

Association for Information Systems AIS Electronic Library (AISeL)

ICIS 2010 Proceedings

International Conference on Information Systems
(ICIS)

2010

UNDERSTANDING INDIVIDUAL ADOPTION AND USE OF SOCIAL COMPUTING: A USER-SYSTEM FIT MODEL AND EMPIRICAL STUDY

Moataz Aly Soliman

Concordia University, m_solim@jmsb.concordia.ca

Anne Beaudry

Concordia University, abeaudry@jmsb.concordia.ca

Follow this and additional works at: http://aisel.aisnet.org/icis2010_submissions

Recommended Citation

Soliman, Moataz Aly and Beaudry, Anne, "UNDERSTANDING INDIVIDUAL ADOPTION AND USE OF SOCIAL COMPUTING: A USER-SYSTEM FIT MODEL AND EMPIRICAL STUDY" (2010). *ICIS 2010 Proceedings*. 22.
http://aisel.aisnet.org/icis2010_submissions/22

This material is brought to you by the International Conference on Information Systems (ICIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in ICIS 2010 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

UNDERSTANDING INDIVIDUAL ADOPTION AND USE OF SOCIAL COMPUTING: A USER-SYSTEM FIT MODEL AND EMPIRICAL STUDY

Research-in-Progress

Moataz Aly Soliman

John Molson School of Business
Concordia University
Montreal, QC, H3G 1M8, Canada
m_solim@jmsb.concordia.ca

Anne Beaudry

John Molson School of Business
Concordia University
Montreal, QC, H3G 1M8, Canada
abeaudry@jmsb.concordia.ca

Abstract

Social computing, or Web 2.0, is receiving growing attention both in academic research and in practice. Evidence suggests that a rich set of motives entice individuals to use Web 2.0. However, traditional models of IT acceptance generally do not account for these motives, and thus are not particularly adequate to explain the adoption and use of Web 2.0. Indeed, a central construct in many of these models, the 'usefulness' construct, exclusively focuses on performance needs. This study makes an effort to provide an improved understanding of Web 2.0 usage by offering two contributions. First, the study reconceptualizes 'usefulness' into 'needs-supplies fit', a formative construct that taps into a wide spectrum of needs. Second, relying on person-environment fit as its theoretical lens, the study develops and tests a model of user system fit that offers a complementary perspective to current models in further understanding of Web 2.0 use.

Keywords: Web 2.0, Social computing, IT adoption, Blog(s), Motivation Theory

Introduction

Social computing, or Web 2.0, is spearheading a new era on the Web, where information and communication technologies are playing fundamentally new roles in facilitating organized human undertakings (Parameswaran & Whinston, 2007). This new class of technology – that includes blogs, wikis, Twitter, and social networks like FaceBook – continues to grow and gain in importance (Hsu & Lin, 2008; Lai & Turban, 2008). Facebook, for example, states that it has more than 400 million users (FaceBook, 2010), while LinkedIn is reported to have more than 55 million users (CNNMoney, 2010). Evidence suggests that organizations are also starting to adopt some Web 2.0 technologies (Bughin & Manyika, 2007), and some are already seeing business impacts from Web 2.0 technologies, including better collaboration among employees and improved communication with customers (Bughin & Manyika, 2007).

The limitations of current models of acceptance in their ability to explain Web 2.0 adoption and use have already been acknowledged (e.g., Parameswaran & Whinston, 2007). The adoption and use of Web 2.0 technologies appears to be notably different from more traditional information technologies (IT) in a number of ways, such as bottom-up, rather than top-down, adoption (e.g., Pfaff & Hasan, 2006), user-generated content (Bonabeau, 2009), and significant social interaction (Lai & Turban, 2008). Such technologies are adopted for many reasons including, but not limited to, performance-related motivations (e.g., Kane & Fichman, 2009). While other technologies, such as email, may share one or more of these characteristics, their co-existence in the case of Web 2.0 usage justifies studying Web 2.0 adoption and use differently from more traditional IT.

This research project has three objectives. First, to reconceptualize the ‘usefulness’ construct so that it encompasses a more comprehensive set of motives that nevertheless includes performance-related motives. Second, to identify the different types of fit that exist between the individual and Web 2.0 and develop a model that takes into account these relationships. Third, to provide a preliminary validation of the model through an empirical study. This research will add value to the IT acceptance literature by providing a model that enables a better understanding of individual use of social computing. For practice, this research will help organizations develop better Web 2.0 internal and external communication strategies.

This paper is organized as follows. The next section reviews the defining features of Web 2.0 and presents an assessment of the current state of acceptance research. Next, building on theories of motivational needs and on the person-environment fit stream of research, a model of social computing use is proposed. The constructs and their relationships are then discussed, and research hypotheses are presented, followed by the proposed research methodology. Expected contributions for research and practice conclude the paper.

Web 2.0: Definition and Distinctive Characteristics

Web 2.0 is the popular term for a class of Internet technologies and applications that includes blogs, wikis, RSS, podcasting, mashups, and social networks (Lai & Turban, 2008). What differentiates Web 2.0 from more traditional IT, including the Web, is not just one attribute, but rather a set of characteristics that together give shape to this new class of technologies and, at the same time, provides the field of IT research and practice with some challenging opportunities. Major defining and unique attributes of Web 2.0 include bottom-up adoption (e.g. O’Reilly, 2005), user-generated content (Cox, 2008), and greater social interaction and networking (Lai & Turban, 2008).

Bottom-up adoption has serious implications for both research and practice. For example, it implies that Web 2.0 use is, for the most part, voluntary and starts more as a personal initiative rather than as something pushed down to users from the corporate level. Instances of bottom-up adoption may be traced to technologies that precede Web 2.0. However, we argue that not only does Web 2.0 use originate at the individual level, it may also arise from the “personal” level. By personal level, we suggest that use may be motivated by reasons that are not necessarily performance-related (either totally unrelated to performance purposes or co-existing with such purposes). In other words, Web 2.0 applications have the potential to serve multiple needs, including productivity but also social, hedonic, and other intrinsic and extrinsic needs, and thus their use may be triggered by personal motives related more to the individual as a person rather than just as an organizational actor. In addition to the aforementioned implications of bottom-up adoption, there are also indications that such ‘direction’ of adoption maybe related to ‘Web 2.0 values’ that may not be easily found in other types of IT. For example, it is argued that in Web 2.0 the value of personal and community empowerment is integral to the fabric of applications (IBM, n.d.). Indeed, it is

stated that openness and freedom are at the core of Web 2.0 (Greenemeier & Gaudin, 2008). Such freedom is exemplified by what Gillmor (2004) calls ‘we, the media,’ whereby the people who were formerly mere audiences of mass media are now able to decide – rather than be told – what is important.

User-generated content (UGC) refers to content that reflects a certain amount of creative effort, is created outside of professional routines and practices, and is made publicly available over the Internet (Wunsch-Vincent & Vickery, 2007). UGC provides new opportunities for creating and exchanging knowledge and culture (Benkler, 2006). An example of user-generated content is Wikipedia, where contributions constitute entirely volitional behavior for which their authors are never compensated. This is not just an example of users being personally motivated, but also underscores the issue of the underlying values of Web 2.0: more specifically, the values of freedom and empowerment, wherein a user does not have to sit idly as a receiver of knowledge, but can actively contribute to a pool of knowledge.

The third defining attribute of Web 2.0 is increased social interaction and networking, the hallmarks of social computing (Lai & Turban, 2008). What makes such interactions especially interesting to study is that, while communities in real life have social dynamics that encourage participation, social computing may feature drastically different motivations for participating (Parameswaran & Whinston, 2007). Among the personal outcomes that a user may seek through social computing is greater social capital (Ellison et al., 2007). Social computing websites can also help users leverage their social capital. For example, one feature of LinkedIn, the professional networking website, is that users can search their own network to see who has connections to a company that is hiring (CNNMoney, 2010). For organizations, one potential implication of increased social interaction through Web 2.0 technologies is the projection that employees will increasingly demand that such technologies be incorporated into how they communicate and collaborate with fellow employees, customers, and business partners (Lavenda, 2008). Our research seeks a better understanding of what motivates people, whether as employees or not, to use Web 2.0 technologies.

In sum, the defining characteristics of Web 2.0 – bottom-up adoption, user generated content, and increased social interaction- imply a number of dimensions that need to be taken into consideration when carrying out any effort to study the adoption and use of that important phenomenon. These dimensions, which will be discussed below in more detail, are *personal outcomes, intrinsic motivation/psychological needs, values, and social concerns*.

Assessment of Current Acceptance Models in Web 2.0 Context

In this section, major IT acceptance models are compared along five dimensions; *personal outcomes, intrinsic motivation/psychological needs, values, social concerns, and fit*. These dimensions are derived from the characteristics of Web 2.0 discussed above and allow for a structured comparison of the different models. First, *personal outcomes* reflects whether the theory/model explicitly accounts for non productivity-related outcomes. For example, individuals may use social computing to enhance their social capital (Ellison et al., 2007). The theory of reasoned action (TRA) (Fishbein & Ajzen, 1975) and the theory of planned behavior (TPB) (Ajzen, 1991) do not explicitly address personal outcomes. Moreover, vis-à-vis information system use, TRA suggests only two reasons to act (attitude and subjective norms), while TPB adds ‘perceived behavioral control’ without considering these reasons as functions of further evaluations (Bagozzi, 2007). The technology acceptance model (TAM) (Davis et al., 1989) is clearly on the productivity side (Glassberg et al., 2004), and so are the unified theory of acceptance and use of technology (UTAUT) (Venkatesh et al., 2003), and the model of PC utilization (MPCU) (Thompson et al., 1991), whose ‘performance expectancy’ and ‘job fit with PC use’ constructs, respectively, are very similar to TAM’s ‘perceived usefulness’ (PU). In both the innovation diffusion theory (IDT) (Rogers, 1983) and the decomposed TPB (DTPB) (Taylor & Todd, 1995b), while we find that the ‘compatibility’ construct reflects needs and values in its definition, its operationalization mainly focuses on productivity (see Compeau et al., 2007 and Karahanna et al., 2006 for exceptions.) Applications of social cognitive theory (SCT) (Bandura, 1977; 1986), on the other hand, account for the personal aspect of use through the personal outcomes construct (e.g., Compeau et al., 1999). Second, *intrinsic motivation/psychological needs*, is concerned with whether the model takes into account needs such as belonging, achievement, and autonomy. This is important because, independent of instrumental use, individuals may use Web 2.0 for psychological satisfaction (e.g., Hsu & Lin, 2008). For example, individuals may use Web 2.0 for enjoyment (von Hippel and von Krogh, 2003) or achievement (e.g. Okoli and Oh 2007). However, current models do not explicitly account for this dimension. Third, ‘*values*’ is an important dimension in that, as discussed above, values such as openness are viewed to be inseparable from social computing. Values are also central drivers of human action and are closely related to a person’s social identity (Cable & Edwards, 2004), which is especially

relevant in Web 2.0 where a user's identity, unlike the case with more traditional technology, is highly mobile (Parameswaran and Whinston, 2007). However, this dimension is also missing from current models. Fourth, *social issues*, is meant to be a rather encompassing term that may include interaction, networking, and influence. The importance of this dimension stems from the fact that a defining characteristic of Web 2.0 is increased social interaction. Most of the models discussed above account for social issues through the construct of subjective norms (SN) or closely related constructs. However, SN, which refers to the clues one receives from important others about what he or she is expected to do, reflects a rather limited view of 'social issues' that is focused solely on the 'influence' side. The fifth dimension, *fit*, refers to whether a model accounts for congruence between the individual's characteristics and those of the system. With the richness of Web 2.0 applications, the complexity of drivers that motivate individuals to use them, and the high degree of variability in individual characteristics, it becomes even more important to examine fit rather than adopting a rather deterministic view under which an increase in a certain driver – such as the need to be productive – will result in increased Web 2.0 use. Models such as TRA, TPB, and DTPB take fit into consideration through a weighted evaluation of outcomes; in other words, these models take into account the degree to which the person values the expected outcomes. TAM and UTAUT, on the other hand, exemplify what Bagozzi (2007) calls deterministic frameworks in acceptance research. In these two models, it is assumed that a person will find a system useful if they believe use will enhance their performance, without taking into consideration the extent to which the user values such an outcome. SCT, IDT, and MPCU do not clearly take fit into consideration (while there is a 'job fit' construct in MPCU, it is operationalized much like TAM's perceived usefulness). Table 1 provides a structured comparison among traditional IT acceptance models along the five dimensions discussed above.

Theory	Web 2.0 – Related Dimensions				
	Personal Outcomes	Intrinsic Motivation/ Motivational Needs	Values	Social interaction/ networking	Fit
TRA	Possible, but not explicit	No	No	SN	Implicit
TPB	Possible, but not explicit	No	No	SN	Implicit
TAM	No	No	No	No	No
DTPB	Limited	No	No	SN	Implicit
SCT	Yes	No	No	No	No
IDT	Limited	No	No	Image	No
MPCU	No	No	No	Social Factors (SN)	No
UTAUT	No	No	No	Social Influence (SN)	No

Usefulness is a core construct in the models discussed above. Numerous studies (e.g. Adams, 1992; Gefen & Straub, 1997; Grandon & Pearson, 2004; Lim & Benbasat, 2000; Szajna, 1994) have built and tested models that include usefulness, using the same or very similar operationalizations to the one originally defined by Davis (1989, p.320) as *“the degree to which a person believes that using a particular system would enhance his or her job performance.”* A number of other usefulness constructs have also focused on performance-based rewards. For example, Moore & Benbasat (1991, p.195) defined relative advantage as *“the degree to which an innovation is perceived as being better than its precursor,”* and measured it with items clearly focused on job- and productivity-related 'advantages.' Another example is the concept of 'perceived job fit,' defined as *“the extent to which an individual believes that using a PC can enhance their job performance”* (Thompson et al., 1991, p.129).

While many of the commonly used usefulness constructs may be important in explaining IT adoption and use, it is our contention that these conceptualizations are too narrowly focused on productivity and/or performance at the expense of a more comprehensive spectrum of personal motives that we expect drive the decision to use social computing. In fact, Bagozzi (2007) argues that PU does not comprise motives, and thus individuals may decide not

to adopt a system even when they perceive it to be useful. These motives merit further investigation in order to gain deeper understanding and develop richer constructs and models.

The academic world acknowledges that the uniqueness of social computing warrants treating it as a distinct research domain (e.g., Hu & Kettinger, 2008). While traditional models, like TAM, have greatly enhanced our understanding of IT adoption and use, we argue that these models are more oriented to the study of productivity-focused systems, and may be less suited to explaining Web 2.0 usage. Traditional models are also deterministic in nature, with insufficient focus on human agency (Bagozzi, 2007). To enable current models to remain relevant for such new technologies, researchers tend to add more constructs to them. However, when such efforts are piecemeal in nature, it may not be conducive to knowledge accumulation (Bagozzi, 2007). For example, Benbasat & Barki (2007, p. 212) assert that “the efforts to ‘patch-up’ TAM in evolving IT contexts have not been based on solid and commonly accepted foundations, resulting in a state of theoretical confusion and chaos,” creating the “illusion of cumulative tradition” (Benbasat & Barki, 2007). These limitations call for the development of models that may be better placed to deal with technologies, such as Web 2.0, that have the potential to satisfy a multitude of needs and thus may be used for numerous varied motives.

Motivational Needs and Values

Fundamental motivation generally guides cognition and emotion (Baumeister and Leary, 1995) and motivational needs, in particular, influence the cognitive processes that produce behavioral variability (Kanfer, 1991). Needs are a crucial variable in predicting, explaining, and influencing motivation (Latham, 2007). Maslow (1954) was a pioneer in advancing a general theory of human motivation that emphasized a concept of needs (Oleson, 2004). Maslow theorized a hierarchy of motivational needs that include physiological, safety, belonging, self-esteem, and self-actualization needs. That theory was the basis of McGregor’s Theory X and Theory Y (1957), and later Alderfer’s (1972) reformulation of the needs hierarchy into the three levels of existence, relatedness, and growth needs. A more recent theory of motivation, the self-determination theory, argues that providing people the freedom of choice leads to personal empowerment, an elevated sense of autonomy, and a higher level of interest in a task (Deci and Ryan, 1991; Ryan and Deci, 2000). Ryan and Deci (2000) identified three psychological needs that they argue form the basis for people’s self-motivation and personality integration: The needs for competence, relatedness, and autonomy. Among the recent theories on needs also is socioanalytic theory (Hogan and Warrenfeltz, 2003), stating that people have innate needs for acceptance, power, and predictability.

Values are anchored in needs and are similar to them in the capacity to arouse and direct behavior, but while needs are inborn, values are acquired through cognition and experience (Latham, 2007). Thus, values are a step closer to action because they are what a person takes action to acquire or keep (Latham, 2007; Locke, 1991). Values are key component of most work motivation theories (Latham, 2007). Examples of theories on values include Adams’ (1963) Equity Theory and Vroom’s (1964) Expectancy Theory.

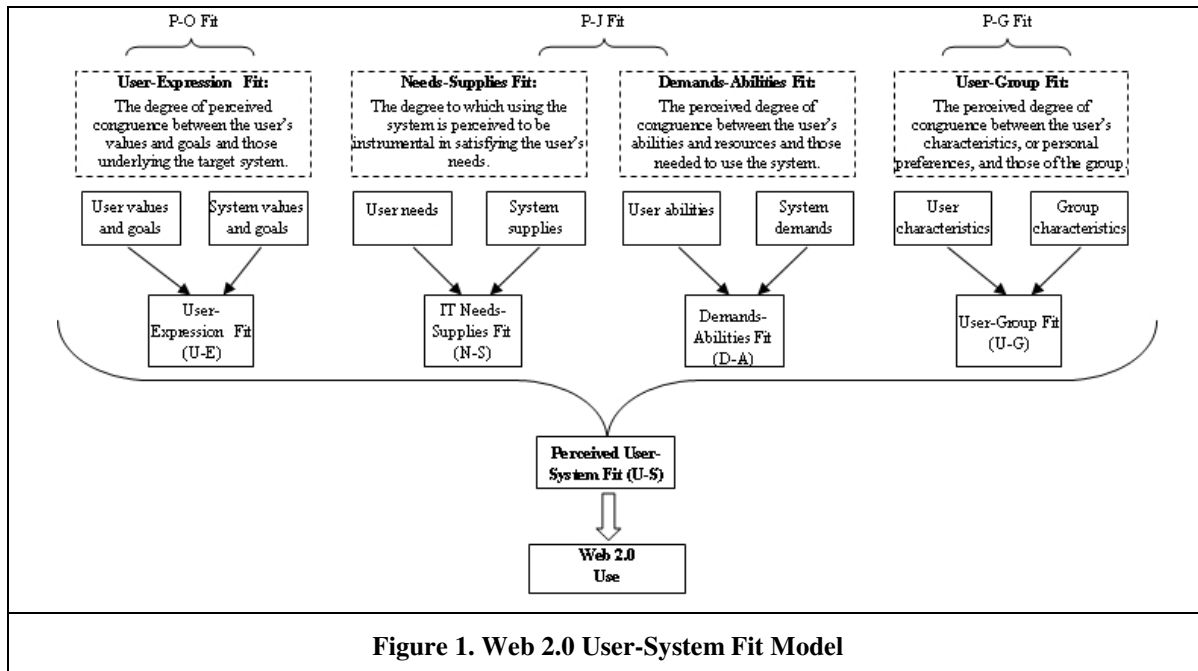
Both needs and values are related to goals in the capacity to influence behavior. For example, Locke (1991) argues that, while psychological needs are innate, a person can still consciously choose whether to think about what their needs are, and how to satisfy them. Indeed, Latham (2007) goes as far as describing Maslow’s needs as ‘goals’. As for values, they are also akin to goals, but goals are more specific (Locke, 1991).

A Web 2.0 User-System Fit Model

While needs and values provide insight into what drives individuals to use Web 2.0, we would suggest that a framework is needed that will allow us to theorize about the relationships between them and Web 2.0 usage. We believe that the person-environment (P-E) fit stream of research is an appropriate basis for such a framework. Not only does P-E fit provide a strong theoretical foundation upon which to base our examination of the relationship between needs and values and Web 2.0 use, it also enables us to examine various dimensions of congruence between the user and the IT. The traditional view of fit has P-E fit as its core, such that P is some characteristic of the individual (such as an individual’s personal values) and E is defined as some feature of the work environment (such as organizational values). This categorization has been further developed to include person–job (P-J) fit, person–group (P-G) fit, and person–organization (P-O) fit (Ostroff et al., 2005).

The model, shown in Figure 1, graphically presents the basic premise of this research, which is that individuals use Web 2.0 mainly for “personal” reasons. More specifically, an individual will use a system when they perceive

congruence between the system and their needs and values, whether or not such needs and values are related to performance. By adapting the various concepts of fit to the context of Web 2.0 use, we seek to develop a model that can provide a theoretically sound explanation for this important phenomenon. The model suggests that Web 2.0 use will be positively associated with perceived user-system fit. Perceived user-system fit, in turn, comprises four dimensions representing various facets of fit: user-expression fit, needs-supplies fit, demands-abilities fit, and user-group fit. In this section, we present the proposed framework and discuss its constructs and relationships. In deriving the hypotheses regarding the relationships between perceived user-system fit and its dimensions, we are encouraged by Edwards and Bagozzi's (2000) assertion that the relationships in the measurement model, and not only those in the structural model, should be viewed as hypotheses that ought to be tested.



User-Expression (U-E) Fit

Person-Organization fit reflects the compatibility of individual characteristics such as personality, values, or goals, and organizational characteristics such as culture, values, goals, and norms (Kristof, 1996; Ostroff et al., 2005; Verquer et al., 2003). P-O fit is a supplementary fit that exists when a similarity exists between the individual and the environment (Kristof-Brown et al., 2005). In the context of Web 2.0 use, we suggest that "User-Expression Fit" corresponds to P-O fit, and we define it as *the degree of perceived congruence between the user's values and goals and those underlying the technology*. We borrow the term 'expression' from Markus and Silver (2008), who define symbolic expressions as the "communicative possibilities of a technical object for a specified user group" (p. 623). They argue that the messages communicated include those related to 'technical objects' and others that are "pertaining to 'designers' or 'users' goals and values." It is in the latter type of messages that we are interested in with the U-E type of fit. The concept of symbolic expressions is adapted from "the system's spirit" (DeSanctis and Poole, 1994), which reflects "the general intent with regard to values and goals underlying a given set of structural features" (p. 126). In the Web 2.0 context, an example would be the values of freedom and empowerment that may be felt by whom Gillmor (2004) calls 'grassroots journalists' who, he argues, are using tools such as blogs to break out from the monopoly long enjoyed by media giants.

The importance of compatibility between values is underscored by the argument that not only do values guide a person's choices and actions, one's values also determine what will be considered rewarding (Locke, 1991). Some studies have conceptualized the 'compatibility' construct as related to the user-expression dimension of fit (e.g., Compeau et al., 2007; Karahanna et al., 2006). We hypothesize a positive relationship between user-expression fit and perceived user-system fit (H1).

Needs-Supplies (N-S) Fit

Person-job fit is a complementary type of fit (Kristof-Brown et al., 2005) that arises when individuals' characteristics fill a gap in the environment, or vice versa (Muchinsky & Monahan, 1987). Edwards (1991) suggested two core dimensions of P-J fit: needs-supplies (N-S) fit and demands-abilities (D-A) fit. N-S fit occurs when employees' needs, desires, or preferences are met by the job they perform. N-S fit has been the emphasis of various theories, such as the theory of work adjustment (Dawis & Lofquist, 1984). In the context of Web 2.0 use, we define needs-supplies fit as *the degree to which using the system is perceived to be instrumental in satisfying the user's needs*. In addition to extrinsically motivated behavior, where an individual engages in a behavior to attain a specific valued outcome, theories on motivational needs (e.g. Alderfer, 1972; Hogan & Warrenfeltz, 2003) argue that human beings have a wide spectrum of needs, and that satisfying those needs is essential to psychological well being. Within the P-E fit literature, psychological need fulfillment is the way most commonly used by researchers to conceptualize and operationalize complementary fit (Edwards, 1991). A closely related stream of research studies intrinsic motivation, in which the reinforcement for performing a task or an activity comes from nothing more than the task or activity itself, regardless of any extrinsic outcomes (e.g., Davis et al., 1992; Deci & Ryan, 1991; White, 1959). Empirical evidence indicates that N-S fit is significantly and positively related to individuals' attitudes and behaviors (Baard et al., 2004; Cable and Edwards, 2004; Kristof-Brown et al., 2005)

In the context of Web 2.0, the evidence suggests that individuals may use various social computing applications to satisfy needs including enjoyment (e.g. von Hippel & von Krogh, 2003; Hsu & Lin, 2008), reputation (e.g., Hsu & Lin, 2008; Parameswaran & Whinston, 2007), altruism (e.g. Hsu & Lin, 2008; Okoli & Oh 2007; Parameswaran & Whinston, 2007), belonging (e.g. Glassberg et al., 2004), and achievement (e.g. Okoli & Oh 2007). However, needs by themselves do not completely explain why an individual would perform a particular behavior in a specific context (Latham, 2007; Latham & Pinder, 2005). The concept of fit becomes instrumental here, inasmuch as it accounts for the interaction between the person and their environment, or the user and the system, and provides an opportunity for need fulfillment. As Locke (1976) noted, in the context of jobs, "it is the degree to which the job fulfills or allows the fulfillment of the individual's needs that determines his degree of job satisfaction" (p. 1303). We thus hypothesize a positive relationship between needs-supplies fit and perceived user-system fit (H2).

Demands-Abilities (D-A) Fit

The second dimension of P-J fit is D-A fit, wherein employees' knowledge, skills, and abilities are commensurate with what the job requires (Edwards, 1991). D-A fit may be described as the 'flip side' of N-S fit; while N-S fit deals with the extent to which environmental supplies meet individual needs, D-A fit accounts for the individual's skills at meeting environmental needs (Kristof, 1996; Kristof-Brown et al., 2005). In the context of Web 2.0, we define D-A fit as *the perceived degree of congruence between the user's abilities and resources and those needed to use the system*. D-A fit is thus similar to the concept of perceived behavioral control (PBC). According to Ajzen (1991), PBC reflects beliefs about access to the resources and opportunities that are needed to perform a behavior. Two components are included in this construct (Taylor & Todd, 1995b). The first is "facilitating conditions" (Triandis, 1980), or the availability of the resources needed to perform a behavior, while the second component is self-efficacy, which reflects an individual's self-confidence in their ability to perform a behavior (Bandura, 1986). Empirical evidence in IS indicates a positive relationship between ability and access to required resources and IT adoption and use (e.g., Bhattacharjee et al., 2008; Plowman & Goode, 2009; Taylor & Todd, 1995a, 1995b). Hence, we hypothesize a positive relationship between D-A fit and perceived user-system fit (H3).

User - Group (U-G) Fit

Person-group fit is "the compatibility between individuals and their work group" (Kristof, 1996, p. 7) and reflects psychological compatibility between coworkers (Kristof-Brown et al., 2005). In accordance with the similarity-attraction paradigm (Byrne, 1971), which argues that individuals are both attracted to and have more positive attitudes towards similar others, members of more homogeneous groups tend to have more positive attitudes (e.g. Thomas et al., 1994). The similarity-attraction paradigm provides theoretical support for the distinctive role played by P-G fit as contrasted to the need-fulfillment approach (such as the N-S fit) (Adkins et al., 1996). That is, in the case of P-G fit, individuals are expected to have positive attitudes by virtue of interacting with similar others, rather than as a result of the organization or the job providing opportunities for their need or value fulfillment.

U-G fit reflects *the degree of perceived congruence between the user's characteristics and personal preferences and those of the group*. The evidence from empirical research in the contexts of both more traditional online communities of practice (e.g. Wasko & Faraj, 2005) and Web 2.0 social networks (e.g. Boyd & Ellison, 2007) indicates that individuals use social networking Web sites because they share interests with other members. Even in vast communities such as Facebook, users 'cluster' in groups or clubs (Lai & Turban, 2008). This social behavior is closely related to what Kelman (1974) calls internalization, which refers to taking action as a result of congruence between one's own and a group's shared values or goals. Internalization pertaining to one's membership in specific cultural group(s) occurs through processes of socialization and psychological development (e.g. Higgins, 1991). We hypothesize a positive relationship between user-group fit and perceived user-system fit (H4).

User-System (U-S) Fit

We define perceived user-system fit as *the perceived congruence between the user's characteristics and the system*, and propose that it is a multidimensional construct comprising the four dimensions of user-expression fit, needs-supplies fit, demands-abilities fit, and user-group fit. Recent research has shown that multidimensional constructs are helpful in explaining higher-order concepts spanning their component dimensions (Serva et al., 2005). In contrast to a collection of interrelated unidimensional constructs, "the dimensions of a multidimensional construct can be conceptualized under an overall abstraction, and it is theoretically meaningful and parsimonious to use this overall abstraction as a representation of the dimensions" (Law et al., 1998, p.741). As reflected in the hypotheses above, rather than hypothesizing a relationship between each facet of fit and Web 2.0 use, we theorize that the four types of fit - which tap into different facets of fit between the user and the system - will be positively associated with perceived user-system fit, such that an increase in any of the four dimensions of fit is expected to lead to better perceived user-system fit. As perceived user-system fit comprises the four dimensions of fit, we hypothesize that perceived user-system fit will be positively related to Web 2.0 use (H5).

The model proposed in this paper addresses both intrinsic motivation and extrinsic (both productivity-related and personal) motivation through the construct of needs-supplies fit. The construct also captures social dimensions, including the need to relate (e.g., Ryan & Deci, 2000). Another important social dimension that our model captures is the issue of what Kelman (1974) calls 'internalization,' which "refers to acting out of congruence between one's own and a group's shared values or goals" (Bagozzi, 2007, p. 248). This important dimension is captured in our model through the construct of user-group fit. Finally, there is the dimension of what Kelman (1974) calls 'identification,' which refers to 'influence based on a self-defining relationship a person has with another person or group' (Bagozzi, 2007, p. 248). The issue of identity is captured in our model through the construct of user-expression fit. In addition to explicitly focusing on fit, our model addresses fit in a comprehensive manner by accounting for both complementary fit - where the environment meets the individual's needs - and supplementary fit - where there is a similarity between the individual's characteristics and that of the environment (Kristof-Brown et al., 2005). We believe that the user-system fit model may be helpful in furthering our understanding of IT acceptance.

Research Method

Data for this study will be collected in two phases, starting with interviews. The objective of the first phase is to provide a preliminary validation of the model's constructs and their relationships, identify possible refinements to the model, and develop an initial set of items to measure the various constructs. The final number of interviews will be determined according to the concepts of information redundancy (Lincoln & Guba 1985) and data saturation (Lapointe & Rivard, 2007). These concepts suggest that no more interviews are required once the researcher determines that no new insights are being provided or that the interviewees are repeatedly providing the same information. A semi-structured interview guide is used to enhance the comprehensiveness of the data collected and make the data collection more systematic with each respondent (Patton, 2001). We have already conducted 33 interviews and are in the process of transcribing and analyzing them. The interviews have been conducted with a varied pool of subjects that include undergraduate and graduate students, staff members, faculty members, in addition to various professionals (including IT professionals) and managers from outside the university setting. The subjects also vary in education, age groups, ethnicity, and gender. From the preliminary analysis we are finding support for our model's constructs and relationships.

The second phase of data collection will involve a large-scale survey. Since our target population is Web-savvy, a Web-based survey will be used in this phase. Our unit of analysis is the individual. Undergraduate and graduate students, along with staff members, at a large Canadian university will be used to represent the population under study. The student body at the university is varied in terms of ethnicity and age, and many of them use Web 2.0 applications. Furthermore, many of them own their own small businesses or study on a part-time basis while working on a full or part-time basis. Including staff members will ensure a more heterogeneous sample in terms of age and work experience. In addition, as the university has Web 2.0 presence, staff members may have experience regarding organizational use of social computing. Furthermore, staff members belong to one of three groups: managerial, administrative, and technical, and thus correspond to the human resources configuration in business organizations. For all these reasons, these two groups –students and staff- represent an appropriate population for the proposed study. Respondents will be asked whether they use Web 2.0 technologies and whether this usage is for organizational purposes, for personal purposes, or both. If their organizations have adopted Web 2.0, they will also be asked whether its usage is mandatory.

In this study, validated measurement instruments will be used, whenever available. Items may need to be modified as required by the context of the study. In such a case, following the recommendation of Pinsonneault and Kraemer (1993), a pretest will be conducted to further refine the instrument, and remove items with weak psychometric properties. To assess the various types of fit, we will rely on direct measures of fit: measures of perceived fit that rely on an individual's direct assessment of the compatibility between them and the environment (Kristof-Brown et al., 2005). The main advantage of a direct assessment of fit is that it “allows the greatest level of cognitive manipulation because the assessment is all done in the head of the respondents, allowing them to apply their own weighting scheme to various aspects of the environment” (Kristof-Brown et al., 2005, p. 291). Verquer et al. (2003) also found that a direct assessment of fit is more strongly related to individual attitudes than other approaches to measuring fit.

Expected Contributions

This study is expected to provide three main contributions to research. First, it will reconceptualize the usefulness construct into needs-supplies fit, which taps into a wider spectrum of needs. Second, by relying on person-environment fit as our theoretical lens, the study develops a model of user-system fit that provides a complementary perspective to current models for a better understanding of Web 2.0 use. Third, empirically testing the model of Web 2.0 user-system fit will help better explain and predict this important phenomenon, and will also confirm the nomological validity of both the reconceptualized usefulness construct and the newly developed perceived user-system fit. Moreover, the model will be made available for researchers to use in studies of other types of IT. As for practice, this study will help managers understand what induces individuals to use Web 2.0 technologies and gain important insights on how to develop their internal and external Web 2.0 strategies.

References

- Adams, J. S. "Toward an Understanding of Inequity," *Journal of Abnormal and Social Psychology* (67), 1963, 422–436.
- Adams, D.A., Nelson, R.R., and Todd, P.A. "Perceived Usefulness, Ease of Use, and Usage of Information," *MIS Quarterly* (16:2), 1992, pp. 227-247.
- Adkins, C.L., Ravlin, E.C., and Meglino, B.M. "Value congruence between co-workers and its relationship to work outcomes," *Group & Organization Management* (21:4), 1996, pp. 439-460.
- Ajzen, I. "The Theory of Planned Behavior," *Organizational Behavior and Human Decision Processes* (50), 1991, pp. 179-211.
- Alderfer, C.P. *Existence, Relatedness, and Growth: Human Needs in Organizational Settings*, Free Press, New York, 1972.
- Baard, P.P., Deci, E.L., and Ryan, R.M. "Intrinsic Need Satisfaction. A Motivational Basis of Performance and Well-Being in Work Setting," *Journal of Applied Social Psychology* (34:10), 2004, pp. 2045-2068.
- Bagozzi, R.P. "The Legacy of the Technology Acceptance Model and a Proposal for a Paradigm Shift," *Journal of the Association for Information Systems* (8:4), 2007, pp. 243-254.
- Bandura, A. *Social Foundations of Thought and Action: A Social Cognitive Theory* Prentice-Hall, Englewood Cliffs, NJ, 1986.
- Baumeister, R.F., and Leary, M.R. "The Need to Belong: Desire for Interpersonal Attachments as a Fundamental Human Motivation," *Psychological Bulletin* (117), 1995, 497-529.
- Bandura, A., and Adams, N.E. "Analysis of Self-Efficacy Theory of Behavioral Change," *Cognitive Therapy and Research* (4), 1977, pp. 287-310.
- Benbasat, I., and Barki, H. "Quo Vadis TAM," *Journal of the Association for Information Systems* (8:4), 2007, pp. 211-218.
- Benkler, Y. *The Wealth of Networks: How Social Production Transforms Markets and Freedom*, 2006 http://www.benkler.org/Benkler_Wealth_Of_Networks.pdf
- Bhattacharjee, A., Perols, J., and Sanford, C. "Information Technology Continuance: A Theoretic Extension and Empirical Test," *The Journal of Computer Information Systems* (49:1), 2008, pp. 17-26.
- Bonabeau, E. "Decisions 2.0: The Power of Collective Intelligence," *MIT Sloan Management Review* (50:2), 2009, pp. 45-52.
- Boyd, D. M., & Ellison, N. B. "Social Network Sites: Definition, History, and Scholarship," *Journal of Computer-Mediated Communication*, 13(1), 2007 (<http://jcmc.indiana.edu/vol13/issue1/boyd.ellison.html>)
- Bughin, J., & Manyika, J. "How Businesses are Using Web 2.0: A McKinsey Global Survey," 2007, retrieved March 20th, 2010, from http://www.mckinseyquarterly.com/How_businesses_are_using_Web_20_A_McKinsey_Global_Survey_1913
- Byrne, D. *The Attraction Paradigm* Academic Press, San Diego, CA, 1971.
- Cable, D.M., and Edwards, J.R. "Complementary and Supplementary Fit: A Theoretical and Empirical Integration," *Journal of Applied Psychology* (89), 2004, pp. 822-834.
- CNNMoney, "The 20 Best Money Web Sites," 2010, retrieved March 30th, 2010, from http://money.cnn.com/galleries/2010/moneymag/1002/gallery.Best_money_websites.moneymag/14.html
- Compeau, D.R., Higgins, C.A., and Huff, S.L. "Social Cognitive Theory and Individual Reactions to Computing Technology: A Longitudinal Study," *MIS Quarterly* (23:2), 1999, pp. 145-158.
- Compeau, D.R., Meister, D.B., and Higgins, C.A. "From Prediction to Explanation: Reconceptualizing and Extending the Perceived Characteristics of Innovating," *Journal of the Association for Information Systems* (8:8), 2007, pp. 409-439.
- Cox, A.M. "Flickr: A Case Study of Web 2.0," *Aslib Proceedings* (60:5), 2008, pp. 493–516.
- Davis, F.D. "Perceived Usefulness, Perceived Ease of Use, and User Acceptance," *MIS Quarterly* (13:3), 1989, pp. 319-340.
- Davis, F.D., Bagozzi, R.P., and Warshaw, P.R. "User Acceptance of Computer Technology: A Comparison of Two Theoretical Models," *Management Science* (35:8), 1989, pp. 982-1003.
- Davis, F.D., Bagozzi, R.P., and Warshaw, P.R. "Extrinsic and Intrinsic Motivation to Use Computers in the Workplace," *Journal of Applied Social Psychology* (22:14), 1992, pp. 1111- 1132.
- Dawis, R., and Lofquist, L. *A psychological theory of work adjustment* University of Minnesota Press, Minneapolis, 1984.

- Deci, E.L., and Ryan, R.M. "A Motivational Approach to Self: Integration in Personality," in: *Nebraska Symposium on Motivation*, R. Dienstbier (ed.), University of Nebraska Press, Lincoln, 1991, pp. 237-288.
- DeSanctis, G., and Poole, M.S. "Capturing the Complexity in Advanced Technology Use: Adaptive Structuration Theory," *Organization Science* (5:2), 1994, pp. 121-147.
- Edwards, J.R. "Person–Job Fit: A Conceptual Integration, Literature Review and Methodological Critique," *International Review of Industrial/Organizational Psychology* (6), 1991, pp. 283–357.
- Edwards, J.R., and Bagozzi, R.P. "On the Nature and Direction of Relationships between Constructs," *Psychological Methods* (5:2), 2000, pp. 155-174.
- Ellison, N. B., Steinfield, C., & Lampe, C. "The Benefits Of Facebook "Friends:" Social Capital and College Students' Use of Online Social Network Sites," *Journal of Computer-Mediated Communication*, 12(4), 2007 (<http://jcmc.indiana.edu/vol12/issue4/ellison.html>)
- FaceBook "Press Room: Statistics," 2010, retrieved March 30th, 2010, from www.facebook.com/press/info.php?statistics
- Fishbein, M., & Ajzen, I. *Attitude, Intention and Behavior: An Introduction to Theory and Research*, 1975 (<http://www.people.umass.edu/aizen/f&a1975.html>)
- Gefen, D., and Straub, D.W. "Gender Differences in the Perception and Use of E-Mail: An Extension to the Technology Acceptance Model," *MIS Quarterly* (21:4), 1997, pp. 389-400.
- Gillmor, D. *We the Media: Grassroots Journalism by the People, for the People*, 2004 (<http://oreilly.com/catalog/wemedia/book/index.csp>)
- Glassberg, B., Grover, V., and Teng, J. "The Measurement of Perceived Social Usefulness," in the Proceedings of the 10th Americas Conference on Information Systems, New York, NY, USA, 2004, pp. 1348-1355.
- Grandon, E.E., and Pearson, J.M. "Electronic Commerce Adoption: An Empirical Study of Small and Medium US Businesses," *Information & Management* (42:1), 2004, pp. 197-216.
- Greenemeier, L., & Gaudin, S. "Amid The Rush to Web 2.0, Some Words of Warning," *InformationWeek Global CIO*, May, 2008 (<http://www.informationweek.com/news/global-cio/showArticle.jhtml?articleID=199702353>)
- Higgins, E.T. "Development of Self-Regulatory and Self-Evaluative Processes: Costs, Benefits, and Tradeoffs," in: *Self Processes and Development*, M.R. Gunnar and L.A. Sroufe (eds.), Erlbaum, Hillsdale, NJ, 1991, pp. 125-166.
- Hogan, R., and Warrenfeltz, R. "Educating the Modern Manager," *Academy of Management Learning and Education* (2), 2003, pp. 74-84.
- Hsu, C., and Lin, J.C. "Acceptance of Blog Usage: The Roles of Technology Acceptance, Social Influence and Knowledge Sharing Motivation," *Information & Management* (45:1), 2008, pp. 65-74.
- Hu, T., and Kettinger, W.J. "Why People Continue to Use Social Networking Services: Developing a Comprehensive Model," in the Proceedings of the 29th International Conference on Information Systems, Paris, France, 2008.
- IBM "Social Computing for Business: Web 2.0 goes to work," n.d., retrieved April 2nd, 2010, from IBM Web site: http://www-01.ibm.com/software/info/web20/social_computing.html
- Kane, G.C., and Fichman, R.G. "The Shoemaker's Children: Using Wikis for Information Systems Teaching, Research, And Publication," *MIS Quarterly* (33:1), 2009, pp. 1-22.
- Kanfer R." Motivation Theory and Industrial and Organizational Psychology," in *Handbook of Industrial and Organizational Psychology*, Dunnette, M.D., & Hough, H.M. (Eds.), Palo Alto, CA: Consulting Psychologists Press, 1991, pp. 75–170.
- Karahanna, E., Agarwal, R., and Angst, C. "Reconceptualizing Compatibility Beliefs in Technology Acceptance Research," *MIS Quarterly* (30:4), 2006, pp. 781-804.
- Kelman, H.C. "Further Thoughts on the Processes of Compliance, Identification, and Internalization," in: *Perspectives on Social Power*, Tedeschi, J.T. (ed.), Chicago: Aldine, 1974, pp. 126-171.
- Kristof, A.L. "Person-organization fit: An Integrative Review of Its Conceptualizations, Measurement, and Implications," *Personnel Psychology* (49:1), 1996, pp. 1-49.
- Kristof-Brown, A.L., Zimmerman, R.D., and Johnson, E.C. "Consequences of Individuals' Fit At Work: A Meta-Analysis of Person-Job, Person-Organization, Person-Group, and Person-Supervisor Fit," *Personnel Psychology* (58), 2005, pp. 281-342
- Lai, L.S.L., and Turban, E. "Groups Formation and Operations in the Web 2.0 Environment and Social Networks," *Group Decision and Negotiation* (17:5), 2008, p 387-402.
- Lapointe, L., and Rivard, S. "A Triple Take on Information System Implementation," *Organization Science* (18:1), 2007, pp. 89-107.
- Latham, G.P. *Work Motivation: History, Theory, Research, and Practice*, SAGE, Thousand Oaks, 2007.

- Latham, G.P., and Pinder, C.C. "Work Motivation Theory and Research at The Dawn of The Twenty-First Century," *Annual Review of Psychology* (56), 2005, pp. 485-516.
- Lavenda, D. "Does 'blogging' Have a Place in the Workplace?," *The British Journal of Administrative Management* (27), 2008.
- Law, K.S., Wong, C.S., and Mobley, W.H. "Toward a Taxonomy of Multidimensional Constructs," *Academy of Management Review* (23), 1998, pp. 741-755.
- Lim, K.H., and Benbasat, I. "The Effect of Multimedia on Perceived Equivocality and Perceived Usefulness of Information Systems," *MIS Quarterly* (24:3), 2000, pp. 449-471.
- Lincoln, Y.S., and Guba, E.G. *Naturalistic Inquiry*, Sage, Newbury Park, CA, 1985.
- Locke, E.A. "The Nature and Causes of Job Satisfaction," in: *Handbook of Industrial and Organizational Psychology*, M.D. Dunnette (ed.), Rand McNally, Chicago, 1976, pp. 1297-1349.
- Locke, E.A. "The Motivation Sequence, the Motivation Hub, and the Motivation Core," *Organizational Behavior and Human Decision Processes* (50:2), 1991, pp. 288-299.
- Markus, M.L., and Silver, M.S. "A Foundation for the Study of IT Effects: A New Look at Desanctis and Poole's Concepts of Structural Features and Spirit," *Journal of the Association for Information Systems* (9:10/11), 2008, pp. 609-632.
- Maslow, A.H. *Motivation and Personality*, Harper and Row, New York, 1954.
- McGregor, D.M. "The Human Side of the Enterprise," *Management Review* (46), 1957, 22-28.
- Moore, G.C., and Benbasat, I. "Development of an Instrument to Measure the Perceptions of Adopting an Information Technology Innovation," *Information Systems Research* (2:3), 1991, pp. 192-222.
- Muchinsky, H.A., and Monahan, C.J. "What is Person-Environment Congruence? Supplementary Versus Complementary Models of Fit," *Journal of Vocational Behavior* (31), 1987, pp. 268-277.
- Okoli, C., and Oh, W. "Investigating Recognition-Based Performance in an Open Content Community: A Social Capital Perspective," *Information & Management* (44:3), 2007, pp. 240-252.
- Oleson, M. "Exploring the relationship between money attitudes and Maslow's hierarchy of needs," *International Journal of Consumer Studies* (28:1), 2004, 83-92.
- O'Reilly, T. "What Is Web 2.0: Design Patterns and Business Models for the Next Generation of Software," 2005, retrieved September 9th, 2009, from <http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html>
- Ostroff, C., Shin, Y., and Kinicki, A.J. "Multiple Perspectives of Congruence: Relationships Between Value Congruence and Employee Attitudes," *Journal of Organizational Behavior* (26), 2005, pp. 591-623.
- Parameswaran, M., and Whinston, A.B. "Research Issues in Social Computing," *Journal of the Association for Information Systems* (8:6), 2007, p 336.
- Patton, M. *Qualitative Research & Evaluation Methods*, (3rd ed.) Sage, Thousand Oaks, 2001.
- Pfaff, C.C., and Hasan, H. "Overcoming Organizational Resistance to Using Wiki Technology for Knowledge Management," in the Proceedings of the 10th Pacific Asia Conference on Information Systems, Kuala Lumpur, Malaysia, 2006, pp. 926-935.
- Pinsonneault, A., and Kraemer, K. "Survey Research in Management Information Systems: An Assessment," *Journal of Management Information Systems* (10:2), 1993, pp. 75-105.
- Plowman, S., and Goode, S. "Factors Affecting the Intention to Download Music: Quality Perceptions and Downloading Intensity," *The Journal of Computer Information Systems* (49:4), 2009, pp. 84-97.
- Rogers, E.M. *Diffusion of Innovations*, (3rd ed.) The Free Press, New York, 1983.
- Ryan, R.M., and Deci, E.L. "Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being," *American Psychologist* (55:1), 2000, pp. 68-78.
- Serva, M.A., Benamati, J.S., and Fuller, M.A. "Trustworthiness in B2C e-Commerce: An Examination of Alternative Models," *The DATA BASE for Advances in Information Systems* (36:3), 2005, pp. 89-108.
- Szajna, B. "Software evaluation and choice: Predictive Validation of the Technology Acceptance Instrument," *MIS Quarterly* (18:3), 1994, pp. 319-324.
- Taylor, S., and Todd, P.A. "Assessing IT Usage: The Role of Prior Experience," *MIS Quarterly* (19:2), 1995a, pp. 561-570.
- Taylor, S., and Todd, P.A. "Understanding Information Technology Usage: A Test of Competing Models," *Information Systems Research* (6:2), 1995b, pp. 144-176.
- Thomas, D.C., Ravlin, E.C., and Wallace, A.W. "Effect of Cultural Diversity in Management Training Groups," *Academy of Management Learning and Education*, August, 1994.
- Thompson, R.L., Higgins, C.A., and Howell, J.M. "Personal Computing: Toward a Conceptual Model of Utilization," *MIS Quarterly* (15:1), 1991, pp. 125-143.

- Triandis, H.C. "Values, Attitudes, and Interpersonal Behavior," in: *Nebraska Symposium on Motivation*, H. Howe and M. Page (eds.), University of Nebraska Press, Lincoln, 1980, pp. 195–260.
- Venkatesh, V., Morris, M.G., Davis, G.B., and Davis, F.D. "User Acceptance of Information Technology: Toward a Unified View," *MIS Quarterly* (27:3), 2003, pp. 425-478.
- Verquer, M.L., Beehr, T.A., and Wagner, S.H. "A Meta-Analysis Of Relations Between Person–Organization Fit and Work Attitudes," *Journal of Vocational Behavior* (63:3), 2003, pp. 473-489.
- von Hippel, E., and von Krogh, G. "Open Source Software and the "Private-Collective" Innovation Model: Issues for Organization Science," *Organization Science* (14:2), 2003, pp. 209-223.
- Vroom, V. *The motivation to work*. New York: Wiley, 1964.
- Wasko, M.M., and Faraj, S. "Why should I share? Examining Social Capital and Knowledge Contribution in Electronic Networks of Practice," *MIS Quarterly* (29:1), 2005, pp. 35-57.
- White, R.W. "Motivation reconsidered: The concept of Competence," *Psychological Review* (66), 1959, pp. 297-333.
- Wunsch-Vincent, S., & Vickery, G. *Participative Web: User-Created Content*, 2007, retrieved March 31st, 2010, from Organization for Economic Co-operation and Development Web site: <http://www.oecd.org/dataoecd/57/14/38393115.pdf>