regarding prior use may not be as salient in the consideration of repurposing. Specifically, if an individual's prior use of a technology differs greatly from his professional activities, then the satisfaction from accomplishing those prior behaviors may have less impact on his intent to repurpose the technology.

Wixom and Todd (2005) note that attitudes (such as satisfaction) are more salient predictors of behavioral intentions if there exists congruency in the target of the attitude and behavior. They note the correspondence principle (Fishbein & Ajzen, 1975), which illuminates the importance of considering congruence between attitudes and behaviors. Thus, an individual's attitude toward a completely different behavior is less likely to be predictive of his intention to enact that behavior. If the target of attitude and behavior are similar, as accounted for through representational fidelity, then the attitude will be more predictive of the intention to enact the future behavior.

As emotions can be predictive of work-related technology use (Gerow, Ayyagari, Thatcher, & Roth, 2013), we note that satisfaction may still be impactful even if the prior technology use is not fully representative of the individual's work-related activities, contingent upon representational fidelity. Positive feelings toward a technology spur the user to use the technology (Beaudry & Pinsonneault, 2010), even if that satisfaction arises from disparate activities. Just as brand-level satisfaction can predict future purchasing intentions of disparate products tied to that brand (Selnes, 1993), so can

general satisfaction regarding a technology be somewhat predictive of the future use of that technology.

Therefore, we position representational fidelity as a moderator of the influence of prior use satisfaction on repurposing intentions. If the individual's prior technology use has provided an accurate representation of his desired work activities, then the satisfaction gleaned from that prior use will be more impactful on repurposing intentions. When representational fidelity is high, there is consistency between the individual's prior technology use and his work activities. This consistency, according to the correspondence principle, should enhance the effect of prior satisfaction on future intentions. Lacking such consistency, we hypothesize that the effect of satisfaction will be reduced.

H2: Representational fidelity moderates the relationship between satisfaction from prior use and intentions to repurpose a technology.

The Congruence of Why: Domain Congruence

Representational fidelity measures the degree to which the activities an individual has performed in his prior use accurately reflect the activities involved in his work tasks (Burton-Jones & Grange, 2012). We hypothesize that an individual is most likely to recognize the fidelity of his prior technology use with his work domain if his prior and future domains are congruent. Looking again at communications, if an individual communicates with the same audience in his personal technology use as he would at work, then he should be more apt to identify the fidelity of those communications he created using the technology. If the two audiences are sufficiently dissimilar, then the

dissimilarity involved in the comparison will increase the difficulty in recognizing any work-related fidelity from prior communications.

We define domain congruence as the degree of alignment between two real-world systems, the system represented by the individual's prior technology use and the real-world system which encompasses his work tasks. As such, it is not a subjective comparison regarding how the technology is used, but rather an objective comparison regarding what the technology is used to represent. Domain congruence pertains to the overlap of real-world systems which necessitate the use of a technology.

Domain congruence can impact representational fidelity in two ways. First, if the two domains are congruent, the activities involved in representing those domains are also likely to be congruent. Suppose an individual uses Microsoft Excel as a means of representing his personal finances. If his personal and work finances are convergent (e.g. he uses the same financial institution and has joined his personal and work accounts), then the tasks he performs using Excel are likely to be representative of his work-related financial tasks. The congruence of the two real-world domains increases the likelihood that the technology tasks used to represent one domain will also be representative of the other.

Second, domain congruence promotes familiarity, as the contextual surroundings of the technology use encourage the recognition of similarity. When domains overlap, not only is it more likely that the technology-related activities of the domains converge, but it is also more likely that the individual will recognize the congruence between prior and future technology use. Domain congruence provides clarity to the comparison across

ordinarily disparate entities. If an individual uses a technology to create communications for his personal audience, he can more easily evaluate the fidelity of the communications with his work domain if the work audience involves the same individuals.

It is important to note that when we speak of congruence between domains, we define a narrow scope in this comparison. Certainly, for example, the potential for all aspects of an individual's personal and work lives to be perfectly congruent is rather limited. Instead, congruence in this respect pertains to the real-world systems which motivate the use of the specific technology of interest. If the individual is considering the use of Facebook Messenger for communications, then domain congruence could involve the overlap in the audiences, which necessitates the use of a communications technology. If the individual is considering the use of Google Maps for driving directions, then domain congruence could involve the destinations in the individual's personal and work travels which necessitate the use of a mapping technology. In Representation Theory, a domain is a real-world system which can be represented through technology (Burton-Jones & Grange, 2012). Convergence between these systems increases the likelihood of recognizing fidelity between the activities performed as a means of representing the personal domain with the activities necessary to be performed to represent the work-related domain.

Based on the above arguments, we hypothesize that domain congruence, or degree to which prior and future domains overlap, is positively related to representational fidelity. As the congruence between these real-world systems increases, so will the

opportunity for the individual to recognize fidelity between the activities of his prior technology use and his work-related tasks.

H3: Domain congruence is positively related to representational fidelity.

The Congruence of How: Device Compatibility

Representation Theory offers that an individual is likely to believe his technology use will be effective in the work domain if his prior use offered a faithful representation of the activities he needs to perform (Burton-Jones & Grange, 2012). The fidelity of prior use provides the user with the belief that he can complete his work tasks by using the technology. However, a second necessary condition for the formation of that belief is the ability of the user to access (or re-create) the representation from prior use. The *potential* for creating a faithful representation is only realized if the user is able to *access* the resources required to create that faithful representation (Burton-Jones & Grange, 2012). Thus, representational fidelity is not the only factor that influences the perceived usefulness of a technology. The individual must also be confident that he can effectively use the technology in the work domain.

If the first assumption of prior IS continuance studies is the congruence of prior and future technology use, then the second assumption is that the individual is equally able to use the technology in the same manner as before. One of the differentiators between personal technology use and work-related technology use is the potential constraint placed on the resources made available to the user (Fichman, 1992). Work-related technology use must operate within the bounds of the organization, subject to

external influences which can limit the freedom of technology selection and use (Schalow, Winkler, Repschlaeger, & Zarnekow, 2013). The tools available to the individual in the personal domain may not be equivalent to the tools available in the work domain.

Owing to this, researchers have investigated the degree to which the perceived availability of resources impacts technology use in the workplace (Mathieson, Peacock, & Chin, 2001). Without the requisite resources necessary to use a technology appropriately, the individual will be unlikely to believe that he is able to use the technology to increase the effectiveness of his work-related activities (Y. C. Lee, 2008). The impact of organizational influences on individual technology use makes it important to consider the individual's confidence in using a technology in the work domain. (Scott & Walczak, 2009).

In order to evaluate an individual's confidence in his ability to use a technology in the work domain, we must determine the tools used by the individual during technology use.

According to Representation Theory, there are two aspects of technology use which comprise the resources necessary to create the representation of a domain (Burton-Jones & Grange, 2012). These aspects, referred to as "structures," aid the individual in using a technology to create faithful representations. By illuminating these structures, we can determine the resources necessary to allow the individual to repeat the behaviors in the personal domain which are faithful to the individual's work-related domain.

The first component of technology use is the set of *physical structures* of technology use, pertaining to the hardware tools used to perform certain activities. These structures could include the input devices, such as a keyboard and mouse, as well as output devices, such as a monitor and speaker. Any necessary peripheral devices (e.g. scanners, cameras, microphones, etc.) would also be included in the physical structures of technology use.

Technologies can utilize these hardware devices as a means of creating the representation of a domain. Consider the example of work-related communications. Simple communications require tools similar to a keyboard and monitor for entering and viewing text-based communications. However, if the work-related communications also involve the exchange of documents, a scanner could be included in the technology use to present a digital representation of a document. Additionally, in situations involving highly equivocal communications (Daft & Lengel, 1986), a camera and/or microphone may be required to most accurately provide a representation of the work-related communications. The physical structures of technology use include the physical tools utilized for creating the most accurate representation possible.

The second category of resources, the *surface structures* of technology use, pertains to the software components which give purpose to those hardware tools. These structures comprise the user interface and feature set offered by the technology. Continuing with the work-related communications example, consider the situation where the individual's work communications are often long-winded and require a great deal of text. If the user interface for a technology limits the amount of text displayed in a

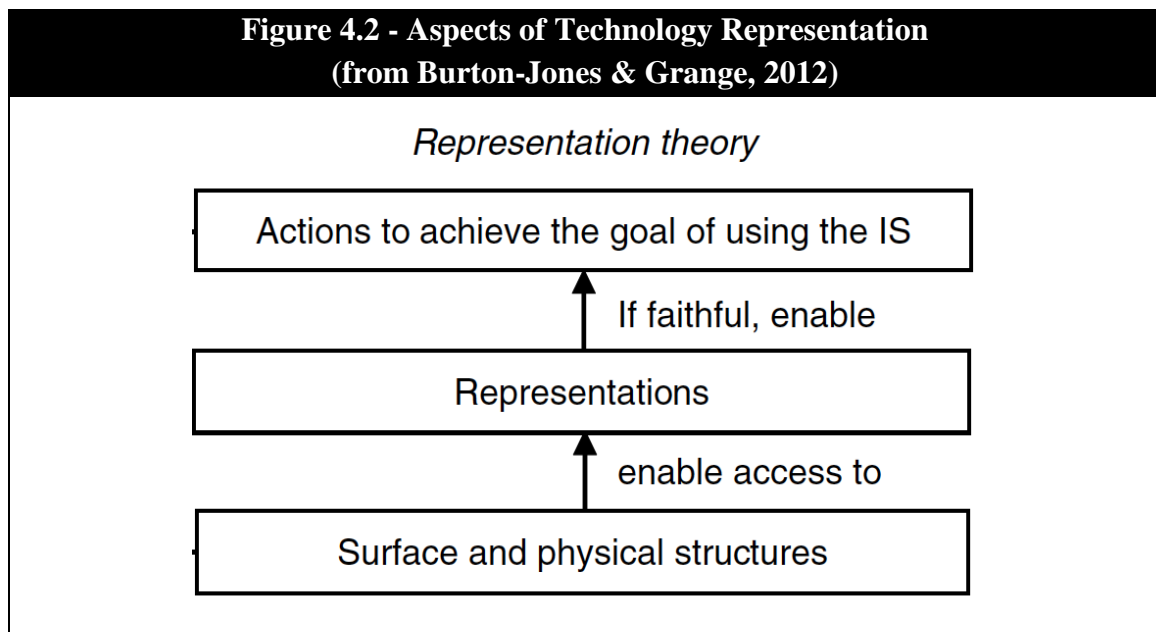
communication, then the accuracy of the representation is hindered. If the work communications of an individual are often quick, short messages that must be communicated quickly, then the individual can use the features of a technology to display each communication as it comes in, quickly and succinctly, just as in the actual work domain.

Table 4.2 - Supporting Structures of Information Systems – Burton-Jones & Grange (2012)		
Structure	Definition	Examples
Physical Structures	The machinery which supports an individual in creating or accessing a technology's representation	Hardware components such as: input/output tools, storage, network access tools, etc.
Surface Structures	The software facilities which allow the individual to access or create a representation	Software components such as the user interface, application features, menu structure, etc.

Thus, the means by which an individual creates the representation of a domain is through the use of both physical and surface structures (see Table 4.2). By separating these two structures, we see how they work in tandem to enable usage behaviors. For an individual to send an audio message, the surface structures must provide the features and user interface to create the message. The individual must also use a device which has the physical structures necessary for those features, such as a microphone for capturing the audio and a display for presenting the interface used to access the technology's surface structures. While a technology may provide the features necessary for creating a faithful representation of a domain, those features rely upon hardware devices in order to be made useful. Suppose a technology contains a feature which allows the user to view vast landscapes and large maps for the purpose of identifying geological sites. If the individual uses that technology on a mobile device, the screen size limitations may hinder

the representation of the natural landscape. In this case, the hardware device (physical structures) changes the user interface (surface structures) such that the technology feature is rendered less useful.

When an individual is considering the use of a personal technology for work purposes, there exists the potential that the technology may be used on a different device. In changing conditions, the individual may not be confident that he can recreate the faithful representations of his prior use. As the physical and surface structures of technology use are necessary for the recreation of faithful representations (see Figure 4.2), we must consider the individual's level of confidence when such structures may be altered. Thus, one important consideration in the repurposing of personal technologies is the degree to which the individual is confident that he can use the technology on his work device(s).



In this research, we use computer self-efficacy (CSE) to represent user confidence. CSE is defined as “a judgment of one’s ability to use a computer” (Compeau & Higgins, 1995, p. 192). Prior IS research has empirically demonstrated the link between CSE and beliefs regarding the usefulness of a technology (Hasan, 2006; Shih, 2006; Thatcher, Zimmer, Gundlach, & McKnight, 2008). The more confident an individual is that he can use a technology effectively, the more he will perceive the technology to be useful for his work tasks (Hsu, Wang, & Chiu, 2009). CSE has been demonstrated to impact perceived usefulness both directly (Fagan, Neill, & Wooldridge, 2003) and indirectly, through perceived ease of use (Venkatesh, 2000). As continuance researchers note the decreasing importance of ease of use after a technology has been used (Bhattacharjee, 2001), we center our investigation on the direct effect of CSE on perceived usefulness in the work domain.

In order to situate CSE within the context of technology repurposing, we must provide a more nuanced understanding of an individual’s confidence in using the technology. As discussed, when changing domains from personal use to work-related use, the individual may be forced to use different tools when interacting with the technology (Schalow et al., 2013). Therefore, our primary concern is the individual’s confidence in his ability to use the technology on his work device(s). We define this nuanced form of confidence as “Work Device Computer Self-Efficacy,” as it specifies both the technology and the device(s) on which the technology is used in the workplace. The confidence of the individual in his ability to use the technology on his work device(s) is directly related to his belief that the technology can be useful for his work tasks.

H4: Work device computer self-efficacy is positively related to perceived work-related usefulness.

Research on task switching suggests that an individual is more likely to switch between tasks if the tasks are considered to be sufficiently similar (Rogers & Monsell, 1995). With representational fidelity, we considered the similarity in the activities performed and information involved in those tasks. Behavioral research notes that the tools used to accomplish a task are also an important consideration in task switching scenarios (Arrington et al., 2003). When the tools used to complete a task are altered, the individual's confidence that he can successfully accomplish that task is reduced. Therefore, our investigation into work device CSE must consider the similarity of tools used in the personal and work domains.

Recent advances in cloud-based technologies have responded to user requests for greater ubiquity in technology availability (August et al., 2014). The move from a client-based architecture to a cloud-based architecture has increased the accessibility of technologies, such that individuals are given greater freedom to choose the device(s) on which to use a particular application (Bhattacharjee & Park, 2014). While cloud computing has offered new opportunities for technology use, it is important to consider the implications of universal access to software (Bharadwaj, El Sawy, Pavlou, & Venkatraman, 2013). While variety in the manner by which an individual uses a technology can offer benefits to individuals, we must consider whether changing the tools used to accomplish a task from the personal to the work-related domain impact the individual's confidence in his ability to perform as before.

Because the individual's prior technology use involved specific physical and surface structures, deviations in those physical and surface structures may hinder his confidence in using the technology in the work domain. When considering work-related communications, any alterations to the physical and/or surface structures used in his prior communications may change the communications he is able to create in his work domain, such that the faithful communications he observed through his personal use cannot be replicated. According to Representation Theory, faithful representations are only applicable to his work tasks if the individual is able to access them in the work domain (see Figure 4.2).

As we consider technology repurposing, we must recognize that technologies are no longer confined to use on one device, nor are they visually and functionally consistent across every instantiation of use. The past decade has seen a rapid rise in the pervasiveness of computing, such that individuals utilize multiple devices and differing environments to access the same technology (Satyanarayanan, 2001). This has led to the necessity for developers to create technologies that have a degree of device independence, as flexibility has become an increasingly desirable trait (August et al., 2014; Butler, 2001; Glover & Davies, 2005). As such, the same individual can use the same technology on different devices.

For example, communications technologies such as Facebook Messenger and Google Hangouts can be accessed from desktops, tablets, smartphones, and many other varieties of devices. However, not all of these devices are congruent. While the feature set of Facebook Messenger may enable audio-based communications, it requires the use

of hardware which may not be equally accessible when used on different devices. Similarly, the move from a tablet to a smartphone may alter the look and feel of the technology, as screen limitations and interaction methods on different devices necessitate different user interfaces (Eisenstein, Vanderdonckt, & Puerta, 2000). When an individual is forced to interact with a technology using a different device, the potential alteration in both the physical and surface structures may decrease the confidence that he is able to use the technology on his work device. Changing the tools used in a task introduces switching costs which could impair the individual's perception that the previous behavior can be enacted as before (Arrington et al., 2003).

While device incongruence may reduce an individual's confidence in using the technology in the work domain, this effect is not be the same for all individuals. Task switching research demonstrates that individuals with greater context-specific anxiety will be more affected by changing task conditions than those with lower levels of anxiety (Derakshan, Smyth, & Eysenck, 2009). Individuals who are less anxious in a given context are better prepared for new circumstances, which impacts their ability to complete new tasks (Ansari, Derakshan, & Richards, 2008).

If an individual is highly anxious when using a device, any perceived changes in task conditions will have a great effect on his confidence in completing the new task using that device. Suppose an individual is considering the use of his new work laptop to send Facebook Messenger communications. If he lacks comfort in using his new laptop, then any perceived differences between using Facebook Messenger on his work laptop and using Facebook Messenger on his personal mobile device will significantly impact

his confidence in using the technology in the work domain. If that same individual has no anxiety when using his new laptop, then the differences between his laptop and his mobile device will have less impact on his confidence when using Facebook Messenger at work.

Research on coping mechanisms notes that anxiety is influential in an individual's response to changing technology use conditions (Beaudry & Pinsonneault, 2005).

Individuals who are more anxious are less able to cope with change than those who are less anxious. As such, we hypothesize that work device anxiety, or the degree to which an individual notes an anxiety in using his work device(s), moderates the influence of changing device conditions. Furthermore, we hypothesize a positive moderating effect, as individuals who are more anxious should be more reliant on consistency between personal and work devices than those who are less anxious with their work devices.

To effectively evaluate the effect of changing device conditions, we will assess individuals' perceptions of device compatibility (Karahanna, Agarwal, & Angst, 2006). The salient evaluation is not that the individual uses the exact same devices at work, as two different devices of the same brand and model will be largely indifferent in functionality. Rather, we will investigate compatibility, or the degree to which the individual perceives that the technology looks and functions similarly when used in the work domain. It is compatibility that allows for the investigation of our hypothesized interaction. We hypothesize that an individual's general anxiety when using his work device(s) positively moderates the relationship between device compatibility and work device computer self-efficacy. Individuals with a high degree of work device anxiety will

be more reliant on compatibility, such that incompatibility will sufficiently lower the individual's computer self-efficacy. Individuals with a low degree of work device anxiety will be less reliant on compatibility and better able to cope with changes to the technology when used on the work device(s).

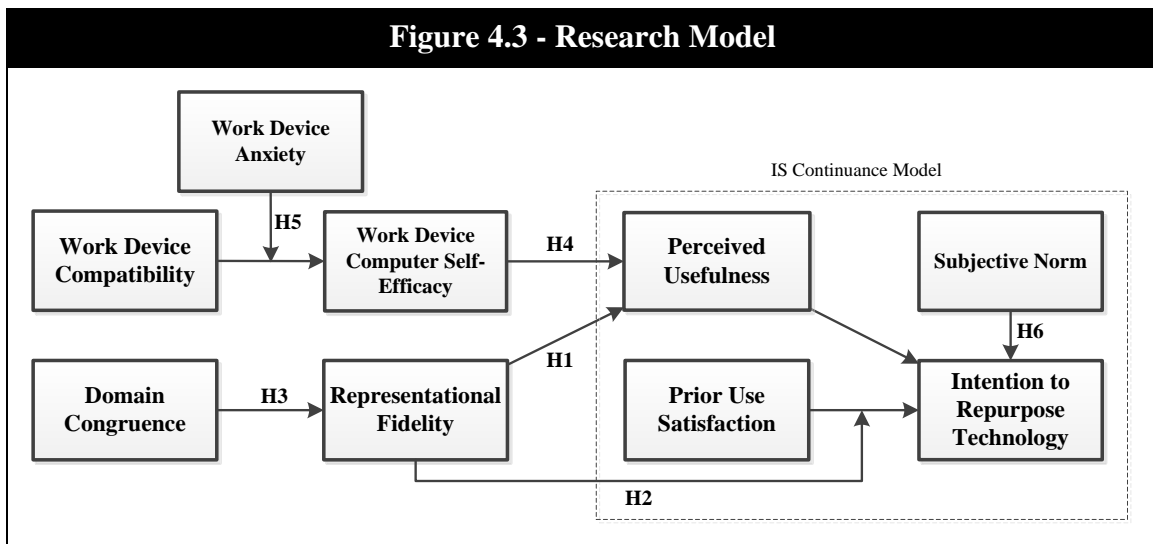
H5: Work device anxiety positively moderates the relationship between device compatibility and work device computer self-efficacy.

While individual factors such as representational fidelity and computer self-efficacy are influential in technology repurposing scenarios, IS continuance research (Bhattacharjee & Lin, 2014) notes that we must also account for the social influence of individuals' peer groups. Social norm, or the degree to which an individual perceives that his/her key referents will approve of a behavior, is a strong determinant of technology-related behavioral decisions, both those which involve initial use (Bhattacharjee & Lin, 2014) and post-adoptive use (Fadel, 2006; Jasperson et al., 2005). This effect is even more pronounced with newer technologies, as social features imbedded in newer technologies enhance the influence of social peers (Dickinger, Arami, & Meyer, 2008). Social norms increase the likelihood of innovation, as individuals are more likely to take risks when joined by those in their peer group (Young, 2009).

Transitioning the use of a technology from the personal to the professional domain often involves using the technology with the framework of a different peer group. Work-related technology use is often devoid of isolation, as work tasks are embedded within work system environments (Jasperson et al., 2005). Thus, it stands to reason that

an individual's intention to use a personal technology for work-related purposes will increase if he/she feels that doing so is accepted with a set of peers. As the normative influence of an individual's peer group increases, so will the desire to match the normative standard. In summary, because social influence drives individual behavioral decisions (Ajzen, 1991), we hypothesize that the higher the social influence of an individual's peers, the greater the likelihood that the individual will intend to repurpose a technology into the work domain.

H6: Social norm is positively related to an individual's intention to use a personal technology for work purposes.



Control Variables

To ensure the validity of our findings, and to sufficiently illuminate our hypotheses, we control for individual and organizational factors which may influence our dependent variables. We briefly describe the control variables, though no formal hypotheses will be made.

Individual differences are assessed in terms of age, gender, and personal innovativeness with technology (PIIT). Previous studies have investigated the effects of age and gender on both CSE (Ong & Lai, 2006; Reed, Doty, & May, 2005) and behavioral beliefs/intentions (Gefen & Straub, 1997; Morris & Venkatesh, 2000). PIIT, similarly, has been shown to affect both CSE (Scott & Walczak, 2009) and behavioral beliefs/intentions (Agarwal & Prasad, 1998). Therefore, we include all three individual differences as control variables on CSE, perceived usefulness, and intentions to repurpose.

Not only could individual differences impact our dependent variables, but organizational characteristics as well. Organizations differ in regards to their openness to the use of personal devices. To avoid unnecessary discrepancies stemming from respondents working for different organizations, we must account for differences in the organizations which employ our respondents. Therefore, we use the newly developed “BYOD Culture” construct, which measures the degree to which the individual’s organization allows the use of personal mobile devices in the workplace (Ortbach, Brockmann, & Stieglitz, 2014). Our aim in Hypothesis 5 is to investigate the degree of compatibility between the individual’s work and personal devices. To most accurately evaluate this hypothesis, we remove the potential organizational influence and focus on the individual influence on CSE.

Finally, for perceived usefulness and intentions to repurpose, we control for those individuals who are less able to use Facebook Messenger for work purposes. To account for this possibility, we include Perceived Behavioral Control (PBC) as one of the control

variables in our model. PBC is widely recognized as an influence of behavioral intentions (Ajzen, 1991). Therefore, we control for the effects of PBC on both perceived usefulness and intention to repurpose.

METHODOLOGY

While the motivation for our study is the general repurposing of personal technologies, we centered our empirical investigation on a more granular context. Representational fidelity measures the congruence of activities performed in one domain with the desired activities of another. This evaluation is more evident when we are able to define the activities under consideration. Therefore, we sought to identify an activity where technology repurposing could offer a high degree of practical application. Many employees have begun to explore the concept of using social media technologies for work-related communications (Leonardi, Huysman, & Steinfield, 2013). Organizations recognize the ease of adoption and minimized expenses associated with using a public social media platform for their intra-organizational communications (Skeels & Grudin, 2009). While some organizations have developed their own social tools for intra-organizational communication, others have begun to adopt existing technologies to accomplish the same feat. However, not all individuals are willing to use a social media technology for both personal and work-related use (DiMicco & Millen, 2007; Skeels & Grudin, 2009). Therefore, it becomes appropriate to investigate the repurposing of a technology in this manner. To investigate our hypotheses, we centered our study on the use of a personal social media technology for work-related communications.

Technology Selection

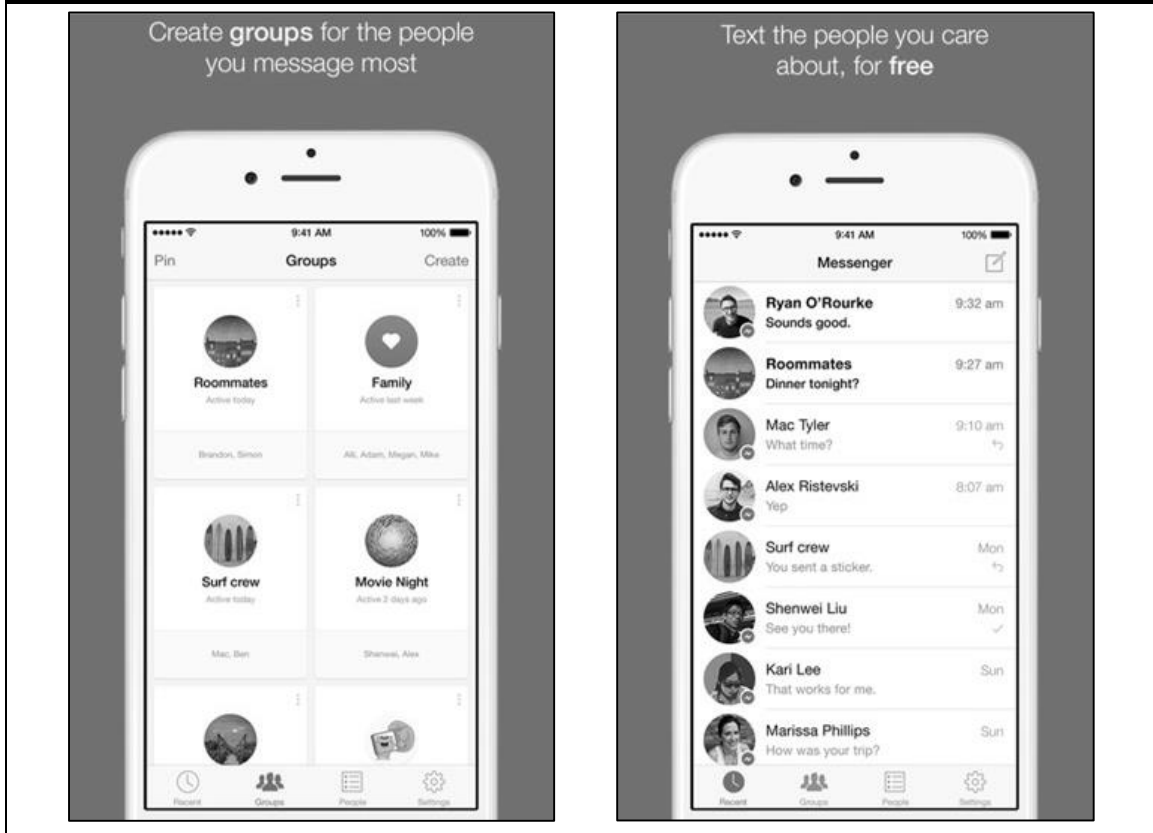
The technology we have selected for our study is Facebook Messenger. Facebook Messenger is a multi-platform application intended for individual and small group-level conversations. The application utilizes the Facebook network, as each of its approximately 500 million users (Facebook, 2014) are automatically enrolled in the service. When accessed through a mobile device, Facebook Messenger is a standalone application which can be downloaded to the device. When accessed through the website, the technology takes on the form of a chat application, allowing the individual to send and receive the same communications as on his mobile device. Facebook Messenger conversations are archived for later retrieval, and can be sent to any user on the Facebook network.

Just as with the selection of our sample frame, there were certain criteria which needed to be met in order to ensure the validity of our study. First of all, the technology needed to be used for communication between individuals. In order to most accurately evaluate our hypotheses, we sought a technology which could potentially replicate most of the communications activities involved in traditional work-related communications.

Second, the technology selected needed to be used by individuals primarily for personal communications, rather than work-related communications. As we are assessing the intention of an individual to use the technology for work-related communications, we must utilize a technology which is primarily used for non-work objectives. As such, a technology such as LinkedIn would be inappropriate, as its primary use is of a work-related nature. On the contrary, most social media technologies are used for personal

purposes (Smith, 2011). Facebook Messenger fits this criterion as well, as its primary use by individuals is personal communication. DeSanctis and Poole (1994) offer that you can determine a technology’s “spirit” through observing its marketing materials and help documentation. While a significant portion of the main Facebook technology is being used for work-related tasks, the standalone Messenger application is marketed for personal communications. For example, Facebook promotes the group messaging functionality of Facebook Messenger with the following phrase, “Keep in touch with the important groups of people in your life, like your family and best friends” (Facebook, 2015a). Figure 4.4 shows more examples of Facebook Messenger advertisements.

Figure 4.4 - Example Facebook Messenger Advertisements (Facebook, 2015b)



Main Study and Hypothesis Testing

Measures

Where possible, measures from existing scales were utilized either in full or through necessary adaptation. With no existing prior measure for Representational Fidelity (Burton-Jones & Grange, 2012), we developed a new measure for this construct using established techniques (Churchill, 1979; Moore & Benbasat, 1991). Our procedure for developing the measure of Representational Fidelity is detailed in Appendix B.

Domain Congruence, in the context of interpersonal communications, was assessed via the degree to which the individual's Facebook Messenger audience overlaps with his work audience. Similar to Representational Fidelity, our evaluation of Domain Congruence had no existing measure to draw upon. Therefore, we utilized a formative measure which asks the respondents to note the degree of overlap in both directions: the percentage of the current Facebook Messenger audience which overlaps with the work audience and the percentage of the current work audience which overlaps with the Facebook Messenger audience. This form of measurement is consistent with referent measurements of communication audience, which often involve numerical entry (Ksiazek, 2011; Prior, 2012; Webster & Ksiazek, 2012). We specified Domain Congruence as formative due to the fact that there is no theoretical reason to suspect a high degree of correlation between the two items. Furthermore, each item is necessary to evaluate the construct (Polites, Roberts, & Thatcher, 2012).

The remaining scales were developed by adapting scales from existing instruments. Notably, we utilized the aggregated second-order specification of Computer

Self-Efficacy, which features reflective items for the dual formative sub-dimensions comprising the internal and external components of the construct (Thatcher et al., 2008).

In the case of most measures, items were adjusted to direct the respondent toward an evaluation of the use of Facebook Messenger. Definitions for the constructs used in the study are available in Table 4.3. The full instrument is presented in Appendix A.

Table 4.3 – Constitutional Definition and Operationalization of Constructs

Construct	Definition	Operationalization	Reference
Representational Fidelity	The degree to which the individual's prior technology use provides an accurate representation of his/her work tasks	Self-developed six item Likert scale	Burton-Jones & Grange, 2012
Domain Congruence	The degree to which the audience of the individual's technology communications corresponds with his/her work audience	Self-report numerical measure	
Work Device Compatibility	The degree to which the individual perceives that the technology will look and function similarly when used on his/her work device(s)	Four item Likert scale (reverse coded)	Karahanna et al., 2006
Work Device Anxiety	The degree to which the individual is anxious about using his/her work device(s)	Four item Likert scale (reverse coded)	Hackbarth et al., 2003
Work Device Computer Self-Efficacy	The individual's confidence in his/her ability to use the technology on his/her work device(s)	Six item Likert scale	Thatcher et al., 2008
Perceived Usefulness	The extent to which the individual believes that using the technology will enhance job performance	Four item Likert scale	Strader et al., 2007
Satisfaction	The degree of pleasurable or positive emotional state resulting from the individual's prior use of the technology	Four item Likert scale	Wixom & Todd, 2005
Social Norm	The belief that people who are important to the individual think that he/she should use the technology for work purposes	Three item Likert scale	Venkatesh et al., 2012
Intention to Repurpose Technology	The user's intention to use the personal technology for work-related purposes	Four item Likert scale	Wixom & Todd, 2005

SURVEY DATA COLLECTION

For our sample, we used the market research company SurveyMonkey (Brandon, Long, Loraas, Mueller-Phillips, & Vansant, 2013; Mackiewicz & Yeats, 2014).

SurveyMonkey provides a service (titled “Audience”) that has access to thousands of full-time employees across a variety of United States geographic regions, occupational types, and demographic characteristics. They take care to ensure that respondents match desired criteria and seek to ensure that valid responses are received. While SurveyMonkey works to ensure the highest quality of responses, we utilized statistical tests and remedies to alleviate any concerns regarding the validity or reliability of the sample data.

We elected to use a market research company due to the variation in both occupations and organizations it presented. In order to fully evaluate the impacts of changing device and resource conditions, we needed to utilize a sample frame in which respondents operated under differing conditions of device availability, working conditions, and behavioral control. While it would have been possible to gather data from one organization, the use of a market research company provided the best means for evaluating our hypotheses.

SurveyMonkey uses filtering questions to guarantee that only those respondents in the intended sample frame receive the full survey. For our study, we used two filtering questions (“Do you use Facebook Messenger and/or Facebook Chat?” and “Do you currently use Facebook Messenger and/or Facebook Chat for work-related communications?”). Only those individuals who answered “Yes” to the first filtering

question and “No” to the second were allowed to continue. To further validate our sample, we included an additional question within the full survey, asking individuals to characterize the size of their work audience (i.e. how many individuals they communicate with for work purposes). Those individuals who noted that they did not engage in professional communications were also removed, bringing the initial number of respondents, those who matched the requirements of our sample frame, to 345.

Preliminary Analysis

The first step in our analysis was to identify unusual (e.g. “straight-lined”) responses. We identified 30 unusual responses which were removed from further analysis (Hair, Hult, Ringle, & Sarstedt, 2013). The remaining data was tested for violations of normality assumptions by identifying univariate and multivariate outliers and assessing the skewness and kurtosis of each variable (Tabachnick & Fidell, 2007).

Univariate outliers were identified using the standardized residuals from each variable. The four items for Satisfaction noted a number of cases which were more than ± 3.29 standard deviations from the mean. Tabachnick and Fidell (2007) recommend transforming variables with numerous univariate outliers, so as to achieve normality and reduce the impact of the offending cases. An observance of the descriptive statistics revealed that the satisfaction items were moderately negatively skewed, therefore they were transformed using a square root transformation (i.e. $\text{SQRT}(c-k)$, where c = the maximum value for each variable + 1 and k = the value of each variable). The results of this transformation are included in Table 4.5.

Multivariate outliers were identified by calculating Mahalanobis distance. We identified seven cases which both displayed a Mahalanobis distance outside of the $p < .001$ threshold and were separated from the remaining cases. According to the recommendations of Tabachnick and Fidell (2007), these cases were deleted. Removing the multivariate outliers did not substantively change the results of our analyses.

Following the removal of outliers, our final sample totaled 308 cases. Of our respondents, very few ($< 3\%$) noted less than 6 months of Facebook Messenger experience, thus we note that the vast majority of our respondents claim a high degree of experience with the technology. The sample was relatively equally distributed in terms of Facebook Messenger use frequency, job type, and demographic characteristics. Roughly 80% of our sample uses Facebook Messenger on a mobile phone, with a large portion (62%) noting use of the technology on multiple devices. Sample characteristics are presented in Table 4.4.

Table 4.4 - Sample Characteristics

Variable	Value	Frequency	% Respondents
<i>Age</i>	21 and under	4	1.30%
	22 to 34	92	29.87%
	35 to 44	87	28.25%
	45 to 54	76	24.68%
	55 to 64	49	15.91%
<i>Gender</i>	Male	135	43.83%
	Female	173	56.17%
<i>Education</i>	Less than High School	2	0.65%
	High School / GED	35	11.36%
	Some College	57	18.51%
	2-year College Degree	35	11.36%
	4-year College Degree	125	40.58%
	Master's Degree	44	14.29%
	Doctoral Degree	3	0.97%
	Professional Degree (JD, MD)	7	2.27%
<i>Job Type</i>	Executive / Top Management	19	6.17%
	Middle Management	65	21.10%
	Supervisory	38	12.34%
	Administrative / Clerical	76	24.68%
	Technical	49	15.91%
	Other / No Response	61	19.81%
<i>Facebook Messenger - Use Frequency</i>	Less than once a week	69	22.40%
	About once a week	65	21.10%
	Several times each week	91	29.55%
	About once each day	32	10.39%
	Several times each day	51	16.56%
<i>Facebook Messenger - Use History</i>	Less than 6 months	9	2.92%
	1-6 months	28	9.09%
	6 months to 1 year	59	19.16%
	1 year to 18 months	58	18.83%
	18 months to 2 years	28	9.09%
	More than 2 years	126	40.91%
<i>Device(s) Used to Access Facebook Messenger</i>	Mobile Phone	248	80.52%
	Tablet	94	30.52%
	Laptop Computer	152	49.35%
	Desktop Computer	94	30.52%
Total Subjects		308	

The final step in our assessment of normality assumptions was to observe the distribution of the variables. Variables with extreme skewness and/or kurtosis increase the opportunity of biasing results (Osbourne, 2002). We assessed each of our variables along both dimensions. Scholars differ on acceptable cutoff values for skewness, but given our large data set, we utilized an established cutoff value of approximately +/-3.29 (Tabachnick & Fidell, 2007). For kurtosis, scholars recommend a cutoff value of approximately +/- 7.00 (West, Finch, Curran, & Hoyle, 1995). Values outside of these ranges can indicate potential violations of normality. One of our constructs, Domain Congruence (~7.50) noted kurtosis values outside of the acceptable range. Therefore, we utilized data transformation techniques to restore a more normal distribution to the variables (Tabachnick & Fidell, 2007). The variables were transformed using a logarithmic transformation (i.e. LG10 (k)). Transforming the kurtosis variables brought their values into an acceptable range. Details on the transformations, for both the Domain Congruence and Satisfaction items, are shown in Table 4.5.

Table 4.5 - Data Transformation Statistics								
	Before Transformation				After Transformation			
Item	Min	Max	Mean	S.D.	Min	Max	Mean	S.D.
DOM1	0.00	100.00	9.80	19.54	0.00	2.00	0.48	0.63
DOM2	0.00	100.00	8.91	18.15	0.00	2.00	0.45	0.63
SAT1	1.00	7.00	5.60	1.15	1.00	2.65	1.51	0.35
SAT2	1.00	7.00	5.59	1.15	1.00	2.65	1.51	0.35
SAT3	1.00	7.00	5.54	1.16	1.00	2.65	1.53	0.35
SAT4	1.00	7.00	5.56	1.18	1.00	2.65	1.52	0.36

Assessing for Non-Response Bias

Non-response bias is present when non-respondents differ significantly from respondents in such a manner as to impact the validity of the results (Armstrong & Overton, 1977). We evaluated the possibility of non-response bias in two forms. First, we performed a wave analysis by comparing characteristics of early vs. late respondents. Late respondents can be a proxy for non-respondents, thus if there is a sufficient difference in the late respondents, it may signal the possibility of non-response bias. Forty early respondents were compared to forty late respondents, with the results displayed in Table 4.6. The lack of a significant difference between early and late respondents provided initial evidence that non-response bias was absent.

Table 4.6 - Test of Non-Response Bias: Wave Analysis				
	Mean	S.D	t-stat	p-value (2-tail)
Facebook Messenger Use Frequency				
Early Respondents	4.00	1.32	-0.687	0.494
Late Respondents	4.20	1.29		
Facebook Messenger Use History				
Early Respondents	4.60	1.55	-0.301	0.764
Late Respondents	4.70	1.42		
Size of Work Communication Audience				
Early Respondents	3.25	1.24	-0.270	0.788
Late Respondents	3.33	1.25		
Education				
Early Respondents	4.47	1.63	0.000	1.000
Late Respondents	4.47	1.41		

To further assess the potential for non-response bias, we compared demographic characteristics of our sample respondents with those of the population (Armstrong & Overton, 1977; Sheikh & Mattingly, 1981). Sufficient differences between our respondents and the general population can reduce the generalizability of our findings.

We found no significant differences in demographic characteristics between the population of all users and those who responded to our sample. Typical adult Facebook users tend to be approximately 55% female (Guimaraes, 2014) with an average age of 35-44 years (OnlineMBA, 2012). The close match between our sample characteristics (see Table 4.2) and the population of Facebook users provided further evidence of the lack of non-response bias.

Assessing for Common Method Bias

Common method bias is a form of measurement error, noted by variance which is attributable to the methodology used, rather than the constructs of interest (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Common method bias hinders the validity of results, as correlations between constructs may be inaccurately evaluated (Conway & Lance, 2010). To account for common method bias, we utilized both procedural and statistical remedies.

Procedurally, we used a variety of methods to combat common method bias. First, we used diverse item scales, as similar anchors can increase the likelihood of bias (Podsakoff et al., 2003). Our study utilized both Likert scales as well as numerical entry. Second, we separated some of our primary constructs within the instrument, so as to reduce the opportunity for correlations due to inattention. Representational Fidelity, for example, was placed early in the instrument, with Perceived Usefulness and Intention to Repurpose separated by other scales. Finally, we included language in the survey introduction which ensured respondents that no identifiable information was to be

captured. This allowed respondents to answer items truthfully, preventing any further bias in the responses.

Statistically, we assessed common method bias in two forms. First, we used Harmon's One Factor Test (Podsakoff et al., 2003). In this test, all items are loaded into an Exploratory Factor Analysis (EFA). If one factor explains a majority of the variance across all items, then there is evidence of common method bias. Executing this test using our variables revealed that the first extracted factor accounted for less than the majority of the variance. Thus, our instrument passed Harmon's One Factor Test for assessing common method bias.

Nonetheless, to ensure that no amount of common method variance influenced our results, we used the Chin, Thatcher, Wright, and Steel (2013) Measured Latent Marker Variable (MLMV) approach. The goal of the MLMV approach is to extract the common method variance from each variable, so as to ascertain accurate assessments of construct reliabilities and path coefficients. Chin et al. (2013) describe two different methods for implementing the MLMV approach. The first method, Construct Level Correction (CLC), removes common method variance at the construct level. The second method, Item Level Correction (ILC), removes common method variance at the individual item level. Though tedious, the ILC method is preferred, as it allows for accurate evaluations at both the item and construct levels. Therefore, we elected to use the ILC method for implementing the MLMV approach to control for common method bias.

The first step in the ILC method calls for the inclusion of a set of marker variable items in the full survey. Chin et al. (2013) recommend the inclusion of 12 marker variable items to remove nearly all common method variance, but note that 70% of such variance can be removed with the inclusion of only 4 items. Given the length of our survey, we elected to use 4 marker variable items. The items are included in Table 4.7.

Table 4.7 - Marker Variable Items	
MKR1	Music is important to my life.
MKR2	Prisoners should serve their full time.
MKR3	I find rugby interesting.
MKR4	When it comes to art, I prefer paintings over photography.

It is important that the marker variable items adhere to specific criteria. First, they must be unrelated to any other construct included in the survey. If the marker variable items are correlated with other constructs, then it would be difficult to determine the percentage of correlation due to common method bias. Additionally, the items must utilize the same format and scale as other items in the survey. For common method variance to be extracted, the methods used in each of the items must be consistent. Each of our marker variable items used a 7-point Likert scale format with the same anchors as other items.

Statistically, the ILC method is implemented by regressing each survey item against the four marker variable items while saving the standardized residuals. The standardized residuals which remain after regression become the new items with common method variance extracted. It is this set of items which is used to estimate path

coefficients in the structural model. However, Chin et al. (2013) note that using the standardized residuals for assessing construct reliabilities is errant, as the variance extracted through regression must be replaced with random error. To replace the extracted variance, added to the standardized residual for each item is the square root of the R-squared value from regression multiplied by a random number drawn from a normal distribution with a mean of 0 and a standard deviation of 1. This set of items, the residuals plus the added random error, is used to assess the measurement model.

In summary, by using the ILC method for removing common method variance, we generated two new sets of items. The first set of items, created using the standardized residual after regressing against the marker variable items, was used to assess the structural model. The second set of items, which used the first set of items and replaced the extracted variance with random error, was used to assess the measurement model. By using the ILC method, we are confident that our results are unaffected by common method bias.

Evaluating the Measurement Model

To assess the strength of our measurement model, we evaluated the convergent and discriminant validity of the constructs included in the study. Convergent validity measures how well the variables load onto their intended constructs, while discriminant validity measures whether the constructs are sufficiently distinct from one another.

Convergent validity was assessed using SPSS Amos version 22.0. We used a covariance-based SEM (CB-SEM) software package for two reasons. First, CB-SEM allows for the evaluation of overall model fit statistics, which allowed us to determine

whether the measurement model, as a whole, adhered to established guidelines. Second, CB-SEM allows for a more accurate estimation of item factor loadings, as PLS is commonly known to inflate item loadings by approximately 10% (Chin et al., 2013). Therefore, constructs with reflective items (all except Domain Congruence, Age, and Gender) were included in a confirmatory factor analysis (CFA) for the purpose of assessing our measurement model. Items were loaded onto their respective constructs, with the constructs freely correlated with one another.

Overall, our measurement model aligned well with established guidelines. We assessed common fit statistics such as CFI, NNFI, RMSEA, SRMR, and Chi Squared / df to determine the overall fit of the model. Table 4.8 shows our statistics against recommended cutoff values. Having passed these tests, we looked at the individual item loadings. Two items with factor loadings less than 0.707 were excluded from structural analysis (Hair, Black, Babin, Anderson, & Tatham, 2006). All remaining items met established guidelines for multivariate analysis.

Table 4.8 - Measurement Model Fit Indices			
Fit Index	Reference	Cutoff Value	Measurement Model
Chi Square / df	Tabachnick & Fidell, 2007	< 2	1.699
Comparative Fit Index (CFI)	Hu & Bentler, 1999	> .95	0.958
Non-Normed Fit Index (NNFI)	Hu & Bentler, 1999	> .95	0.952
Root Mean Square Error of Approximation (RMSEA)	Hu & Bentler, 1999	< .06	0.048
		90% CI (0, .08)	(.043, .052)
Standardized Root Mean Square Residual (SRMR)	Hooper et al., 2008	< .08	0.044

Discriminant validity was assessed using SmartPLS Version 3. Partial Least Squares (PLS) analysis was necessary, as two of our constructs (Domain Congruence and

Computer Self-Efficacy) were specified with formative structures³. In models utilizing formative constructs, PLS is preferred to CB-SEM, as the latter has been noted to create issues with model misidentification (MacCallum & Browne, 1993).

With CSE specified as a second-order formative construct, it was important to determine if multicollinearity was present. Multicollinearity inflates the variance of endogenous variables, which can increase the likelihood of Type II errors. We assessed multicollinearity by calculating the Variance Inflation Factor (VIF) statistics. Values larger than 3.3 indicate potential issues with Type II error (Diamantopoulos & Winklhofer, 2001). The VIF values for the two sub-dimensions of CSE were 1.77. In multi-dimensional constructs, each sub-dimension is expected to produce a significant path coefficient (Hair, Ringle, & Sarstedt, 2011). Both CSE-Internal and CSE-External had significant path coefficients at $p < .01$ (see Table 4.9). We also assessed the potential for multicollinearity in the formative measure of Domain Congruence. The two formative items had VIF values of 1.99. Thus, we determined that multicollinearity was not present in our formative measures (Hair et al., 2011).

Table 4.9 - Computer Self-Efficacy Sub-Dimension Path Coefficients

Path	Coefficient	p-value
CSE – External -> CSE	0.57	.000
CSE – Internal -> CSE	0.53	.000

³ As noted, computer self-efficacy is a second-order aggregate construct, with reflective indicators and formative sub-dimensions. Thus, we assessed convergent validity using CB-SEM by loading each item onto its respective sub-dimension. Then, we assessed discriminant validity in PLS by creating the aggregated second dimension.

For the entire measurement model, we used three different tests to ensure an appropriate level of discriminant validity. First, we performed the Fornell-Larcker Test (Fornell & Larcker, 1981), which compares the shared variance within each construct to the correlations between constructs. For each construct, the square root of the average variance extracted (AVE) should be higher than all correlations with other constructs. Table 4.10 presents the results of the analysis, with all constructs showing evidence of discriminant validity.

Table 4.10 - Correlations among PLS Components and AVEs

		C.A.	AVE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Age	1	1	<u>1</u>														
2	Gender	1	1	-0.08	<u>1</u>													
3	Anxiety	0.95	0.88	0.16	0.1	<u>0.94</u>												
4	BYOD Culture	0.94	0.89	-0.03	-0.19	-0.36	<u>0.94</u>											
5	CSE – Ext	0.95	0.90	-0.08	-0.1	-0.16	0.16	<u>0.95</u>										
6	CSE – Int	0.84	0.75	-0.07	-0.03	-0.19	0.18	0.66	<u>0.87</u>									
7	Device Comp.	0.93	0.87	-0.07	0.03	0.02	0.00	-0.15	-0.03	<u>0.93</u>								
8	Domain Cong.	n/a	0.63	0.04	-0.05	-0.19	0.17	-0.01	-0.12	-0.18	<u>0.79</u>							
9	Int. to Repurpose	0.98	0.94	-0.03	-0.07	-0.4	0.23	0.11	0.04	-0.32	0.47	<u>0.97</u>						
10	PBC	0.91	0.92	-0.02	-0.14	-0.38	0.57	0.17	0.11	-0.10	0.37	0.58	<u>0.96</u>					
11	PIIT	0.89	0.90	-0.10	-0.15	-0.15	0.11	-0.02	0.04	-0.07	0.06	0.26	0.16	<u>0.95</u>				
12	Rep. Fidelity	0.95	0.81	0.02	-0.11	-0.27	0.20	0.01	-0.06	-0.24	0.46	0.65	0.40	0.18	<u>0.9</u>			
13	Satisfaction	0.95	0.87	0.14	0.02	-0.20	0.11	0.06	0.09	-0.07	0.13	0.24	0.11	0.14	0.26	<u>0.93</u>		
14	Social Norm	0.97	0.95	0.03	-0.07	-0.29	0.27	0.10	0.02	-0.34	0.49	0.75	0.58	0.15	0.59	0.17	<u>0.97</u>	
15	Usefulness	0.95	0.88	-0.03	-0.15	-0.52	0.25	0.24	0.22	-0.25	0.28	0.66	0.42	0.19	0.43	0.29	0.49	<u>0.94</u>

Square root of AVEs bolded and underlined; CA = Cronbach's alpha; off-diagonal elements represent correlations among constructs; significant correlations at p < .05 indicated by grey shading

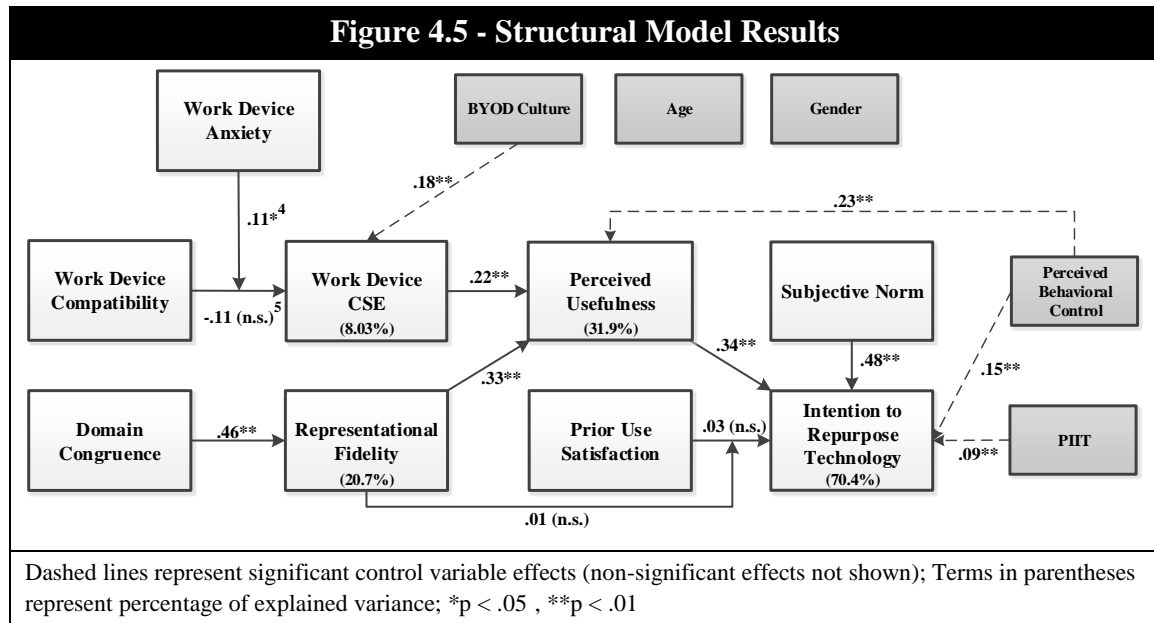
Second, we evaluated the item cross-loadings, which assess how well each item loads onto the intended construct as well as all other constructs in the model (Chin, 1998). Items which load more strongly onto another construct than the intended construct may present issues with discriminant validity (Gefen & Straub, 2005). None of our items noted higher loadings on any unintended constructs (results available in Appendix C).

Finally, we performed a new test of discriminant validity called Hetero-Trait Mono-Trait (HTMT) analysis. Henseler, Ringle, and Sarstedt (2015) have called for this new evaluation of discriminant validity, as they note the unacceptably low sensitivity of both the Fornell-Larcker Test as well as the evaluation of item cross-loadings. Their analysis is similar to the Fornell-Larcker Test, but uses a revised calculation for statistical comparison. In HTMT analysis, the variance shared between two different constructs is compared to the average of the two constructs' internal variances. HTMT calculates a percentage score, which indicates a ratio of the shared variance between the two constructs divided by the average of the two constructs' internal shared variances. They recommend a conservative cutoff value of 0.85. Any HTMT value above this cutoff value is an indicator of a violation of discriminant validity. After performing this analysis, all of our constructs passed the HTMT test (results available in Appendix C).

Evaluating the Structural Model

Just as with the assessment of discriminant validity, SmartPLS Version 3 was used to evaluate our structural model. This evaluation occurred in two steps. First, a baseline model was created, without the moderating effects, to evaluate Hypotheses 1, 3, 4, and 6. All direct relationships were tested using this baseline model. Second, we

created a model which included all of the direct relationships and added the moderating influences. This allowed for the evaluation of Hypotheses 2 and 5. Figure 4.5 displays the results of these models, with direct path coefficients taken from the baseline model and moderating path coefficients from the moderation model.



Direct Relationships

Hypotheses 1, 3, 4, and 6 were evaluated as direct relationships using the recommended protocol of Henseler, Ringle, and Sinkovics (2009) and Chin (2001). Path coefficients were established using PLS bootstrapping, with 500 sub-samples, individual sign changes, and a path weighting scheme. To model the first-order reflective, second-

⁴ The moderating effect of Anxiety on CSE noted a t-value of 1.93. Consistent with the recommendations of Cho and Abe (2013), because we hypothesized a positive moderating effect, we utilized a one-tail test for evaluating this path coefficient.

⁵ Conversely, while the direct effect of Device Compatibility on CSE noted a t-value of 1.95, we were unable to use a one-tail test, due to the fact that a negative relationship was not hypothesized. Furthermore, the relationship noted an f^2 value of 0.015, which is below the minimum threshold for a small effect (Cohen, 1988).

order aggregate CSE construct, we followed the procedure offered by Becker, Klein, and Wetzels (2012). They offer that in “Type II” models, with reflective indicators and formative sub-dimensions, the best approach is to use repeated indicators and path weighting in PLS. In this procedure, items are loaded as reflective indicators separately onto their respective sub-dimensions (CSE-Internal and CSE-External). Then, the items are loaded together on a second-order latent variable (CSE) using Mode B (Wetzels, Odekerken-Schröder, & Van Oppen, 2009). For the estimation of path coefficients, direct paths are drawn between exogenous variables (e.g. device compatibility) and each sub-dimension of CSE. Path coefficients can then be calculated through the total effect, or the sum of the effects on each lower-order sub-dimension multiplied by the effect of each sub-dimension on the higher-order construct (Becker et al., 2012).

As displayed in Figure 4.5, the results of our analysis indicate support of the proposed relationships for Hypotheses 1, 3, 4, and 6. Each relationship was significant at $p < .01$. Perceived usefulness is directly influenced by both representational fidelity (H1: $\beta = 0.33$, $p < .01$) and work device computer self-efficacy (H4: $\beta = 0.22$, $p < .01$). Domain congruence significantly impacts representational fidelity (H3: $\beta = 0.46$, $p < .01$), and social influence has a direct impact on intention to repurpose (H6: $\beta = 0.48$, $p < .01$).

Moderating Relationships

To test for moderation, we followed the recommendations of Henseler and Fassott (2010). Moderation effects were examined using the product of indicators approach offered by Chin, Marcolin, and Newsted (2003). While some have questioned the

statistical power of this approach, the observed difference in power between the product indicator and other approaches is negligible with sample sizes over 200 (Goodhue, Lewis, & Thompson, 2007). For each moderating relationship, a latent moderating variable was created with indicators drawn from the product of the indicators of each originating construct. For example, to test the moderating effect of anxiety on the relationship between device compatibility and CSE, we created a latent moderating variable with 12 indicators comprised of the product of the 3 device compatibility and 4 anxiety indicators. The latent moderating variables were included alongside the original variables for PLS analysis. Direct relationships were modeled between the original variables and the moderating variables on the intended DVs (Henseler & Fassott, 2010).

Hypothesis 5 proposed a positive moderating effect of anxiety on the relationship between device compatibility and CSE. The initial results of our analysis demonstrate moderate support for this hypothesis (H5: $\beta = 0.11$, $p < .05$). The positive path coefficient for the moderating variable points to a positive moderating effect. This indicates that the relationship between device compatibility and CSE may be slightly more positive as anxiety increases.

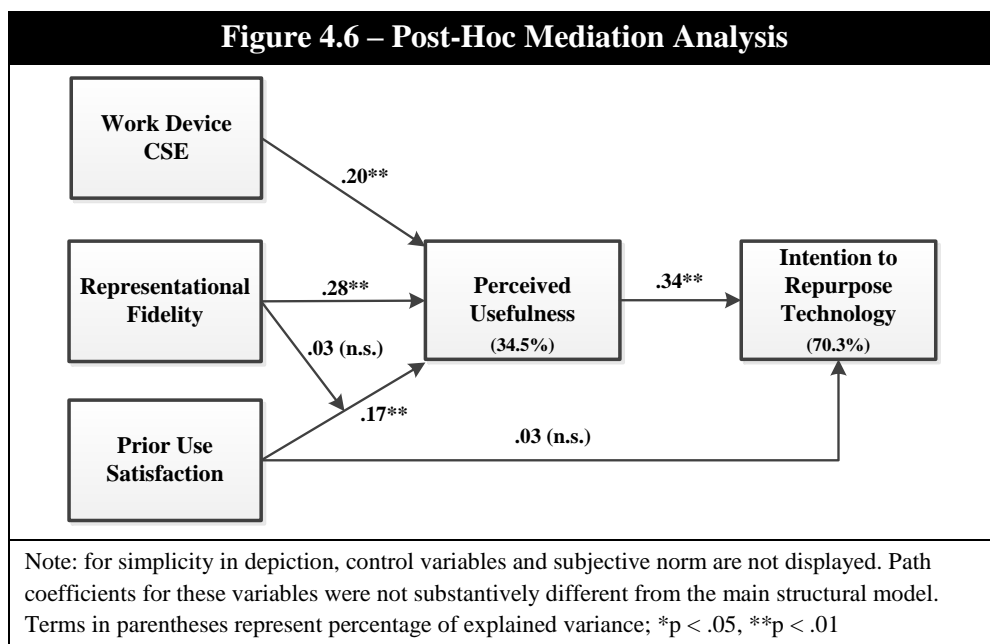
Carte and Russell (2003) note that one of the pitfalls of studies investigating moderation is the interpretation of the moderating path coefficient as a measure of effect size. Similarly, the American Statistical Association recently put forth a statement noting the need to consider effect size in addition to p-values (Wasserstein & Lazar, 2016). In place of path coefficient analysis, they recommend the use of f^2 , which evaluates the change in R^2 before and after the inclusion of the moderating variable. Cohen (1988)

offers suggested values for f^2 of .02, .15, and .35 as small, medium, and large effect sizes. The repeated indicators approach to second-order constructs, while preferred for the estimation of path coefficients (Becker et al., 2012), prevents the estimation of R^2 due to the aggregated nature of the latent endogenous variable. Therefore, to calculate f^2 , we used the two-stage approach (Wright, Campbell, Thatcher, & Roberts, 2012), which allows for the evaluation of explained variance. The moderating effect of anxiety produces an f^2 value of 0.012, which is below the minimum threshold to be considered a small effect. While the path coefficient indicates some degree of moderation, the marginal effect size indicates that anxiety has very little influence on the relationship between device compatibility and CSE. Therefore, we note marginal support for Hypothesis 5.

Hypothesis 2 proposed a positive moderating effect of representational fidelity on the relationship between satisfaction and intentions to repurpose. This hypothesis was not supported ($H2: \beta = .01, p > .05$). When combined with the outcome of the baseline model, our results indicate that prior satisfaction has no significant impact on repurposing intentions. This effect is insignificant at all levels of representational fidelity, as no moderating effect was found. The moderating effect size of representational fidelity ($f^2 < .001$) provided further evidence that representational fidelity has virtually no impact of the relationship between satisfaction and intention to repurpose.

Curiously, our structural model indicated a non-significant relationship between satisfaction and intention to repurpose ($\beta = .03, p > .05$), which deviated from the significant correlation between the two constructs (0.24, $p < .01$). This indicated that the

relationship between satisfaction and intention to repurpose may be mediated by an intervening variable. We ran a post-hoc structural model using PLS bootstrapping which specified a direct relationship from satisfaction to intention to repurpose and an indirect relationship through perceived usefulness. Bootstrapping with PLS is an effective means of evaluating the significance of indirect relationships, as it provides the calculation of total effects (Hair et al., 2013).



The post-hoc mediating model (see Figure 4.6) revealed a non-significant direct path from satisfaction to intention to repurpose ($\beta = .03$, $p > .05$), but a significant direct path from satisfaction to usefulness ($\beta = .17$, $p < .01$). Additionally, the total effect of satisfaction on intention to repurpose was significant ($\beta = .09$, $p < .01$). A non-significant direct effect coupled with significant mediating and total effects lead us to conclude that perceived usefulness fully mediates the relationship between satisfaction and intention to repurpose.

We used this mediating relationship to re-evaluate H2, the moderating effect of representational fidelity. In this post-hoc model, the moderating effect was again not significant ($\beta = .03, p > .05$). To completely validate our finding of insignificant moderation, we tested the moderating effect using simple regression, this time dividing the respondents into three groups, according to the respective level of representational fidelity. This allowed us to test the relationship between satisfaction and perceived usefulness at low, medium, and high levels of representational fidelity. The results, presented in Table 4.11, indicate that satisfaction is indicative of perceived usefulness, but not at the lowest level of representational fidelity. At this lowest level, we found no relationship between satisfaction and perceived usefulness. Thus, we can surmise that there may be a threshold level of representational fidelity which must be met for satisfaction to predict perceived usefulness. Nonetheless, our main finding remains the same, that an overall moderating effect is insignificant. We discuss these findings in the next section.

Table 4.11 – Post-Hoc Test of Moderation			
Level	Representational Fidelity	Regression Coefficient	p-value
1	Low	0.106	0.288
2	Medium	0.292	0.003
3	High	0.324	0.001

Table 4.12 - Results of Hypothesis Tests		
	Hypotheses	Supported?
H1	Representational fidelity is positively related to perceived usefulness.	Yes
H2	Representational fidelity moderates the relationship between the individual's satisfaction with his prior use and intentions to repurpose a technology.	No
H3	Domain congruence is positively related to representational fidelity.	Yes
H4	Work device computer self-efficacy is positively related to perceived usefulness.	Yes
H5	Work device anxiety positively moderates the relationship between device compatibility and work device computer self-efficacy.	Marginal
H6	Social norm is positively related to an individual's intention to use a personal technology for work purposes.	Yes

DISCUSSION

The primary aim of our study was to investigate how individuals form intentions to use personal technologies for work purposes. At the center of our investigation was the recognition that repurposing should be viewed from a continuance perspective, noting that when individuals consider personal technologies for work purposes, their prior experience can be used to form beliefs regarding the appropriateness of the technologies for their work tasks. Furthermore, we investigated how different congruencies with that prior experience can aid in the development of repurposing intentions. Through a sample of 308 full-time employees, we investigated our hypotheses, the results of which should provide a foundation for future research on a topic of growing interest in the field of Information Systems. In this section, we summarize our key findings, with implications for research and practice to follow.

Our introduction highlighted the recent convergence of personal and professional technologies, made possible through a variety of technological and societal shifts. Of

note, the increasing complexity and flexibility of personal technologies has enabled individuals to perform activities which offer similarity with their work tasks (Baskerville, 2011). We presented a continuance perspective for investigating the use of personal technologies for work purposes, as individuals may possess prior experience which could inform future work-related beliefs. With direction from task switching literature and behavioral continuance research, we hypothesized that individuals who recognize congruence between their prior technology-related activities and their work tasks would form more positive perceptions regarding the usefulness of the technology for those work tasks. We operationalized this congruence through representational fidelity (Burton-Jones & Grange, 2012).

As expected, we found that representational fidelity is a significant predictor of perceived work-related usefulness. Prior experience is beneficial subject to the degree to which individuals can recognize the faithfulness of their prior use to their work tasks. Individuals who recognize such fidelity are more likely to believe that they can accomplish their work tasks using the technology. Those who note discrepancies between their prior use and their work tasks are less likely to view the technology as useful. Thus, the manner in which a technology has been used is therefore an important predictor of how an individual perceives it can be used in the future. The recognition of consistency between prior and future behaviors allows for the utilization of prior knowledge, which eases the process of predicting whether a technology can be used for future work tasks.

Unexpectedly, we found no interaction between representational fidelity and satisfaction. We hypothesized that higher levels of representational fidelity would

increase the effect of satisfaction on repurposing intentions. The premise was that satisfaction from unfaithful behaviors would be less relevant in predicting future technology use. The lack of support for this hypothesis, instead, suggests that representational fidelity and satisfaction may offer unique influences on technology usage intentions through increasing the perceived usefulness of the technology for work purposes. Satisfaction is thus a predictor of repurposing intentions, mediated by usefulness, at many levels of representational fidelity. Nonetheless, we note that these two elements, representational fidelity and satisfaction, work together to predict work-related usefulness. When individuals are highly satisfied and recognize a high degree of faithful prior use, they are most likely to form positive perceptions regarding the usefulness of the technology for work tasks.

We evaluated domain congruence through the correspondence of communication audiences, and found that congruence in the real-world systems motivating technology use enable individuals to recognize the fidelity of their prior activities. In our sample, those individuals who were already communicating with work colleagues through Facebook Messenger were more apt to note that their Facebook Messenger communications were faithful to their work communications. While many individuals keep their personal and professional lives distinct, we found that converging domains through prior technology use increases the potential for cross-over similarities.

Finally, we noted the important role of CSE on perceived usefulness in the work domain. While individuals may recognize the fidelity of their prior technology use, we found that it is also important that they have confidence in using the technology at work.

As the device(s) used for work tasks may differ from those used previously, it is important to consider individuals' confidence in using the technology under potentially inconsistent conditions. We found that work device anxiety hardly impacts the relationship between device compatibility and CSE. Ultimately, we found that device compatibility has a meager overall effect on an individual's confidence in using Facebook Messenger for work purposes. Even with the inclusion of the moderating effect and control variables, our device-related constructs only accounted for roughly 8% of the variance in CSE. What this suggests is that, for cloud-based technologies such as Facebook Messenger, changing device conditions have very little impact on an individual's confidence in using the technology. One of the goals of cloud computing is to create applications which can be accessed equivalently across a variety of different devices (Buyya et al., 2010). We found that individuals who note that using Facebook Messenger on their work device(s) offers inconsistency with their prior use are roughly just as confident as those who note a consistent usage experience. A summary of these key findings is presented in Table 4.13.

Table 4.13 - Key Findings	
Key Findings	Implications for Research and Practice
1. Technology repurposing can be predicted through a continuance perspective. 2. The IS continuance model provides a framework for understanding repurposing.	<i>An individual's prior technology use experience informs future beliefs regarding the repurposing of personal technologies.</i>
3. Representational fidelity is predictive of perceived usefulness.	<i>An individual's perceptions regarding future use are influenced by the behaviors previously performed with the technology.</i>
4. Representational fidelity does not moderate the relationship between prior satisfaction and intentions to repurpose.	<i>Satisfaction and representational fidelity uniquely impact repurposing intentions. Satisfaction with modestly unfaithful prior use is predictive in repurposing scenarios.</i>
5. Domain congruence is predictive of representational fidelity.	<i>Domain overlaps not only align technology use behaviors, but enable the recognition of fidelity from prior use.</i>
6. Device compatibility has minimal effect on an individual's confidence in using a technology on work devices.	<i>For cloud-based technologies, functional consistency across devices is largely irrelevant in increasing an individual's confidence in using the technology.</i>

IMPLICATIONS

Following the call of Baskerville (2011), the field of Information Systems has had a growing interest in explicating the broadening use of personal technologies. As individuals are increasingly using personal technologies for work purposes, the call has been raised to investigate the causes and effects of this new form of technology use (Niehaves et al., 2012).

Prior research has evaluated the antecedent motivations of work-related technology use when an individual has no prior experience using the technology or when the individual

is currently using the technology for work purposes. However, our study adds to IS literature through an investigation of work-related technology use when the individual is using the technology for a different purpose. We provide a theoretical perspective on the repurposing of personal technologies for work tasks.

Most notably, we demonstrate that the manner in which an individual has previously used a technology informs his work-related beliefs, not through an evaluation against prior expectations (as in pure continuance scenarios), but through the recognition of congruence between prior technology use and future work tasks. Thus, we note that future research into technology repurposing must take into account the prior experience of the user. While some early research into the use of personal technologies for work tasks has utilized an adoption perspective (e.g. Ortbach et al., 2013), our findings demonstrate that prior experience is an important consideration that must not be ignored.

In the previous section, we discussed the results of our investigation. In this section, we present the implications of those results, examining how our findings contribute to future research and offering guidance to practitioners who must account for the increasing use of personal technologies in the workplace.

Implications for Research

Representational Fidelity in Post-Adoptive Research

While prior experience is an important consideration in developing future work-related beliefs (Bhattacharjee, 2001), IS continuance research requires a more appropriate means of evaluating prior experience when directed toward a potentially different purpose. In such scenarios, using a confirmation of prior expectations may not be the best

means of predicting future usefulness beliefs. To fill this gap, we present representational fidelity as a new means of evaluating prior experience which is more relevant for those situations where individuals are using a technology to achieve different aims.

Representational fidelity allows for a comparison of activities directed toward potentially different purposes, which is better suited for situations where prior expectations are inconsistent with work-related goals.

One additional benefit of representational fidelity is the nature of the evaluation. As opposed to capabilities-based evaluations such as task-technology fit (Goodhue & Thompson, 1995), representational fidelity is a behavioral evaluation which is more suited for post-adoptive usage scenarios. As such, it is more closely aligned with prior continuance research, which notes that individuals base evaluations on activities performed with the technology, rather than on the feature set of the technology.

In today's world, where individuals adapt and extend technologies in many different ways (Bagayogo et al., 2014), the necessity for this new form of evaluation is apparent. While our investigation looked at the use of personal technologies for work purposes, we would expect the construct (and our validated measure) to be equally applicable to other scenarios. For example, representational fidelity could be used predict an individual's intention to use an ERP system that he used at his previous company. The flexibility and ubiquity of today's technologies increases the variety of experiences that individuals are likely to possess. Representational fidelity accounts for this variety by focusing on the activities involved in technology use, rather than the purpose that those activities were aimed toward.

The Role of Representational Fidelity

In repurposing scenarios, we found representational fidelity to be an important driver of work-related usefulness beliefs. In situations where individuals are using a personal technology for non-work purposes, the manner in which they have previously used the technology predicts whether they will believe it to be useful for their work tasks. Thus, prior experience can introduce path dependencies for the development of future beliefs, such that individuals determine the usefulness of a technology based upon the activities they have already performed. In this sense, prior experience can be either beneficial or detrimental to work-related technology use.

When representational fidelity is high, individuals are able to utilize congruent prior experience to model how they might use the technology for their work tasks. Having already performed similar tasks using the technology, the ambiguity typically associated with future prediction is reduced, thereby providing greater confidence in performing work tasks using the technology. Research on cognitive trust (Scott, 2000) investigates an individual's willingness to rely on a technology for a forthcoming endeavor. Future research should examine the role of representational fidelity in establishing cognitive trust, as our findings suggest that a high degree of representational fidelity lessens the burden of guessing how a technology will perform in the work domain. Additionally, researchers should examine how different forms of technology use enhance opportunities to identify representational fidelity. We would expect that as individuals increase the breadth of their technology use (i.e. use the technology to achieve many different aims), they increase the opportunity to discover fidelity with their

work tasks. Alternatively, individuals who confine their use to a narrow scope should be less likely to find fidelity with their work tasks. Thus, explorations and expansions of use could be important drivers of representational fidelity.

Inversely, our findings suggest interesting implications when representational fidelity is low. In these situations, prior experience can actually weaken the perception of future usefulness. When prior experience with the technology differs greatly from work tasks, individuals are less likely to view the technology as useful for work. Low fidelity conditions increase individual switching costs, such that users would be required to alter their use in order to use the technology for work tasks (Kim & Kankanhalli, 2009). In this sense, representational fidelity could be used to predict resistance to technology implementations (Lapointe & Rivard, 2005). Traditional resistance research in IS focuses on individuals' unwillingness to use a technology which changes their current work routines. Our findings suggest that resistance could be examined from the opposite perspective, with individuals unwilling to change how they use a technology in order to make it actionable for work tasks.

The Differing Roles of Representational Fidelity and Satisfaction

As the influence of satisfaction is unaffected by representational fidelity, we note that satisfaction offers some degree of predictive ability on perceived usefulness even if the individual's prior use offered only a small degree of fidelity with his work tasks. We found that satisfaction is indicative of perceived usefulness, so long as there is a moderate level of representational fidelity. Once this minimum threshold is reached, satisfaction equally impacts usefulness at varying levels of representational fidelity.

If representational fidelity offers a rational explanation for future usefulness, then satisfaction may offer the emotional connection. J. Lewis and Weigert (1985) separate trust into two different dimensions: cognitive and affective. We discussed earlier how representational fidelity may be indicative of cognitive trust, as congruent prior experience gives the individual confidence that he can use the technology to complete work tasks. We offer that even in conditions of moderate representational fidelity, satisfaction may be indicative of affective trust, as the positive experience of prior use enhances the individual's emotional connection with the technology. In this sense, satisfaction could predict perceived usefulness not through a cognitive, rational evaluation, but through a general trust in the technology, brought on by the comfort and security it provides (Sun, 2010).

It is important to note that satisfaction and representational fidelity jointly influence usefulness, as satisfaction alone offers limited predictive ability. While some continuance studies have found satisfaction to be individually sufficient to predict continuance (e.g. Deng, Turner, Gehling, & Prince, 2010), our findings suggest that in repurposing scenarios, satisfaction must be joined with representational fidelity to generate the most accurate prediction. Researchers investigating repurposing must account for both elements, as neglecting to include either would ignore an important predictor of usefulness beliefs.

The interplay between representational fidelity and satisfaction offers exciting opportunities for future researchers. Our findings show that the two elements independently predict work-related usefulness. Researchers can extend these findings by

investigating the conditions where each is important. Because representational fidelity is a cognitive evaluation, we would expect it to be most important in situations involving high task complexity, where individuals have more difficulty predicting the usefulness of a technology. Satisfaction may be most important in situations of higher risk, where the individual must depend more heavily on the technology to complete work tasks (Komiak & Benbasat, 2006). In any case, the role of satisfaction when prior activities are not perfectly congruent with work tasks should be of great interest to researchers examining post-adoptive technology use.

Domain Congruence and Contextual Overlaps

As individuals are continuing to see overlaps between their personal and work domains (Groysberg & Abrahams, 2014), it has become increasingly important to understand how this convergence affects technology use. Research on role integration (Reyt & Wiesenfeld, 2014) notes that individuals with highly segmented role domains (e.g. personal/work) are less likely to identify opportunities for synergy across the domains. When those domains converge, individuals are able to think more abstractly about their behaviors, and therefore are more willing to consider how behaviors may compare in each domain. Our findings suggest that real-world domain alignment leads to an enhanced recognition of representational fidelity, through easing the ability to compare activities across disparate entities.

Research on habitual technology use notes that the context in which a technology is used can be a triggering mechanism for activating habitual behavior (Polites & Karahanna, 2013). This is similar to the Burton-Jones and Grange (2012)

conceptualization of a domain, in the sense that both refer to aspects of reality in which technology use is situated. When an individual's domains converge, the alignment between these contextual elements allows the individual to recognize consistency between his prior technology use and his work tasks. In our study, individuals who already used Facebook Messenger to communicate with work colleagues noted that their Facebook Messenger communications were more faithful to their work tasks. Thus, our findings could have interesting implications for research on habitual technology use, as we offer that convergence in technology use contexts can increase the likelihood of triggering a habitual behavior across those contexts. Individuals who previously restricted their technologies to either work or personal domains should be more likely to see the potential for cross-over use if their work and personal domains are aligned.

Future research should extend our findings, identifying different aspects of individuals' domains which enable individuals to find synergies between their prior technology use and their work tasks. Recent history suggests that the personal/work convergence will only increase in the years to come (Jones, Burke, & Westman, 2013). Therefore, it is vital that researchers build upon our work and continue to investigate how real-world overlaps influence technology repurposing.

CSE and the Relative Importance of Device Compatibility

One of the tenants of Representation Theory is that faithful representations are only useful if they are able to be accessed through the technology (Burton-Jones & Grange, 2012). In this context, even if an individual is able to recognize, through prior experience, that he can complete his work tasks using the technology, that prior

experience is less relevant if it cannot be recreated in the work domain. Thus, we note that, in repurposing scenarios, it is important to consider the technology use environment of the individual's work domain. While individuals may believe a personal technology to be useful for work tasks, that perception is also contingent upon the individual's confidence in using the technology in the work domain.

As a means of explicating CSE, we investigated the effects of perceived changing technology conditions when using the technology in the work domain. We found marginal evidence that individuals who are highly anxious when using their selected work device(s) note a preference for device compatibility. Highly anxious individuals may note some greater confidence when using similar devices, though this effect is minimal. Our findings offer guidance for future research on technology repurposing. One opportunity to expound upon our work would involve an investigation into how individuals select devices at work. Through one of our control variables, we found that individuals who work in Bring-Your-Own-Device (BYOD) organizations expected higher CSE in the work domain. However, the minimal effect for device compatibility hints that individuals may not always elect to use their own devices, even when given the opportunity. In fact, the relationship between device compatibility and CSE was somewhat negative in direction, which differed from our expectations. This may suggest that individuals who are more confident using a certain technology are more open to using different devices (those with less compatibility), again offering an interesting avenue for future research.

As researchers continue to investigate the effects of BYOD (Giddens & Tripp, 2014), our findings can be expanded upon through studies which examine whether the device used to access technologies at work is equally influential on CSE for different types of technologies. Researchers should examine if device compatibility is more important for device-centric technologies (such as Adobe Photoshop) than for cloud-based technologies (such as Facebook Messenger). Our study offers early evidence that, for cloud-based technologies, individuals are relatively unaffected by changing use conditions, as the functionality is designed to remain consistent across different device platforms.

Implications for Practice

Many researchers have identified a host of benefits to the use of personal technologies in the workplace (for a summary, see Niehaves et al., 2012). Our study offers considerations and prescriptions for managers who wish to encourage this repurposing of personal technologies.

Our findings regarding representational fidelity indicate that individual's prior experience using a technology informs perceptions regarding its usefulness in the workplace. When individuals are able to note congruence between their prior technology use and their work tasks, they perceive it to be more useful for those work tasks. Thus, managers wishing to encourage the use of personal technologies can offer interventions to increase representational fidelity, or in the case of low fidelity, weaken its effect. One prescription would be to allow employees to use their personal technologies freely, as by expanding the behaviors enacted through the technology they are more likely to discover

fidelity with their work tasks. Additionally, managers could allow employees to use a personal technology in a trial fashion, providing a specific example regarding how the technology might be used for work purposes. These actions could help shape the employee's prior experience such that representational fidelity is more likely. From the opposite perspective, managers can allow individuals to align their work activities with the activities they perform personally, thereby ensuring congruence through altering their work tasks. By aligning personal technology use with work activities, individuals increase their ability to find opportunities to repurpose the technology for work-related benefits.

Regarding domain congruence, we found that when real-world personal and work domains are aligned, individuals are more likely to discover fidelity with their prior technology use. This implies that managers could seek to allow individuals to align their personal and work lives, so as to open up the possibility of recognizing fidelity. In the context of communications, we found that domain congruence is an important driver of representational fidelity. Individuals who communicate with the same individuals both at work and on Facebook Messenger are more likely to recognize the fidelity of the technology with their work-related communications. Thus, managers could encourage communication between employees outside of work as a means of discovering opportunities to use new technologies for intra-organizational communication.

Finally, we note the important role of computer self-efficacy when an individual considers the use of a personal technology at work. If managers are to encourage the use of personal technologies, they would do well to ensure that their employees can be

confident in using the technologies on their work device(s). Employees who are unsure whether they have the ability to use the technology at work will be hesitant regarding the usefulness of the technology for their work tasks.

LIMITATIONS

The sample used in our survey offers some important limitations. Because this study investigated new phenomena, we sought a variety of different organizations from which to draw respondents. Therefore, we determined that a market research company could provide the best set of respondents to fit our needs. Though we included a series of filtering questions to ensure that the respondents matched our sample frame, we were limited in our knowledge of the full extent of respondents' technology use or work requirements. Future researchers should investigate our hypotheses within a specific organization, or by using a methodology that allows tighter control over the context in which the technology of interest is used.

In regards to the technology selected, we note that the constructs utilized in our research model and the relative importance of each construct may not be generalizable across all technologies. Facebook Messenger is a social communications medium which offers unique characteristics. Thus, our conceptualization of domain congruence would be inappropriate for the study of other types of technologies. Additionally, the strong correlation between social norm and intentions to repurpose is not expected to be similar with other technologies, as social communications technologies are more highly impacted by social influences (Dickinger et al., 2008). If our insights are to be examined using

other technologies, researchers should take care to consider the specific characteristics of the technology in light of our research model.

Our newly developed measure of representational fidelity was used for the first time and could benefit from further refinement. We developed the measure using established procedures, adhering to recommended guidelines (Churchill, 1979; Moore & Benbasat, 1991). Additionally, we based our understanding of the construct on the definition offered by Burton-Jones and Grange (2012). We encourage researchers to continue to refine the instrument by investigating the impact of fidelity in a variety of technological contexts.

Finally, our research model included the use of computer self-efficacy, which has been open to heavy debate in recent years (Marakas, Johnson, & Clay, 2007). We elected to use the aggregated, reflective measure offered by Thatcher et al. (2008) while noting that other researchers have advocated for a purely formative measure of the construct (Marakas et al., 2007). By using a measure which utilizes reflective items, we avoid the pitfalls of purely formative measures, specifically in regards to the conceptualization of CSE (Hardin, Chang, & Fuller, 2008). Nonetheless, we recognize that CSE can be measured both formatively and reflectively, and we encourage researchers to investigate our findings using different measures.

CONCLUSION

The increasing ubiquity of computing devices and applications has changed the nature of how individuals engage with technologies. Whereas computers were once confined to the office environment, personal technologies have increasingly become a

part of individuals' daily lives. This study sought to understand how and why individuals blur the boundaries between technologies used in their personal lives and technologies used at work. In doing so, we aimed to offer a theoretical perspective for what we deem "technology repurposing," or the act of using a personal technology for work-related tasks.

Our results showed that we can investigate technology repurposing from the perspective of IS continuance. In this perspective, individuals base their forward-looking beliefs regarding future use on an evaluation of how the technology was used in the past. Whereas traditional continuance research centered this evaluation on confirmation, we note that confirmation is not appropriate if the individual's prior technology use was directed toward different objectives. In its stead, we present representational fidelity as a means by which individuals compare their prior technology use to their future work tasks. We demonstrated how faithful prior use can spawn future beliefs regarding the appropriateness of a technology for those work tasks. We also demonstrated how alignment between the personal and work domains can lead to greater faithfulness or an enhanced ability to recognize the faithfulness of an individual's personal use. Finally, we showed how an individual's confidence in using the technology on his/her work devices additionally impacts future beliefs. Having confidence in using a technology on specific devices increases the individual's perception of the technology's usefulness in the work domain.

This study contributes to IS literature in three ways. First, it provides a theoretical perspective by which to view technology repurposing. Using a continuance perspective,

we demonstrate how prior experience can shape the work-related perceptions of a personal technology. Second, it presents representational fidelity as a means of properly evaluating an individual's prior experience when the technology is being used for non-work purposes. We provide a validated measure of representational fidelity which can be used in future studies on the construct. Based upon the guidance of Burton-Jones and Grange (2012), our measure adheres to its theoretical underpinnings while offering flexibility to a variety of research contexts. Finally, it describes how different aspects of an individual's prior use contribute to the development of repurposing intentions. Overall, consistent with our continuance perspective, we found that individuals largely desire to maintain consistency in their use of a technology, and the manner in which the technology was used previously contributes greatly to how they perceive it can be used for work purposes.

As research continues to investigate why individuals blur the line between technologies that are used for personal tasks and those used for work tasks, our study offers a fresh perspective on this interesting new form of technology use.

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APPENDICES

APPENDIX A: SURVEY MEASURES

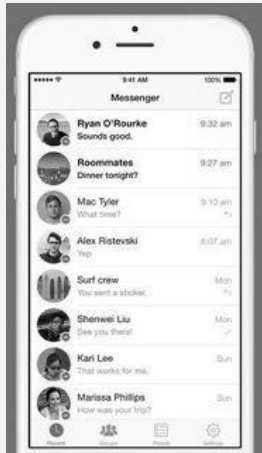
*Except where noted, items were anchored with a 7-point Likert Scale
(Strongly Disagree...Strongly Agree)*

Introduction

This survey asks you to consider your current and future use of Facebook Messenger. By Facebook Messenger, we refer to both the mobile/tablet app of the same name, as well as the "Chat" feature made available through Facebook's main website.

Any question referring to Facebook Messenger refers to both the mobile app and the "Chat" feature on the main website.

Example 1: Facebook Messenger App



Example 2: Facebook "Chat"



Filtering Questions

- FILT1: Do you use Facebook Messenger and/or Facebook Chat?
- FILT2: Do you currently use Facebook Messenger and/or Facebook Chat for work-related communications?

Satisfaction (Roca, Chiu, & Martínez, 2006; Wixom & Todd, 2005)

The following questions ask you about your prior use of Facebook Messenger:

- SAT1: All things considered, I am satisfied with my prior use of Facebook Messenger.
- SAT2: My interaction with Facebook Messenger has been satisfying.
- SAT3: I have been pleased with the experience of using Facebook Messenger.
- SAT4: I am satisfied with the performance of Facebook Messenger.

Representational Fidelity (Self developed; see Appendix B for details)

The following questions ask you to compare your prior Facebook Messenger communications with the communications you currently send/receive for work purposes (using any form of technology, e.g. email, instant messaging, Skype, etc.):

- RF1: The style of my Facebook Messenger communications is consistent with the style of my work-related communications.
- RF2: The messages I send using Facebook Messenger correspond closely with my work-related communications.
- RF3: My Facebook Messenger communications accurately reflect my work-related communications.
- RF4: The manner in which I communicate using Facebook Messenger closely matches the manner in which I communicate professionally.
- RF5: My prior Facebook Messenger communications provide a sufficiently clear picture of my work-related communications.
- RF6: My Facebook Messenger communications resemble the communications I want to send professionally.

Domain Congruence

- Approximately how many individuals do you communicate with using Facebook Messenger?
- DOM1: What percentage of these individuals do you currently communicate with for work purposes using any form of technology (email, instant messaging, video-conferencing, etc.)? (*numerical 0-100 measure*)
- Approximately how many individuals do you communicate with for work purposes using any form of technology (email, instant messaging, video-conferencing, etc.)?
- DOM2: What percentage of these individuals do you currently communicate with using Facebook Messenger? (*numerical 0-100 measure*)

Work Device Anxiety (Hackbarth, Grover, & Mun, 2003)

- ANX1: I would have no fear in communicating using my work device(s).
- ANX2: I would feel comfortable sending communications using my work device(s).
- ANX3: Generally, I feel okay about communicating using my work device(s).
- ANX4: I would be good at communicating using my work device(s)

Work Device Compatibility (Karahanna et al., 2006)

The following questions ask you to consider whether Facebook Messenger would operate differently when used on your "work device(s)":

- DEV1*: Using Facebook Messenger's functions on my work device(s) would be a new experience for me.
- DEV2: Facebook Messenger, when used on my work device(s), would operate differently compared to my prior experience.
- DEV3: Entering a message using Facebook Messenger on my work device(s) would be different from how I have entered messages using Facebook Messenger previously.
- DEV4: Facebook Messenger, when used on my work device(s), would operate differently compared to my prior experience with the technology.

Work Device Computer Self-Efficacy (Thatcher et al., 2008)

The following questions ask you to consider whether Facebook Messenger would operate differently when used on your "work device(s)":

- I could send a message using Facebook Messenger on my work device(s)...
 - CSE1: ...if there was no one around to tell me what to do. (I)
 - CSE2: ...if I had never used a technology like it before. (I)
 - CSE3: ...if I had only the online help for reference. (I)
 - CSE4: ...if I was allowed to call someone for help if I got stuck. (E)
 - CSE5: ...if someone was available to help me get started. (E)
 - CSE6: ...if someone was available to show me how to do it first. (E)

Perceived Usefulness (Strader, Ramaswami, & Houle, 2007)

The following questions ask whether you believe that Facebook Messenger could be useful for work-related communications.

- PU1. Using Facebook Messenger would enable me to send work-related communications.
- PU2. I would be able to effectively communicate professionally if I used Facebook Messenger.
- PU3. I believe that Facebook Messenger would be useful in communicating for work purposes.
- PU4. Facebook Messenger would be a productive tool for my work-related communications.

Intention to Repurpose Technology (Venkatesh, Morris, Davis, & Davis, 2003; Wixom & Todd, 2005)

- INT1: I intend to utilize Facebook Messenger for work-related communications whenever I can.
- INT2: In the future, I intend to send work-related communications using Facebook Messenger.
- INT3: I plan to increase my use of Facebook Messenger for professional communications.
- INT4: In the future, I plan to use Facebook Messenger as a part of my work-related communications.

Social Norm (Venkatesh et al., 2012)

- SOC1: People who are important to me think that I should use Facebook Messenger for work-related communications.
- SOC2: People who influence my behavior think that I should use Facebook Messenger for work communications.
- SOC3: People whose opinions that I value prefer that I use Facebook Messenger for work-related communications.

CONTROL VARIABLES

Perceived Behavioral Control (Taylor & Todd, 1995)

- PBC1: I am permitted to use Facebook Messenger for work-related communications.
- PBC2*: I have the resources to use Facebook Messenger for work-related communications.
- PBC3: Using Facebook Messenger for work-related communications is entirely within my control.

BYOD Culture (Ortbach et al., 2014)

- BYOD1: My company allows employees to use their private mobile devices for business operations.
- BYOD2: My company enables employees to send work-related communications via their private mobile devices.
- BYOD3: My company promotes the use of private mobile devices within the business context.

Personal Innovativeness in the Domain of Information Technology (PIIT) (Agarwal & Prasad, 1998)

- PIIT1: If I heard about a new information technology, I would look for ways to experiment with it.
- PIIT2: I am usually among the first to try out new information technologies.
- PIIT3: I like to experiment with new information technologies.

* - Dropped due to poor loading in SPSS Amos CFA

DEMOGRAPHIC VARIABLES

Age – What is your age?

- 21 and under
- 22 to 34
- 35 to 44
- 45 to 54
- 55 to 64
- 65 and over

Gender – What is your gender?

- Male
- Female

Education – What is the highest level of education you have completed?

- Less than High School
- High School / GED
- Some College
- 2-year College Degree
- 4-year College Degree
- Master's Degree
- Doctoral Degree
- Professional Degree (JD, MD)

Job Type – Please select the option which most closely matches your current job responsibilities.

- Executive / Top Management
- Middle Management
- Supervisory
- Administrative / Clerical
- Technical
- Other

APPENDIX B: INSTRUMENT DEVELOPMENT – REPRESENTATIONAL FIDELITY

Where appropriate, the process of instrument development followed the general methods of Moore and Benbasat (1991), Churchill (1979), and Segars (1997).

Step 1: Item Creation

As representational fidelity is a relatively new construct in Information Systems research, a literature review of existing studies offered no existing survey items for the construct. Following the general procedure of Churchill (1979), a thorough literature review was conducted to identify definitions which could inform the generation of survey items. While few studies in Information Systems journals have discussed representational fidelity, the construct has been extensively discussed in studies investigating virtual technologies. These studies are applicable to our conceptualization of representational fidelity, as they compare the outcome of technology use to some aspect of reality. As Burton-Jones and Grange (2012) define representational fidelity as “the extent to which a user is obtaining representations from the system that faithfully reflect the domain being represented (p.642),” the applicability of studies originating from the field of virtual technologies was deemed appropriate.

Though no current items exist for survey measurement of representational fidelity, a number of papers have offered definitions of the construct which were helpful in the development of items. Our literature review identified a number of similar definitions of representational fidelity, from which we derived a potential pool of items. Most studies described representational fidelity as a comparison between the results of

technology use and some desired end-state. The manner in which other papers described this comparison (i.e. the wording used to express the concept of ‘fidelity’) aided our development of survey items. These items were added to those derived from the few existing studies on representational fidelity contained within the broader domain of information systems research (e.g. Burton-Jones & Grange, 2012; Wand & Weber, 1995).

All told, 8 items were created from the literature review of the domain of representational fidelity. These 8 items reflected a broad sample of definitions gathered from a number of studies across both Information Systems and Virtual Technology research. Careful attention was paid to differentiate the wording of the items, so as to offer an appropriate amount of variety for the purpose of instrument purification.

Step 2: Pre-Test Interviews

Once the initial pool of items was developed, the measure of representational fidelity was added to the remainder of the survey for pre-testing. During a pre-test, potential survey respondents are given the survey items and asked to discuss the clarity of each measure. In-depth interviews can be an effective means of ensuring the clarity of survey items and reducing threats to overall reliability (Presser & Blair, 1994). For our pre-test, full-time employees across a variety of different industries (n=7) were guided through the survey measure to identify any ambiguities. These individuals represented typical Facebook Messenger users, with differing levels of experience and satisfaction. Each individual was told to read through the survey items and identify any that were unclear or difficult to understand. When a survey item was flagged, an alternative wording was offered and discussed.

Following the pre-test interviews, the survey was edited to alter those items which were deemed unclear. Careful attention was paid to avoid altering the definition of the construct while adjusting the wording for the sake of clarity. In addition to the wording alterations, ambiguous items for the Representational Fidelity scale were removed. After the pre-test, six items remained for further examination.

Step 3: Q-Sort

In order to assess the convergent and discriminant validity of our measure for Representational Fidelity, we utilized a card-sorting technique referred to as Q-sort analysis. Q-sorting is an effective means of validating a scale and identifying troublesome items (Moore & Benbasat, 1991). In a Q-sort, judges are asked to categorize a random-ordered set of items according to similarity. Q-sorting can be an effective strategy at verifying the convergent validity of a construct, by clarifying its underlying structure (Segars & Grover, 1998). Q-sorting can also be an effective tool at establishing discriminant validity, as the construct's items are mixed in with those of other, similar constructs. The expectation is that the respondents will be able to accurately group together items of the same construct, and accurately differentiate those which describe different constructs.

Following the recommendations of Moore and Benbasat (1991), two rounds of Q-sorting were performed. In the first round, judges were provided a set of survey items and asked to categorize the items however they saw fit, according to their perception of similarity. The judges were able to create their own groupings and were given the freedom to group the items according to their own liking. The wording of one item was

adjusted following the first round as a result of excessive misplacement. In the second round, the judges were provided the survey items as well as a definition of each of the constructs. The judges were permitted to view the construct definitions while placing each survey item into the grouping which most closely matched the corresponding definition. Five judges were used for the first round and four judges were used for the second round⁶. To ensure the highest level of validity, each judge performed the sorting exercise independently and none of the first round judges included in the first round were included in the second round of sorting.

The validity of a Q-sort is determined using a variety of metrics. Item Placement Ratio, as proposed by Moore and Benbasat (1991), measures the degree to which the judges accurately group each item according to the intended construct. Average Raw Agreement measures the average percentage of items which are grouped similarly between pairs of judges. A raw agreement score was calculated for each pair of judges, and the scores were averaged to compute the value. Finally, Cohen's Kappa (Cohen, 1960) measures the agreement between judges by comparing the level of agreement against the expected level of agreement due to chance. Any value above 0.65 is deemed acceptable for the Cohen's Kappa of a sorting round (Sirkka L Jarvenpaa, 1989; H. Sun, 2012).

⁶ In each round, one judge was removed as an outlier (McHugh, 2012). In the first round, one judge completed the Q-sort in a much shorter time than the others, resulting in widely differing results. In the second round, one judge was unaware of the details of the instructions, again resulting in widely differing results.

Table B.1 - Measurement Indices for Q-Sorting		
	Round	
	1	2
Item Placement Ratio	0.85	0.87
Average Raw Agreement	0.74	0.78
Cohen's Kappa	0.67	0.70

The first round of Q-sorting resulted in an Item Placement Ratio of 0.85, an Average Raw Agreement of 0.74, and a Cohen's Kappa value of 0.67. The second round of Q-sorting resulted in an Item Placement Ratio of 0.87, an Average Raw Agreement of 0.78, and a Cohen's Kappa value of 0.70. As a result of the two rounds of sorting, the wording of one item was adjusted and one item was dropped (see Table B-7 for a detailed breakdown of the items). Five items remained after the multi-round q-sort.

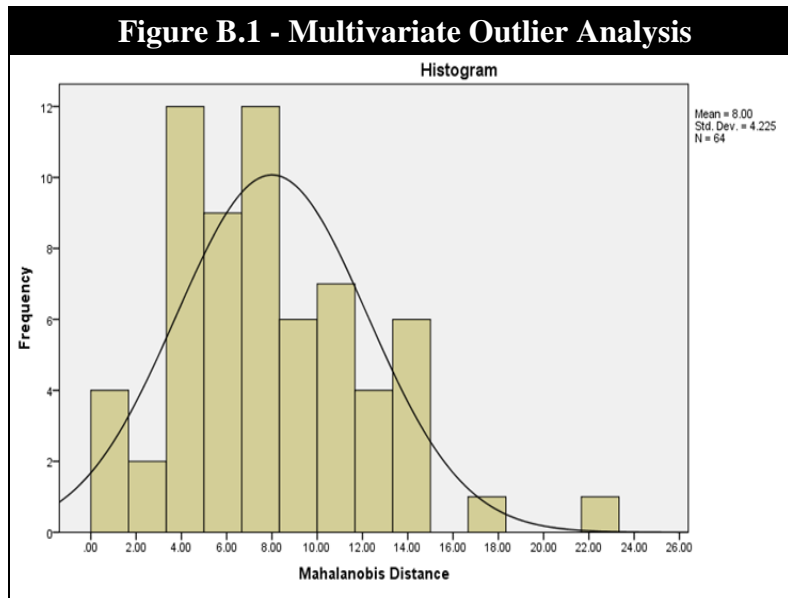
Step 4: Pilot Test 1

The next step in validating the measure of Representational Fidelity was to pilot test the survey instrument. The purpose of a pilot test is to further validate the survey instrument and solidify the set of items which will be used in the full study (Churchill, 1979). By inviting a larger sample of respondents to evaluate the instrument, we were able to identify any problematic items which could influence our results. The sample used in the first pilot study consisted of 69 full-time business students at a medium-sized university in the Western United States. The students were offered extra course credit for their participation with an alternative assignment made available for the same credit should they have declined to participate. The survey was administered using Qualtrics online software. Of the 69 students, 5 noted that they had never used Facebook

Messenger, thus their responses were removed from our analysis, bringing the initial sample size to 64 students.

Preliminary Analysis

Our first step in analyzing the results of the first pilot study was to test for outliers, skewness, and kurtosis (Tabachnick & Fidell, 2001). We assessed both univariate and multivariate outliers. Univariate outliers, which consist of extreme values for one item, were identified by evaluating the standardized residuals for each item. No values exceeded the maximum value of three standard deviations from the mean, thus we concluded that univariate outliers would not influence our results. To test for multivariate outliers, we calculated the Mahalanobis distance. Mahalanobis distance identifies those respondents who provide extreme values on a combination of variables, which can also influence the results of the study (Penny, 1996). While no values exceeded the χ^2 (15 df) = 37.7 minimum threshold, a visual inspection of the Mahalanobis distance values indicated one case which was exceedingly separate from the remaining cases (see Figure B-1).



Given the high Mahalanobis distance ($p = .004$), we dropped the case from our analysis, bringing the final sample size to 63. Table B-2 displays the sample characteristics.

Table B.2 - Pilot Test 1 – Sample Characteristics			
Variable	Value	Frequency	% Respondents
Gender	Male	31	49.21%
	Female	32	50.79%
Classification	Freshman	46	73.02%
	Sophomore	13	20.63%
	Junior	3	4.76%
	Senior	1	1.59%
Facebook Messenger - Use Frequency	Less than once a week	16	25.40%
	About once a week	13	20.63%
	Several times each week	13	20.63%
	About once each day	5	7.94%
	Several times each day	16	25.40%
Facebook Messenger - Use History	1-6 months	3	4.76%
	6 months to 1 year	6	9.52%
	1 year to 18 months	7	11.11%
	18 months to 2 years	9	14.29%
	More than 2 years	38	60.32%
Device Used to Access Facebook Messenger	Mobile Phone	60	95.24%
	Tablet	12	19.05%
	Laptop Computer	58	92.06%
	Desktop Computer	12	19.05%
Age	Mean - 18.70		
Total Subjects		63	

The next step in our analysis was to assess the normality of our data by testing the skewness and kurtosis of each variable. Skewness measures the degree of asymmetry of each item's distribution (MacGillivray, 1986). Large skewness values (outside of the range of ± 3.29) can hinder the ability to properly analyze a data set (Tabachnick & Fidell, 2007). Kurtosis measures the height of the peak of the variable's distribution (DeCarlo, 1997). High peakedness (a "leptokurtic" distribution) or low peakedness (a "platykurtic" distribution) can indicate violations of the assumption of normality. While no formal cutoff values for kurtosis have been widely accepted, Ghiselli, Campbell, and Zedeck (1981) offer that values of kurtosis should be no more than ± 5 . An analysis of all of our variables resulted in skewness and kurtosis values within acceptable ranges, thus there was no need to transform the data (see Table B-3).

Internal Consistency Analysis

Internal consistency measures the convergent validity of our instrument, whether the values for each item correspond closely together. To measure internal consistency, we utilized Cronbach's alpha (Churchill, 1979). Cronbach's alpha is a widely used evaluative tool for determining the average correlation among variables.

Multicollinearity, which can lead to Type II errors, was assessed by evaluating the correlations between items. Items present problems with multicollinearity if they have extremely high multiple correlations and high inter-item correlations (Grewal, Cote, & Baumgartner, 2004). Such high values indicate that two or more items may be too closely correlated. Scholars recommend a cutoff value for inter-item correlation of approximately 0.8 (Maindal, Sokolowski, & Vedsted, 2012). Subsequently, item RF3 was dropped due

to high inter-item correlation (.792). The four remaining items presented a Cronbach’s alpha value of 0.87, which is well above the recommended minimum value of 0.8 (Fornell & Larcker, 1981). Additionally, all remaining inter-item correlations are well below 0.8 and all “Cronbach’s alpha if deleted” values indicate a reduction in internal consistency if the item were removed.

Table B.3 - Pilot Test 1 - Item Statistics						
Item #	Item	Outcome of Pilot Study	Skewness	Kurtosis	Factor Loading	CA*
RF1	The style of my Facebook Messenger communications is consistent with the style of my work-related communications.	Retained	0.04	-1.16	0.74	0.87
RF2	The messages I send using Facebook Messenger correspond closely with my work-related communications.	Retained	0.18	-1.26	0.81	
RF3	My prior Facebook Messenger communications provide a clear picture of my work-related communications.	Dropped – Marked for Adjustment	0.35	-0.46	X	
RF4	My Facebook Messenger communications accurately reflect my work-related communications.	Retained	0.49	-0.59	0.90	
RF5	The manner in which I communicate using Facebook Messenger closely matches the manner in which I communicate professionally.	Retained	0.49	-0.58	0.73	
<i>Note: All item-factor correlations significant at $p < .05$; * - Cronbach’s Alpha (for remaining items)</i>						

The results of the first pilot indicated opportunities to improve some of the items, and thus the entire measure. Though the Cronbach’s alpha value for the four-item measure was acceptable, we sought to ensure that the entire domain of representational fidelity was covered in our instrument. The removal of RF3, while statistically

appropriate, would have removed any reference to clarity, which is central to the definition of the construct of representational fidelity offered by Burton-Jones and Grange (2012). Therefore, rather than remove the item, we adjusted its wording and added it, along with a second revived (and adjusted) item from a prior step in the analysis.

Step 5: Pilot Test 2

For the final step in the process of developing the instrument of representational fidelity, we used the six items which were created in prior steps to perform a second pilot test. Our goal in this pilot test was to validate the instrument through an assessment of both convergent and discriminant validity. We drew a sample of 74 students from two different universities to aid in these assessments. A summary of the sample characteristics is presented in Table B-4.

Table B.4 - Pilot Test 2 – Sample Characteristics			
Variable	Value	Frequency	% Respondents
<i>Gender</i>	Male	38	51.35%
	Female	34	45.95%
	No response	2	2.70%
<i>Classification</i>	Freshman	0	0.00%
	Sophomore	16	21.62%
	Junior	24	32.43%
	Senior	34	45.95%
<i>Facebook Messenger - Use Frequency</i>	Less than once a week	33	44.59%
	About once a week	19	25.68%
	Several times each week	15	20.27%
	About once each day	3	4.05%
	Several times each day	4	5.41%
<i>Facebook Messenger - Use History</i>	Less than 1 month	5	6.76%
	1-6 months	4	5.41%
	6 months to 1 year	7	9.46%
	1 year to 18 months	8	10.81%
	18 months to 2 years	1	1.35%
	More than 2 years	49	66.22%
<i>Device Used to Access Facebook Messenger</i>	Mobile Phone	62	83.78%
	Tablet	13	17.57%
	Laptop Computer	63	85.14%
	Desktop Computer	6	8.11%
Age	Mean - 21.33		
Total Subjects		74	

Preliminary Analysis

Just as before, we assured that our data adhered to normality assumptions through the identification of univariate and multivariate outliers, as well as an assessment of skewness and kurtosis. Evaluating the standardized residuals and the Mahalanobis distance values revealed no univariate or multivariate outliers. Additionally, we calculated skewness and kurtosis values for our six items, and found no issues to be present (see Table B-5).

Internal Consistency Analysis

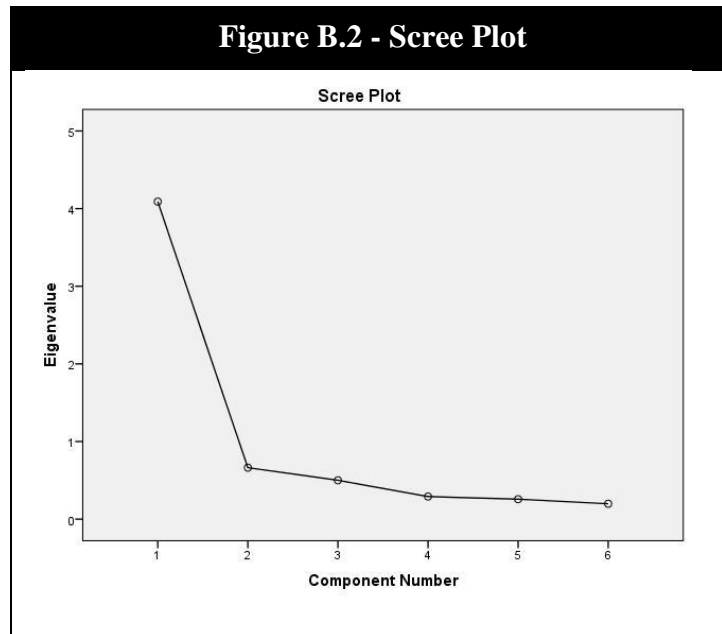
The six-item measure of representational fidelity performed much better than the four-item measure from the first pilot test. The Cronbach's alpha value for the six-item measure was 0.91, with all inter-item correlations between the recommended values of 0.5 and 0.8. As such, the results indicated that the six-item measure provided a higher degree of internal consistency, with fewer indications of problems with discriminant validity among the items. Item statistics are available in Table B-5.

Table B.5 - Pilot Test 2 - Item Statistics						
Item #	Item	Outcome of Pilot Study	Skewness	Kurtosis	Factor Loading	CA*
RF1	The style of my Facebook Messenger communications is consistent with the style of my work-related communications.	Retained	0.11	-1.15	0.72	0.91
RF2	The messages I send using Facebook Messenger correspond closely with my work-related communications.	Retained	0.37	-1.04	0.74	
RF3	My prior Facebook Messenger communications provide a sufficiently clear picture of my work-related communications.	Retained	0.83	0.08	0.82	
RF4	My Facebook Messenger communications accurately reflect my work-related communications.	Retained	0.35	-0.80	0.84	
RF5	The manner in which I communicate using Facebook Messenger closely matches the manner in which I communicate professionally.	Retained	0.68	-0.37	0.78	
RF6	My Facebook Messenger communications resemble the communications I want to send professionally.	Retained	0.74	-0.35	0.81	
<i>Note: All item-factor correlations significant at $p < .05$; * - Cronbach's Alpha</i>						

Unidimensionality

While Cronbach's alpha indicated a strong internal consistency among our six items, we further tested for unidimensionality to ensure that no underlying additional factors were present. To assess for unidimensionality, we conducted a Confirmatory Factor Analysis (CFA) using IBM SPSS Amos. The results of this analysis indicated that all six items loaded well (factor loading $> .707$) on one factor (Tabachnick & Fidell, 2007). To supplement this determination, we investigated the measure's Eigenvalues. Hambleton and Rovinelli (1986) suggest that unidimensionality can be assessed by calculating the ratio of the first and second factor Eigenvalues. They offer a cutoff value of 3. Our value of 6.17 was well above this threshold.

Another means of investigating unidimensionality is to generate a Scree plot (Williams & Anderson, 1994). This graph gives a visual indication of the measure's factor structure. Departures from the horizontal bottom line help indicate the number of factors within the set of variables. In our case, a visual inspection of the Scree plot provided further evidence of the unidimensionality of the measure (Segars, 1997).



Discriminant Validity

Finally, we tested for discriminant validity, to ensure that the measure of representational fidelity was measuring a construct sufficiently distinct from other similar concepts (Segars, 1997). Discriminant validity can be assessed through structural equation modeling, whereby the construct of interest is placed in a model with other, similar constructs. In our case, we created a model consisting of representational fidelity, intention to repurpose, perceived behavioral control, and perceived usefulness. The aim of the model was to test whether more variance can be explained through the reflective items for each construct than through the correlation between constructs. To evaluate discriminant validity, we calculated the average variance extracted (AVE) for each construct, as well as all correlations between constructs. Discriminant validity can be recognized when the square root of each construct's AVE is greater than the correlations with other constructs (Fornell & Larcker, 1981). Table B-6 presents the results of this

analysis. In each instance, the square root of the AVE for representational fidelity was greater than the correlation with the other construct. Additionally, the AVE for representational fidelity was 0.51, which exceeded the recommended cutoff value of 0.50 (Fornell & Larcker, 1981).

Table B.6 - Discriminant Validity Analysis					
	AVE	RF	INT	PBC	USE
Representational Fidelity (RF)	0.51	0.72			
Intention to Repurpose (INT)	0.82	0.41	0.91		
Perceived Behavioral Control (PBC)	0.75	0.19	0.11	0.87	
Perceived Usefulness (USE)	0.70	0.43	0.71	0.20	0.83
<i>Square root of AVEs given in cross-diagonal cells</i>					

Summary

In sum, the measure of representational fidelity was created following recommended procedures. Items were generated through a thorough literature review and suggestions from Burton-Jones and Grange (2012). These items were refined through a series of pre-test interviews, where suggestions were made as to their wording and selection. Following the pre-test interviews, a multi-round card sorting exercise was completed, further establishing the convergent and discriminant validity of the items while also identifying potential issues regarding troubling wording selection. The remaining items were subjected to two pilot tests, where confirmatory factor analysis and structural equation modeling aided the identification of a set of six items which appropriately measure the construct of representational fidelity. These items, along with the items which were dropped during the construct development process, are presented in Table B-7.

Table B.7 - Summary of Instrument Development Process

Item	Pre-Test	Q-Sort	Pilot 1	Pilot 2
The style of my Facebook Messenger communications is consistent with the style of my professional communications.	Retained	Retained	Retained	Retained (RF1)
The communications I send using Facebook Messenger correspond closely with my work-related communications.	Adjusted	Retained	Retained	Retained (RF2)
I receive the same types of messages using Facebook Messenger as those I receive professionally.	Dropped	X	X	
There is no difference between the communication tasks I perform at work and the communication tasks I perform using Facebook Messenger.	Retained	Dropped	X	
My Facebook Messenger communications accurately reflect my work-related communications.	Retained	Retained	Retained	Retained (RF3)
The manner in which I communicate using Facebook Messenger closely matches the manner in which I communicate professionally.	Retained	Retained	Retained	Retained (RF4)
The messages I receive when using Facebook Messenger clearly resemble the messages I receive when communicating professionally.	Retained	Adjusted	Adjusted	Retained (RF5)
My communications experience when using Facebook Messenger is identical to my communications experience at work.	Dropped	X	Adjusted	Retained (RF6)

Table B.8 - Final Instrument for Representational Fidelity

Item #	Item
RF1	The style of my Facebook Messenger communications is consistent with the style of my work-related communications.
RF2	The messages I send using Facebook Messenger correspond closely with my work-related communications.
RF3	My Facebook Messenger communications accurately reflect my work-related communications.
RF4	The manner in which I communicate using Facebook Messenger closely matches the manner in which I communicate professionally.
RF5	My prior Facebook Messenger communications provide a sufficiently clear picture of my work-related communications.
RF6	My Facebook Messenger communications resemble the communications I want to send professionally.

APPENDIX C: FULL SURVEY SUPPORT DOCUMENTATION

Table C.1 – Component Loadings and Cross Loadings

	AGE	ANX	BYOD	CSE	CSE-INT	CSE-EXT	DEV	DOM
AGE	1	0.16	-0.03	-0.08	-0.07	-0.08	-0.07	0.04
ANX1	0.09	0.92	-0.34	-0.14	-0.15	-0.11	0.06	-0.22
ANX2	0.18	0.95	-0.34	-0.15	-0.16	-0.12	0.05	-0.22
ANX3	0.15	0.96	-0.37	-0.19	-0.19	-0.16	0.02	-0.17
ANX4	0.18	0.91	-0.31	-0.21	-0.21	-0.18	-0.02	-0.14
BYOD1	-0.02	-0.34	0.96	0.18	0.19	0.14	0.07	0.13
BYOD2	-0.03	-0.34	0.97	0.21	0.2	0.18	-0.01	0.15
BYOD3	-0.05	-0.36	0.9	0.14	0.1	0.14	-0.1	0.24
CSE1	-0.11	-0.19	0.19	0.73	0.88	0.53	0.03	-0.13
CSE2	-0.1	-0.19	0.16	0.68	0.85	0.46	-0.02	-0.1
CSE3	0.03	-0.12	0.12	0.83	0.87	0.71	-0.09	-0.08
CSE4	-0.09	-0.18	0.18	0.91	0.65	0.94	-0.15	0
CSE5	-0.08	-0.14	0.12	0.91	0.63	0.97	-0.14	0
CSE6	-0.05	-0.13	0.17	0.88	0.6	0.94	-0.13	-0.03
DEV2	-0.05	0.04	-0.06	-0.08	-0.01	-0.11	0.9	-0.18
DEV3	-0.05	0.02	0.01	-0.13	-0.05	-0.17	0.96	-0.16
DEV4	-0.09	0	0.04	-0.09	-0.03	-0.12	0.93	-0.17
DOM1	0.04	-0.13	0.12	-0.03	-0.06	-0.01	-0.14	0.8
DOM2	0.04	-0.2	0.18	-0.06	-0.13	-0.01	-0.18	0.99
GENDER	-0.08	0.1	-0.19	-0.08	-0.03	-0.1	0.03	-0.05
INT1	0	-0.38	0.22	0.09	0.06	0.1	-0.33	0.44
INT2	-0.02	-0.41	0.25	0.09	0.04	0.11	-0.3	0.45
INT3	-0.05	-0.38	0.2	0.09	0.03	0.11	-0.32	0.46
INT4	-0.06	-0.38	0.23	0.1	0.03	0.12	-0.29	0.47
PBC1	-0.02	-0.37	0.52	0.13	0.08	0.14	-0.11	0.39
PBC3	-0.02	-0.37	0.57	0.18	0.12	0.19	-0.08	0.31
PIIT1	-0.06	-0.17	0.18	0.06	0.09	0.02	-0.06	0.04
PIIT2	-0.12	-0.1	0.1	-0.02	0.01	-0.04	-0.09	0.04
PIIT3	-0.07	-0.18	0.1	0.02	0.06	-0.01	-0.04	0.07
RF1	0.03	-0.25	0.19	0.01	-0.02	0.02	-0.17	0.38
RF2	0.04	-0.21	0.19	-0.01	-0.05	0.02	-0.22	0.41
RF3	-0.01	-0.26	0.19	-0.02	-0.06	0.01	-0.24	0.41
RF4	0.06	-0.25	0.16	0	-0.06	0.04	-0.2	0.38
RF5	-0.01	-0.26	0.15	-0.05	-0.09	-0.01	-0.25	0.46
RF6	0.01	-0.24	0.21	-0.03	-0.06	-0.01	-0.2	0.41
SAT1	0.09	-0.23	0.14	0.11	0.13	0.08	-0.05	0.07
SAT2	0.12	-0.18	0.11	0.08	0.07	0.08	-0.07	0.14
SAT3	0.16	-0.19	0.09	0.08	0.09	0.06	-0.08	0.13
SAT4	0.15	-0.15	0.08	0.04	0.05	0.03	-0.05	0.13
SOC1	0.04	-0.3	0.27	0.09	0.04	0.1	-0.33	0.43
SOC2	0.02	-0.27	0.26	0.06	0.01	0.09	-0.33	0.49
SOC3	0.03	-0.28	0.26	0.07	0.01	0.1	-0.34	0.5
USE1	-0.05	-0.49	0.3	0.31	0.3	0.26	-0.18	0.22
USE2	-0.06	-0.54	0.27	0.3	0.27	0.27	-0.2	0.22
USE3	-0.02	-0.47	0.19	0.2	0.16	0.2	-0.26	0.31
USE4	0	-0.45	0.17	0.17	0.11	0.18	-0.27	0.29

Table C.1 – Component Loadings and Cross Loadings (cont'd)

	GENDER	INT	PBC	PIIT	RF	SAT	SOC	USE
AGE	-0.08	-0.03	-0.02	-0.09	0.02	0.14	0.03	-0.03
ANX1	0.11	-0.43	-0.42	-0.16	-0.31	-0.22	-0.32	-0.52
ANX2	0.08	-0.44	-0.4	-0.19	-0.29	-0.22	-0.32	-0.52
ANX3	0.07	-0.36	-0.36	-0.13	-0.24	-0.17	-0.27	-0.49
ANX4	0.11	-0.3	-0.29	-0.17	-0.2	-0.15	-0.22	-0.43
BYOD1	-0.18	0.17	0.52	0.12	0.16	0.08	0.22	0.19
BYOD2	-0.18	0.19	0.53	0.09	0.17	0.09	0.25	0.21
BYOD3	-0.18	0.35	0.57	0.23	0.28	0.16	0.33	0.33
CSE1	-0.04	0.02	0.1	0.06	-0.07	0.04	0.03	0.18
CSE2	-0.02	0.07	0.1	0.14	-0.07	0.12	-0.02	0.22
CSE3	-0.03	0.02	0.08	-0.03	-0.04	0.07	0.04	0.18
CSE4	-0.08	0.14	0.18	-0.01	0.04	0.05	0.11	0.24
CSE5	-0.11	0.1	0.15	-0.01	0.01	0.08	0.1	0.23
CSE6	-0.1	0.08	0.16	-0.01	-0.02	0.05	0.08	0.21
DEV2	0.09	-0.33	-0.16	-0.09	-0.28	-0.05	-0.39	-0.26
DEV3	0.01	-0.31	-0.08	-0.07	-0.22	-0.07	-0.3	-0.23
DEV4	0	-0.26	-0.07	-0.04	-0.19	-0.07	-0.29	-0.2
DOM1	-0.04	0.41	0.29	0.1	0.37	0.14	0.41	0.28
DOM2	-0.05	0.46	0.37	0.05	0.45	0.12	0.48	0.26
GENDER	1	-0.07	-0.14	-0.15	-0.11	0.02	-0.07	-0.15
INT1	-0.09	0.96	0.57	0.26	0.61	0.22	0.74	0.66
INT2	-0.08	0.97	0.58	0.27	0.64	0.24	0.72	0.65
INT3	-0.06	0.97	0.56	0.24	0.63	0.23	0.74	0.64
INT4	-0.05	0.97	0.56	0.23	0.64	0.25	0.72	0.63
PBC1	-0.14	0.58	0.96	0.16	0.41	0.07	0.57	0.44
PBC3	-0.12	0.53	0.95	0.18	0.35	0.14	0.53	0.36
PIIT1	-0.12	0.19	0.17	0.85	0.13	0.12	0.13	0.17
PIIT2	-0.12	0.24	0.15	0.91	0.15	0.09	0.15	0.13
PIIT3	-0.15	0.26	0.16	0.92	0.19	0.17	0.14	0.22
RF1	-0.07	0.54	0.37	0.17	0.86	0.27	0.51	0.38
RF2	-0.09	0.59	0.38	0.15	0.91	0.21	0.54	0.36
RF3	-0.12	0.61	0.35	0.14	0.93	0.18	0.55	0.4
RF4	-0.08	0.51	0.33	0.12	0.88	0.29	0.48	0.37
RF5	-0.1	0.63	0.34	0.22	0.94	0.21	0.57	0.4
RF6	-0.15	0.61	0.39	0.14	0.89	0.25	0.53	0.43
SAT1	0.05	0.17	0.11	0.12	0.18	0.89	0.14	0.24
SAT2	0.01	0.25	0.12	0.13	0.27	0.95	0.19	0.28
SAT3	0.01	0.24	0.09	0.14	0.25	0.96	0.16	0.29
SAT4	0.01	0.23	0.08	0.14	0.26	0.93	0.16	0.26
SOC1	-0.06	0.73	0.58	0.16	0.58	0.16	0.96	0.49
SOC2	-0.06	0.73	0.54	0.15	0.58	0.19	0.98	0.47
SOC3	-0.08	0.74	0.56	0.15	0.57	0.16	0.98	0.48
USE1	-0.14	0.57	0.42	0.16	0.34	0.22	0.4	0.92
USE2	-0.15	0.58	0.4	0.15	0.41	0.25	0.43	0.93
USE3	-0.15	0.68	0.39	0.22	0.45	0.3	0.52	0.96
USE4	-0.11	0.63	0.34	0.18	0.41	0.29	0.49	0.92

Table C.2 - Hetero-Trait Mono-Trait (HTMT) Analysis

		1	2	3	4	5	6	7	8	9	10	11	12	13
1	Age													
2	Gender	0.08												
3	Anxiety	0.16	0.10											
4	BYOD Culture	0.04	0.20	0.40										
5	CSE – External	0.08	0.10	0.16	0.17									
6	CSE – Internal	0.10	0.04	0.21	0.20	0.73								
7	Device Comp.	0.07	0.04	0.04	0.08	0.15	0.06							
8	Int. to Repurpose	0.03	0.08	0.42	0.26	0.12	0.05	0.34						
9	PBC	0.02	0.14	0.42	0.62	0.18	0.12	0.12	0.62					
10	PIIT	0.10	0.16	0.19	0.17	0.03	0.11	0.08	0.28	0.20				
11	Rep. Fidelity	0.03	0.11	0.29	0.22	0.03	0.07	0.26	0.67	0.43	0.19			
12	Satisfaction	0.14	0.02	0.22	0.13	0.07	0.10	0.07	0.25	0.12	0.15	0.27		
13	Social Norm	0.03	0.07	0.31	0.29	0.11	0.04	0.37	0.77	0.61	0.17	0.62	0.18	
14	Usefulness	0.04	0.15	0.55	0.28	0.25	0.25	0.26	0.69	0.45	0.21	0.45	0.30	0.51

Henseler et al. (2015) recommend a conservative cutoff value of 0.85 for assessing discriminant validity; Domain Congruence was not assessed due to its formative specification

APPENDICES: REFERENCES

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