Theoretical perspectives in IS research:
From variance and process to conceptual latitude and conceptual fit

Andrew Burton-Jones

UQ Business School, The University of Queensland, Brisbane, Australia,

Ephraim R. McLean

J. Mack Robinson School of Business, Georgia State University, U.S.A.

Emmanuel Monod

Antai College of Economics and Management, Shanghai Jiao Tong University, China

Abstract

There has been growing interest in theory building in Information Systems research. We extend this literature by examining theory building perspectives. We define a *perspective* as a researcher's choice of the types of concepts and relationships used to construct a theory, and we examine three perspectives—process, variance, and systems. We contribute by clarifying these perspectives and explaining how they can be used more flexibly in future research. We illustrate the value of this more flexible approach by showing how researchers can use different theoretical perspectives to critique and extend an existing theoretical model (in our case, the IS Success Model). Overall, we suggest a shift from the traditional process-variance dichotomy to a broader view defined by conceptual latitude (the types of concepts and relationships available) and conceptual fit (the types of concepts and relationships appropriate for a given study). We explain why this shift should help researchers as they engage in the knowledge generation process.

Keywords: theory, methodology, process, variance, system, conceptual latitude, conceptual fit.

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Introduction

According to Glaser and Strauss (1967), the highest rewards in science go to those who generate an important theory. Many researchers also consider a paper's theoretical contribution to be the main measure of its quality (Straub et al. 1994; Daft 1995). In the Information Systems discipline, the development of theory has long been an important topic (Edstrom 1973; Langefors and Samuelson 1975; Ahituv 1987; Weber 1987), but recently it has become even more prominent (Truex et al. 2006; Markus and Saunders 2007; Grover et al. 2008; Straub 2012). For instance, IS researchers have examined the evaluation of theory (Weber 2003; 2012), the goals of theory (such as understanding, explaining, predicting, and prescribing) (Gregor 2006), and the components of theory (Gregor and Jones 2007). Our peers in Organization Science have been similarly active, emphasizing the need for more training in theory (Hillman 2011) and providing advice on how to combine theories (Okhuysen and Bonardi 2011), judge theoretical contributions (Corley and Gioia 2011), and distinguish theories from frameworks (Shapira 2011). Our aim is to complement these works by contributing a deeper understanding of theoretical perspectives.

By theoretical *perspectives*, we mean researchers' choice regarding the basic building blocks of theory and how those building blocks can be assembled. We focus on two building blocks—concepts and relationships. The literature offers little guidance on the types of concepts and relationships available and how they can be assembled. Since Mohr (1982), the prevailing orthodoxy has been to distinguish the *variance* perspective, which focuses on covariation among properties, from the *process* perspective, which focuses on sequences of events. These two perspectives are generally treated as a dichotomy (Van de Ven 2007, Markus and Robey 1988,

Seddon 1997). The basic thrust of this paper is that while this dichotomy was helpful in the past, it can blind researchers to alternative perspectives, such as the systems perspective, and combinations of perspectives. We propose de-emphasizing it and emphasizing a more flexible understanding of the types of concepts and relationships available (conceptual latitude) and the need to select a suitable type for a given study (conceptual fit). We explain how this advice applies irrespective of researchers' metatheoretical assumptions. Our suggestion is ultimately practical. Because the world is complex, the principle of requisite variety reminds us that we need a rich variety of theoretical perspectives to account for it (Ashby 1958; Weick 2007). The aim of our paper is to help researchers to understand the range of perspectives available and select from them accordingly, freeing them from restrictions they may have perceived from past work.

One challenge when writing our paper was deciding how best to write it – more practically or more philosophically. We must include some treatment of philosophy because the nature of theory is a long-standing topic in the philosophy of science. However, it is hard to provide a deep philosophical analysis within the bounds of this paper because philosophers have debated some of the issues we will discuss since antiquity. Moreover, we are not philosophers, and nor are the readers to whom we hope to communicate. Given the message we want to convey in our paper and our intended readership, we decided to focus primarily on practical issues rather than philosophical ones. We address philosophical issues when necessary in the paper, but rather than attempt to engage in age-old philosophical debates, we seek to move past them and focus on how practicing IS researchers can use theoretical perspectives when building or refining a theoretical model. In short, we wrote the paper with a particular reader in mind – an IS researcher who hopes to generate new knowledge and who, as part of that process, wants to build or refine a theoretical model. We hope the principles we offer in this paper can form a useful part of researchers' intellectual toolkit when conducting such work.

The paper is structured as follows. First, we describe what we mean by a theoretical perspective and the different perspectives that have been used in IS research. Next, we examine why researchers should treat these different perspectives flexibly rather than as strict rules; and we demonstrate the value of taking a more flexible approach with reference to research on IS Success. We then bring these arguments together with an invitation to shift from the traditional variance/process dichotomy to a more flexible approach guided by the dual criteria of conceptual latitude and conceptual fit. We explain why this offers several benefits for knowledge generation.

Theoretical perspectives in IS research

Although "theory" can be defined in many ways, we follow prior studies by defining it as *an account of some phenomena* (Weber 2003 p. iv; Gregor 2006 p. 616). Our focus is on two building blocks of theory—concepts and relationships. We recognize that theories can contain more than concepts and relationships. For instance, they can contain boundaries (Dubin, 1978; Weber, 2003), assumptions (Gregor 2006), modalities (Kant 1781; Giddens 1984), or even moral context (Pentland, 1999). However, as Table 1 shows, our focus on concepts and relationships is consistent with the focus of many leading researchers, irrespective of whether they come from a positivist or interpretive background. Moreover, even if we limit the scope of our analysis to theoretical models rather than theories *in toto*, the core building blocks of theoretical models are still concepts and relationships (Jaccard and Jacoby 2010 p. 29). Thus, for the purpose of this paper, we use the term theoretical perspectives to refer to the types of concepts and relationships that researchers can choose when theorizing and how they can assemble these types of concepts and relationships to form a theory or theoretical model.

Table 1: Two building blocks of theories: concepts and relationships

Supporting statements	Reference
"Any theory has two components: the concepts or categories that the theory employs, and the relationships…among these concepts."	(Maxwell 1992 p. 291)
"… 'theory' means in all empirical sciences, the explicit formulation of determinate relations between a set of variables…."	(Schutz 1973 p. 51-52)
"Theory is about the connections among phenomena."	(Sutton and Staw 1995 p. 378)
"There are, then, theoretical terms, theoretical laws, and theories; each may be analyzed by reference to the other two."	(Kaplan 1964/1998 p. 297)
"Theorizing is how we think about the relationships among the elements in the world that occupy our research attention."	(Van Maanen et al. 2007 p. 1147)
"A theory is a set of statements about the relationship(s) between two or more concepts or constructs."	(Jaccard and Jacoby 2010 p. 28)

To clarify what we mean by a theoretical perspective, it is important to consider how they are positioned in relation to the typical categories of ontology and epistemology. One view that we could (but do not) take is that we are studying a traditional topic of ontology (Thompson 2011). Researchers in the philosophical field of ontology have long debated whether the world consists of things and properties, events and processes, change or structure (Bunge 1977; Rescher 1996). One could use this approach—a materialist approach—to make a claim about what exists in the world (the ontological constructs) and then examine the various types of theoretical concepts and relationships that researchers can use to refer to those ontological constructs. Such an analysis might show that different theoretical perspectives are better suited than others to studying different real-world phenomena. The benefits of this approach are that it would be systematic and would allow us to be definitive about the types of concepts and relationships that researchers can use (see, e.g., Weber 2012).

The weakness of this approach is that it would require us to propose a materialist ontology—a strong claim about what the world consists of. Should we select Bunge's (1977) ontology for this purpose, Rescher's (1996), or some other one? Unfortunately, any choice would

be problematical because the philosophy of science offers no single agreed-upon ontology. For example, Bunge (1979) proposes an ontology that integrates prior ontologies, shades of which are evident in Weber's (2012) work, but Bunge notes that his view is not mainstream:

> A basic polarity in traditional metaphysics is that of being and becoming: event is opposed to thing, process to stuff, change to structure. This opposition makes no sense in our system, where every change is the transformation of some thing or other, and every thing is in flux. [However, the integrated view I propose is] … incompatible with much of traditional metaphysics (Bunge 1979, p. 276).

Choosing such a 'materialist' ontology would also fly in the face of major trends in the natural and social sciences. In the natural sciences, physicists moved away from assuming a simple materialistic ontology, claiming that such an assumption fails to account for the role of the observer in science (Heisenberg 1958 p. 103). In the social sciences, continental philosophers critiqued materialist ontologies and proposed hermeneutical perspectives in their place (Heidegger 1953; Ricoeur 1974; Gadamer 1976). Others proposed social ontologies (Searle 2006). It would be impossible to reconcile all these perspectives, and unnecessary for the points we wish to make.

The alternative approach, which we suggest, is to take an epistemological perspective. According to this view, different types of concepts and relationships are simply different ways of building knowledge about the world. Rather than starting from strong materialist assumptions about what the world consists of, an epistemological approach allows researchers to draw on the long history of scientific efforts to generate knowledge, consistent with the research in philosophy of science (Godfrey-Smith 2003 pp. 8-9). For instance, we will describe shortly how the different perspectives we examine in this paper have long traditions in science as far back as the ancient Greek philosophers, which likely attests to their usefulness as ways of knowing. In addition to allowing us to draw on the history of science, an epistemological approach allows us to be more open about limitations in existing theoretical perspectives and alternative ways of thinking about

them in the *future* (Godfrey-Smith 2003 pp. 230-231) This aligns with our paper's practical motivation. That is, rather than propose the *definitive* categorization of the types of constructs and relationships that researchers can use, our aim is to open up researchers to a broader and more flexible way to think about the knowledge building process.

Much more could be said about these ontological and epistemological issues. However, the purpose of our paper is to focus on the practical implications of each perspective. To illustrate what we mean, practically, by a theoretical perspective, consider the well-known technology acceptance model (TAM) (Davis 1989). TAM consists of *concepts* such as "ease-of-use," "usefulness," and "intentions to use an IT" and *relationships* such as there being a positive effect of ease-of-use on usefulness, and a positive effect of ease of use and usefulness on intentions. At the level of a theoretical "perspective," TAM consists of certain *types* of concepts (properties of things) and *types* of relationships (one-way, seemingly deterministic relations) that some would characterize as a "variance" approach, because variations in the properties is what drives the relationships. This paper reviews three perspectives: variance, process, and systems. Figure 1 illustrates the relative emphases of each perspective and Table 2 summarizes their characteristics.

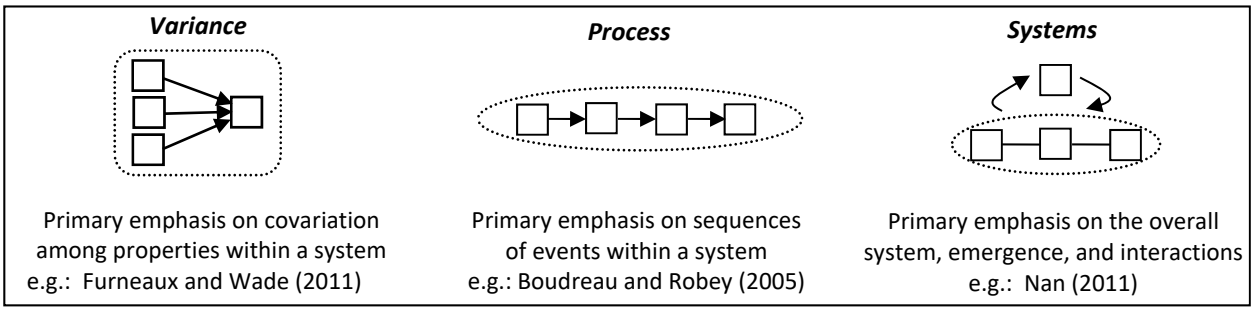

Figure 1: Relative emphases of the variance, process, and system perspectives

Table 2: Espoused differences among the process, variance, and system perspectives

Dimension	Variance perspective	Process perspective	Systems perspective
1. Type of concepts	Properties of entities that have varying values	Entities that participate in or are affected by events	Systems/wholes (comprising parts) that have emergent properties
2. Change in concepts over time	Properties do not change over time (only their values change)	Entities change over time	Systems/wholes, their parts, and their properties can change over time.
3. Types of relationships	Variation among values of properties	Sequences among events (typically probabilistic)	Interactions among parts and reciprocal relationships
4. Time ordering in the relationships among concepts	Time ordering among independent variables (properties) is not important	Time ordering of events is important	Time ordering of events and properties are important

We examine these perspectives for three reasons. First, while other perspectives might exist, we believe these three are broad enough to account for most theories that IS researchers construct. Second, all three perspectives have very long histories. The variance and process perspectives stem from age-old debates (at least since the opposition between the pre-Socratic philosophers Heraclitus and Parmenides) regarding whether it is best to view the world in terms of statics or dynamics, being or becoming (Rescher 1996), while the systems perspective stems from the debate between holism and reductionism in Greek philosophy (Klir 1991 p. 24). Their long histories are surely a good indication that they are useful in some way. We also examine these perspectives because while several studies have provided guidance regarding one or two of them (typically, the variance/process dichotomy) (Mohr 1982; Markus and Robey 1988; Van de Ven 2007), no study to our knowledge has provided guidance regarding all three, which appears to be an important omission. Also, as we explain later, these studies might have unintentionally created an overly restrictive view regarding the ways in which researchers can build theories and theoretical models. In the next sections, we outline each perspective in turn.

The variance perspective

Mohr coined the term "variance" to describe how researchers view the world when they see it comprised of independent and dependent variables. Different versions of it have been described in social science (Blalock 1969; Dubin 1978; Bacharach 1996) and it is very popular because of the widespread statistical machinery available to test theories created with it. For example, in a recent survey of IT impact research, about 80% of articles in leading IS journals were found to have used a variance perspective (Pare et al. 2008).

In terms of theoretical *concepts*, the variance perspective focuses on properties of entities, often called variables or factors (e.g., 'system quality'). These properties are assumed to have varying values, whether qualitative (e.g., low to high) or quantitative (e.g., 1-7). As Table 2 shows, the meaning of properties is assumed to be fixed over time even if the values change (e.g., 'system quality' means the same thing whether the value is 1 out of 7 or 7 out of 7).

In terms of theoretical *relationships*, the variance perspective focuses on variation among the values of properties. Relationships are typically assumed to be unidirectional (if x increases, then y increases) and constant (the effect of x on y always remains the same over time), allowing researchers to assume continuity of effect (Mohr 1982; Poole et al. 2000 pp. 32-33). For example, consider a researcher who predicts that system quality (X_1) and availability of resources (X_2) explain users' intention to use a system (Y). According to Poole et al. (2000 p. 34), a variance researcher would consider the temporal order of these X variables to be immaterial, because each one is assumed to have an independent and continuous effect on Y.

The concepts and relationships in the variance perspective can be assembled in many ways. For example, Dubin (1978 p. 78) distinguishes four types of properties: enumerative properties, which are properties an entity always has (e.g., one's age), associative properties, which are properties an entity may have (e.g., one's income), relational properties, which are

properties an entity has in relation to other entities (e.g., one's centrality in a group), and statistical properties, which describe an entity's range of values on a property (e.g., one's average monthly income). Shoemaker et al. (2004 p. 59) give a similarly detailed treatment of different types of relationships. A full examination of the range of ways that the variance perspective can be used would merit its own paper; but suffice to say, it is quite flexible.

The process perspective

Despite its flexibility, Mohr felt that the variance perspective was ill suited to studying organizational change. He advocated the process perspective. Like the variance perspective, it has a long history independent from Mohr (Abbott 1983; Abell 1984; Polkinghorne 1988). After Markus and Robey (1988) introduced it to IS, it has been used in many studies, but it is still used much less than the variance perspective. For example, in their survey of IT impact research, Pare et al. (2008) found that only 20% of articles in leading IS journals used a process perspective. Similar observations have been noted in other disciplines (Rescher 1996; Emirbayer 1997). Incidentally, this 20% was almost entirely found in just one journal: *Information & Organization*, long edited by Professor Robey, a pioneer in the process perspective.

In terms of theoretical *concepts*, the process perspective focuses on entities participating in events. If the entities can act, they are referred to as focal actors (Pentland 1999; Ramiller and Pentland 2009). For example, the Coping Model of User Adaptation (Beaudry and Pinsonneault 2005) explains how users adapt to IT events in their organizations. In this theory, the focal actors are the users, and the events are the introduction of new systems or the modifications of old systems. As Table 2 showed, the process perspective assumes that entities, or focal actors, change over time. For example, the introduction of a new system might make a user concerned about his job security and thus react differently to future events (such as performance reviews).

In terms of theoretical *relationships*, the process perspective focuses on accounting for an

outcome by referring to a sequence of events involving the focal actors (see, e.g., Newman and Robey 1992, Boudreau and Robey 2005). The sequence is typically assumed to be probabilistic rather than deterministic (Mohr 1982) (although we question this assumption later). For example, in Beaudry's and Pinsonneault's (2005) theory, one outcome is exiting the company. They explain that "exit" occurs as a result of a probabilistic sequence of events: (i) the user becomes aware of an IT event, (ii) perceives it to be a threat, (iii) perceives a lack control over it, and (iv) engages in self-preservation, by exiting the company. The sequence is probabilistic because it is possible that a different sequence of events might occur. For example, the authors explain that when users perceive IT events to be threats, many outcomes are possible, exit being just one. As Table 2 showed, time is an important element in relationships too. For example, users appraise IT events after the events occur, and take actions after they have appraised a situation.

Like the variance perspective, the concepts and relationships in the process perspective can be assembled in many ways. For example, researchers can view entities as things that influence events, such as organizations that act, or as things constituted by events, such as organizations constituted by patterns of actions (Langley 2009). Likewise, researchers can distinguish routine events from events that start or end processes (Newman and Robey 1992). Once again, our aim is not to identify every way that the process perspective can be used, but simply to stress that researchers can use it in a wide variety of ways.

The systems perspective

The systems perspective derives from a conviction that the world comprises of wholes and interacting parts, not just entities, properties, and events (Boulding 1956; von Bertalanffy 1968):

> "…the systems approach is based on the insight that the interrelations of certain components may result in an entity (system) with its very own properties. Hence, this approach looks at systems holistically, emphasizing the interrelations of the system's components…, the properties and boundaries of the system vis-à-vis its environment…., [and its] function …" (Mattessich 1978, p. 277)

Many of our field's forefathers were systems theorists (Churchman 1968; Forrester 1968; Trist 1981; Van Gigch and Le Moigne 1989; Checkland 1999), but its influence dissipated in the late 1980s as researchers began to focus mainly on the variance perspective. A similar trend occurred in organization science (Meyer et al. 1993; Kozlowski and Klein 2000). As one systems theorist opined in this period, IS researchers "continue to believe that there are such things as unilateral causation, independent and dependent variables, origins, and terminations" (Abdel-Hamid 1988 pp. 397-398). Nonetheless, the systems perspective should be a natural fit for IS because of our interest in systems (Lee 2004) and, perhaps for this reason, it has recently attracted renewed interest (Porra 1999; Clark et al. 2007; El Sawy et al. 2010; Rivard and Lapointe 2010; Sarker and Valacich 2010; Nan 2011). Research on configurations, long advocated in management, and recently in IS (El Sawy et al. 2010), illustrates this more holistic focus:

> "configurational inquiry represents a holistic stance, an assertion that the parts of a social entity take their meaning from the whole .... configurational theorists try to explain how order emerges from the interaction of those parts as a whole" (Meyer et al. 1993 pp. 1128).

In terms of theoretical *concepts*, the systems perspective focuses on wholes, parts, and emergent properties that arise from interactions among parts. Systems are assumed to exist within other systems (hence an environment). Because properties "emerge," entities can change and thus time is a key part of one's theory. For example, multilevel researchers often create constructs to reflect emergent properties of collectives, such as a group's memory, by examining patterns of interaction among units, and they then study how such properties emerge and entities change:

> "…collective properties [tend] to emerge and change more gradually than individual ones …. For example, the emergence and change of collective usage is likely to be gradual because changes in collective usage require coordination among individuals, dyads, groups, and so on" (Burton-Jones and Gallivan 2007 pp. 661, 672).

In terms of theoretical *relationships*, the systems perspective focuses on interactions among parts of a system and between a system and its environment. Reciprocal relationships, known as

feedback, are typical. For example, Clark et al. (2007) offer a causal loop to explain how executives respond to perceived IT gaps by increasing commitment to systems. This increased commitment leads to reduced IT gaps, which then leads to reduced commitment. This is known as "negative" feedback because it leads to equilibrium. "Positive" feedback can also be posed to explain how vicious or virtuous cycles arise (Garud and Kumaraswamy 2005). When specifying relationships, time is also a key factor, as multilevel researchers have noted:

> "Although researchers often assume that the effect of independent variables on dependent variables is instantaneous, this may not be the case; especially in collectives…." (Burton-Jones and Gallivan 2007 p. 471).

At first glance, it might seem that the systems perspective *subsumes* a variance and/or a process perspective. This can certainly occur, as we discuss later. Even so, within a single study, a researcher can adopt a systems perspective alone. The award-winning paper by Lamb and Kling (2003) is a good example. Their paper reconceptualizes users as social actors. Although they do mention some characteristics of social actors and how change might occur over time, they repeatedly stress the *holistic* nature of their analysis, eschewing a reductionistic approach.

Just like the variance and process perspectives, the systems perspective can be implemented in many ways. One can think of a continuum ranging from approaches that assume that systems are hard, mechanistic, closed, and relatively predictable, to those that assume that systems are soft, organic, open, and inherently unpredictable (Burns and Stalker 1994; Checkland 1999), a distinction sometimes referred to as the opposition between cybernetics and socio-technical systems (Van Gigch and Le Moigne 1989). Thus, a systems perspective can underpin a wide variety of research.

The need to treat theoretical perspectives flexibly

Hirschheim et al. (1995) noted that when new distinctions are introduced to a field, it is often useful to simplify them or make them more extreme, so that readers can appreciate them.

Past discussions of theoretical perspectives illustrate this principle very well. For instance, most papers in this tradition emphasize the variance/process dichotomy without mentioning the systems perspective (Markus and Robey 1988; Shaw and Jarvenpaa 1997; Webster and Watson 2002). This has the advantage of simplicity, but it could lead researchers to overlook the systems perspective. Likewise, most papers in this tradition treat the variance and process perspectives in a fairly simple or extreme manner. For example, consider the idea that the time-ordering of independent variables is immaterial in the variance approach (per Table 2). This stems from Abbott's (1988) analogy that the variance approach can be likened to a regression model. Although the time-ordering of independent variables can indeed be immaterial in a regression model, this is an attribute of a statistical technique, not a theoretical perspective. Although Abbott (1988) acknowledged this, his simpler analogy became more widely known.

Because the variance and process perspectives have now been in the literature for some time, we believe it is time to treat some of the distinctions made in past work regarding theoretical perspectives more critically, and our aim in this section is to explain why a more flexible understanding of them is required. We do so by explaining: (a) why theoretical perspectives can be treated independently from many other aspects of the research enterprise, and (b) why they can even be treated independently from individual theories and theoretical models.

First, researchers often associate theoretical perspectives with other elements of the research enterprise as if they depend on one another. For instance, it is often said that the variance perspective is associated with positivism, causal models, determinism, and prediction whereas the process perspective is associated with interpretivism, non-causal, non-deterministic models, and understanding (Walsham 1995 p. 388; Wheeler 2002 pp. 135, 140; DeLone and McLean 2003 p. 15). However, it is important to recognize that such associations are not inherent to the perspectives we have discussed. Theories and theoretical models are simply sets

of statements about phenomena of interest (Suppe 1998). The meaning of these statements is certainly affected by the types of concepts and relationships used in them (Nagel 1979 pp. 8-11), whether variance-oriented, process-oriented, or systems-oriented. For example, the meaning of "an increase in X leads to an increase in Y" is different from the meaning of "X is necessary for Y." However, there is no *inherent* connection between the types of concepts and relationships used in these statement and other elements of the research enterprise, such as the process by which the statements are arrived at (e.g., inductively or deductively), how they are expressed (e.g., in formulae or rich narrative), the 'research philosophy' they rely on (e.g., positivist, interpretive, or critical), or researchers' goals (e.g., explanation, prediction, or understanding). The types of concepts and relationships that researchers use are *logically independent* from these other elements. For socio-historical reasons, these matters may be mutually determined within particular traditions (Kuhn 1996). For example, one tradition may tend to adopt a positivist, variance, and quantitative approach, while another may adopt an interpretive, process, and qualitative approach. However, there is no inherent reason why researchers should not depart from this tendency.

Consider interpretive research. Many interpretive researchers go into the field with a tendency towards the kinds of concepts in the process perspective (rather than the variance perspective) (Walsham 1995, p. 388). However, a key aim of interpretive research is to understand a social setting from the actors' point of view (Lee 1991), and just as researchers use concepts to understand the world, so do actors in day-to-day life (Markman and Gentner 2001 p. 232). If we are to understand a social setting from actors' perspective, we must be open to using the kinds of concepts that they use. We cannot assume that they will adopt just *one type* of concepts when thinking about the world, such as the type used in the process perspective. Research suggests that although actors in day-to-day lives do often think in terms of actors,

events, and processes (Bruner 1991), they also think in terms of properties, wholes, and parts (Zacks and Tversky 2001; Medin and Atran 2004). Thus, being open to multiple theoretical perspectives can help interpretive researchers, providing them with more conceptual tools with which to understand and describe how actors themselves understand and describe their world. A similar logic can be used for positivist researchers; all can benefit by being open to multiple theoretical perspectives—an idea we formalize later via the principle of *conceptual latitude*.

Likewise, consider three potential goals of theory (Gregor 2006; Hovorka et al. 2008):

- *Understanding* involves an empathetic appreciation (Dilthey 1988), a key aspect of interpretive research. Interpretive researchers in search of understanding are often instructed to use theories as 'sensitizing devices' rather than as mirrors of reality that would make them fall into the illusion of objectivism (Maxwell 1992; Schwandt 1997; Klein and Myers 1999). None of the perspectives we have outlined require researchers to use concepts and relationships as mirrors of reality; that is a researcher's choice. Moreover, all three perspectives sensitize researchers to particular phenomena. There does seem to be a very natural link between the systems perspective and the process of achieving understanding, as both involve a consideration of wholes and parts (with interpretive research often drawing on hermeneutics in which the interplay of parts and whole is central) (Rowe 2014). However, hermeneutics can support a wide range of research. After all, interpretive researchers have long advocated the process perspective (Walsham 1995, p. 388), and much quantitative research (typically using a variance perspective) can also be interpreted hermeneutically (Campbell 1995).
- *Explanations* say why or how something occurs (Salmon 1998). These, in turn, are explained by the relationships among the concepts in the theory (Kaplan 1964/1998 pp. 333, 346). Because each perspective we have outlined includes relationships, each one

enables explanation. The details of the explanation will simply differ in each case, e.g., explaining an outcome by referring to covariation among properties (a variance perspective), a sequence of events (a process perspective), or interactions among parts (a systems perspective).

- *Predictions* foretell the state of a property or event (Dubin 1978). Strictly speaking, explanations and predictions are simply reverse logical operations (Suppe 1977). Thus, because all three perspectives support explanation, they can support prediction too.

In short, it would be inappropriate to assume that any of the theoretical perspectives we have discussed are restricted to just one type of goal (whether understanding, explanation, or prediction). Indeed, if researchers did assume such restrictions, this could restrict their ability to understand, explain, or predict the phenomena of interest to them.

Our argument regarding the independence of theoretical perspectives from other elements of the research enterprise also applies to the issue of determinism. Consider the following quote:

> "By their very structure, variance theories posit an invariant relationship between antecedents and outcomes. This assumption may simply be too stringent for social phenomena. … As Sutherland put it, "not all real-world phenomena will ultimately become deterministic if we spend enough time analyzing them." …In circumstances like these, process theories may [be attractive alternatives]" (Markus and Robey 1988 p. 592)

The view in this quote stems from the notion that the variance perspective involves necessary and sufficient causality, whereas the process perspective involves necessary causality only (Mohr 1982). However, determinism is not the best way to distinguish among these perspectives because the process perspective *also* results in explanations that are deterministic. As Mohr (1982 p. 59) wrote: "To say that X is necessary for Y is to say that Y is sufficient for X: If Y, then X." As a result, a typical process theory still contains a deterministic argument.

Rather than focus on *determinism*, a different way to think about this issue is to assess the *precision* of relationships in a theory. For instance, one might argue that the variance and

process perspectives differ in the degree of precision that researchers seek, with variance researchers presumably seeking greater precision. However, even this argument breaks down because in all three theoretical perspectives, researchers can specify relationships with varying precision. For example, a variance-oriented researcher may use the logic of necessary and sufficient causality as a heuristic device when thinking of antecedents but may have no expectation that the antecedents are *truly* necessary and sufficient, and a process-oriented researcher may use the logic of necessary causality when thinking of precursor events but may be completely open to the possibility that the outcome occurs without these events. Indeed, philosophers remind us that relationships specified in social science will always be imprecise (Kaplan 1964/1998 pp. 351-355). Thus, although it is true that some variance-oriented researchers seek to maximize explained variance (hence precision) (Venkatesh et al. 2003) while some process-oriented researchers seek non-deterministic explanations (Newman and Robey 1992) (hence some imprecision), this just reflects how researchers often *use* these perspectives rather than being inherent features of either perspective.

For all the above reasons, it should be clear that the theoretical perspectives we have discussed are logically independent from many other elements of the research enterprise. However, it is useful to recognize that they are also, in an important sense, independent from individual theories. This may seem counterintuitive because any theory must stem from the perspective that researchers took to build it, so in this sense one depends on the other. Their independence stems from the fact that theoretical perspectives are categories or classes of theory (Shaw and Jarvenpaa 1997 pp. 72-73); they are not individual theories, nor even rules for building theory. Just as a theory provides a way of thinking about phenomena and "organizing and representing them" (Kaplan 1964/1998 p. 309), so the perspectives we have outlined are simply ways of looking at theories, and how they are organized and represented. Thus, just as it

is fine for individuals in nature to lack attributes of a class or to exhibit attributes of several classes (e.g., penguins are birds but do not fly, a platypus is a mammal that lays eggs) (Lackoff 1987), a good theory may well lack an element of one of the perspectives we have outlined, or combine elements of multiple perspectives. What matters is whether a theory helps address one's research question, not whether it complies with the 'rules' of a pure process, variance, or systems perspective. For example, assume that a researcher constructs a theory that follows a process perspective except that it includes an event that is *sufficient* to cause a distal outcome, much like one domino falling can be sufficient for many others to fall. Even though this would fail to comply with a traditional process perspective (Mohr 1982), it could still be a legitimate theory. Like all classifications, the perspectives we have outlined tell us what typically 'goes together' in theories. Knowing what typically goes together is useful, but it need not be viewed as a rule (Meyer et al. 1993).

In summary, researchers should view associations between theoretical perspectives and other elements of the research enterprise, including individual theories, loosely and flexibly, as traditions, not rules. Although there are often benefits in following tradition, researchers should feel free to depart from tradition if it helps them answer the research questions they seek in a given study—an idea we formalize later via the principle of *conceptual fit*.

The value of a more flexible view: an illustration in the context of IS success

To describe the value of a more flexible view of theoretical perspectives, it is useful to consider the different stages of theory development. According to Smith and Hitt (2005 p. 586), two key stages are *tension* (identifying a problem in a theory) and *elaboration* (extending or creating theory to resolve the tension). To illustrate how researchers can use theoretical perspectives in the tension stage, we will critique an existing model, and to illustrate how they can help in the elaboration stage, we will describe how such a model can be extended. We will do

both in the context of DeLone and McLean's (1992; 2003) IS Success Model. We chose this model because determining IS success remains an ongoing concern in practice and research (Tate et al. 2014). Also, it is one of the most cited models in IS research, but it has been criticized for inappropriately using theoretical perspectives, specifically, by using a hybrid perspective (Seddon 1997). Thus, understanding what perspective it uses, and could use, would be valuable.

Figure 2 shows the original IS Success Model. In the sections below, we examine *tensions* in it by examining limitations in its concepts and relationships. With these findings in hand, we then discuss different ways of *elaborating* upon the IS Success Model by extending it using alternative or additional perspectives as part of a long-term program of research.

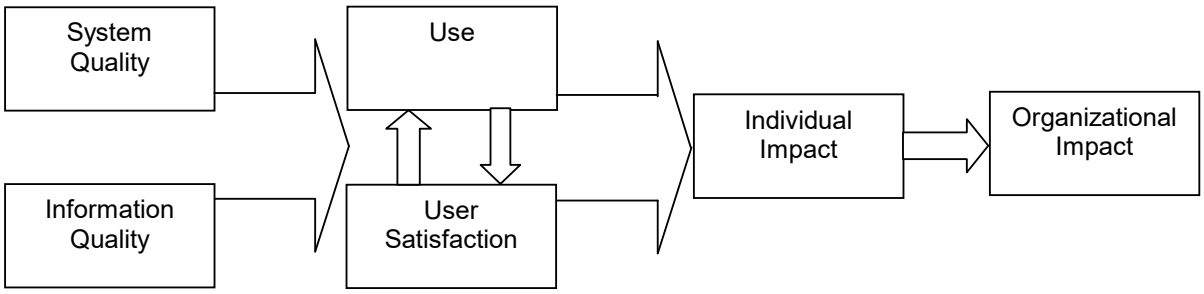

Figure 2: The IS success model: original form (DeLone and McLean 1992)

Value in the *tension stage*: critiquing a theoretical model

Researchers can use the theoretical perspectives we have discussed to identify tensions in the IS success model by first examining what theoretical perspectives it incorporates, and then assessing the model from each perspective in turn. This is essentially the approach that Seddon (1997) took in his highly cited critique of the model. In this paper, we extend that work by incorporating the systems perspective as well. The following paragraphs describe the model from each perspective and then examine the tensions revealed in the model from each one.

From a *variance* perspective, a model's concepts are properties of things that vary. Figure 3 shows what the DeLone and McLean model would become if it adopted a pure variance form.

It is similar to the original model, except that we explicated the relationships among the properties and we excluded the link to 'organizational impact' because this link implies a different level of a social (organizational) system (Nan 2011). Translating the model into a pure variance form is useful because it reveals issues in its specification. In Table 3, we highlight several issues that could be rethought, focusing particularly on clarifying its *concepts* and *relationships*. To date, many researchers have adopted the DeLone and McLean model uncritically. Seddon (1997) extended it from a pure variance perspective, but as Table 3 shows, even more work is needed.

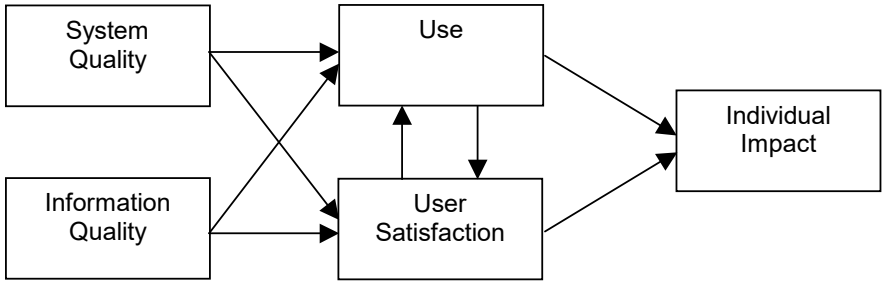

Figure 3: IS success model: variance perspective

A *process* perspective suggests that a model will comprise a probabilistic sequence of events. Figure 4 shows what the IS Success model would become, according to DeLone and McLean (2003 p. 16), if it followed a pure process approach. Figure 4 highlights the extremely simple process assumed by the model. Moreover, it reveals opportunities for fine-tuning the rigor with which the *concepts* and *relationships* are specified. We summarize several issues that should be considered along these lines in Table 3. In short, translating the IS Success model into a process form once again reveals tensions in the model that deserve further analysis.

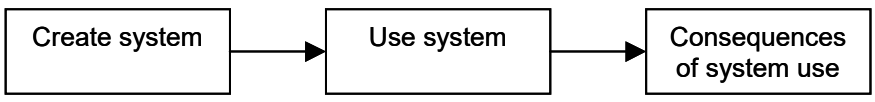

Figure 4: IS success model: process perspective

Finally, a systems perspective requires that a model's concepts involve interacting parts and emergent properties. Figure 5 shows what the model implies from a systems perspective. The figure shows organizations (wholes) consisting of information systems and users (parts). These parts interact through individuals using systems. This can lead to changes in attributes of the parts, e.g., the impact of the IS on the individual. Out of these interactions can emerge a change in an organizational-level property, such as organizational impact. Once again, transforming the model into a systems form helps reveal underlying tensions in the model. We summarize these in Table 3. For instance, the final row of the table highlights the lack of attention to feedback effects. DeLone and McLean (2003) acknowledged the importance of feedback effects in achieving IS success, but with the exception of Kanungo (2003), few have examined such effects. As Nan (2011) showed, this offers major opportunities for research.

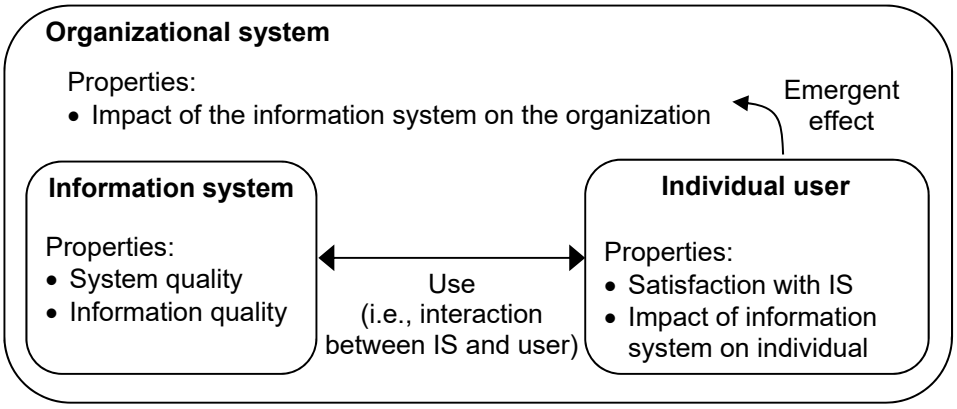

Figure 5: IS success model: systems perspective

Table 3: Tensions in the IS success model revealed from each theoretical perspective

Perspective	Dimension	Tensions due to lack of specificity in the model	Commentary
Variance	Concepts	Concepts not fully specified, e.g.: - it is not clear what "impact" or "use" mean, e.g., whether they refer to amounts of use and impact, or to specific *types* of use (e.g., effective use) and impacts (e.g., performance)	Some of the tensions related to concepts have been identified previously, e.g., by DeLone and McLean (2003) and Burton-Jones and Straub (2006). However, the full set of issues (particularly regarding the relationships) has not been discussed in the literature.
	Relationships	Relationships not fully specified, e.g.: - the model does not explain the direction (positive or negative) or effect size (small, medium, large) of the relationships among concepts - the model does not explain why the relationships among concepts are mediated and linear, i.e., why there are no direct or moderated effects	
Process	Concepts	Concepts not fully specified, e.g.: - the scope of each event in time is not clear, e.g., what "create system" includes/excludes - it is not clear what "consequences" mean, e.g., whether it refers to one or many events	These tensions in the model have not been discussed in detail in the literature although Seddon (1997) alluded to them in his early critique of the DeLone and McLean (1992) model. See Pentland (1999) for a detailed discussion of the importance of actors in the process perspective.
	Relationships	Relationships not fully specified, e.g.: - the model's final outcome (consequences) is ill defined - the model does not theorize how soon events occur after one another - the model does not describe how actors drive or respond to events	
Systems	Concepts	Concepts not fully specified, e.g.: - it is not clear what individual and organizational impact refer to (e.g., performance or something else) - it is not clear why "organizational impact" is the only concept at a higher level (i.e., why there are no other emergent properties)	Some of these tensions have been discussed conceptually by Burton-Jones and Gallivan (2007) and Nan (2011) but they have not yet been examined empirically.
	Relationships	Relationships not fully specified, e.g.: - the model does not explain exactly how impacts emerge at the organizational (whole) level from the individual (parts) level - it is not clear exactly how the emergent effect occurs, nor why there is no feedback from the organizational level back to the individual level.	

In summary, using theoretical perspectives in the tension stage of theory development is useful because each perspective illuminates different potential problems. Because all theories are works-in-progress, such problems are not surprising. In fact, DeLone and McLean (1992, p. 88) highlighted the need to improve their model when they first introduced it. Having an understanding of different theoretical perspectives and being able to examine a theoretical model from each one, as we have done here, can help researchers to recognize the different ways in which a model lacks clarity and make an informed judgment about whether to improve its clarity (and if so, how), depending on the state of a research on a topic at a point in time. Applying this argument to research on IS Success, we would argue that now ***is*** an opportune time to investigate these issues because DeLone and McLean (2003) called for a more critical examination of their model. A broader understanding of theoretical perspectives could help researchers to do so.

Value in the *elaboration stage*: extending a theoretical model

Consistent with the orthodox view that theoretical perspectives should not be combined (Mohr 1982), Seddon (1997, p. 242) argued that by combining several theoretical perspectives, the IS Success model created "a level of muddled thinking that is likely to be counter-productive to future IS research." Seddon suggested that the model should use a variance perspective alone. In contrast, we noted earlier that elements of different theoretical perspectives can and should be combined if doing so can help address one's research. In the case of IS success, it would seem, *prima facie*, that multiple theoretical perspectives could indeed be useful. For instance, although properties such as system quality and user satisfaction can reflect IS success, intuition would suggest that the levels of these properties and their interrelationships with other properties could depend heavily on key events (e.g., whether an IS is implemented on time, whether users are trained before phasing out an old IS, and so on). In addition, Harris (1994) argued that IS success might differ across levels of an organization and that links across levels are likely to be reciprocal.

For all of these reasons, we suggest that each theoretical perspective could add a layer of meaning and insight to IS success. Thus, in contrast to Seddon (1997), we suggest that the problem with the IS Success Model is not that it *combines* perspectives; instead the problem—and the opportunity for elaborating upon their model—is that the *particular* combination they used could be clarified and refined and other combinations could be sought.

Although we do not consider combining theoretical perspectives *per se* to be a problem, a real problem is the lack of guidance in the literature for *how* one can combine theoretical perspectives. Without such guidance, one may well combine them inappropriately and thereby fall prey to Seddon's (1997) critique of muddled thinking. The most detailed guidance to date was offered by Shaw and Jarvenpaa (1997), which we extend below. Other than that, we are not aware of any detailed treatment. Occasionally, papers offer brief clues for how to go about such research. For example, the second sentence of the following quote suggests two ways to go about such work, but the quote does not provide a clear account of the range of approaches available:

> I would argue that the insistence on exclusion of variables from process research unnecessarily limits the variety of theories constructed. It may be important to understand the effect of events on the state of an entity (a variable) or to identify the effect of a contextual variable on the evolution of events (Langley 1999 p. 693)

Given the lack of guidance for researchers, it is not surprising that few papers combine perspectives. For example, in their analysis of 'IT impact' research from 1991-2005, Pare et al. (2008) found only *one* article in their sample of 161 that combined perspectives. To highlight opportunities for researchers, Table 4 highlights 12 ways that combinations can be developed, and the benefits of each one. Two of these combinations (#1 and #7) reflect the combinations referred to in Langley's quote above, but all 12 combinations offer opportunities for research.

Table 4: Possibilities for combining theoretical perspectives

Original perspective	Possibilities for researchers to combine the original perspective with a:
Pure variance	**Process perspective**: 1. *Possibilities for greater understanding of concepts*: Understanding whether the state of an entity is affected by events or processes 2. *Possibilities for greater understanding of relationships*: Understanding the process by which a relationship among properties occurs **Systems perspective:** 3. *Possibilities for greater understanding of concepts*: Understanding whether the state of a component (lower-level) property is affected by a higher-level property of the system 4. *Possibilities for greater understanding of relationships*: Understanding whether a relationship among properties is affected by a higher-level property of the system
Pure process	**Variance perspective**: 5. *Possibilities for greater understanding of concepts*: Understand whether the occurrence of an event is affected by the state of a property 6. *Possibilities for greater understanding of relationships*: Understand whether the influence of an event in a process depends on the state of some property **Systems perspective**: 7. *Possibilities for greater understanding of concepts*: Understand whether the emergence of an entity or the occurrence of an event hinges on a higher-level property of a system 8. *Possibilities for greater understanding of relationships*: Understand the process by which a system emerges or has effects
Pure systems	**Variance perspective**: 9. *Possibilities for greater understanding of concepts*: Understand whether an emergent property of a system is affected by a lower-level property of the system 10. *Possibilities for greater understanding of relationships*: Understand whether interactions among parts of a system depend on properties of the parts **Process perspective**: 11. *Possibilities for greater understanding of concepts*: Understand whether the existence of a system or emergent property hinges on particular events or processes 12. *Possibilities for greater understanding of relationships*: Understand whether interactions among parts of a system follows a particular process

Each of these approaches could be taken to extend research on IS success. For instance, consider Langley's (1999) suggestion, reflected in approach #7, to examine the effect of a contextual variable on the evolution of events. Our earlier analysis of the IS Success Model showed that it specifies three events—creation, use, consequences—and one contextual

(organizational system-level) variable—organizational impact. Our analysis also showed that these events and variables could be clarified and extended. Using Langley's suggestion, we can consider two ways to do so:

- First, recall from our discussion of the systems perspective, Clark et al.'s (2007) proposition that top executives respond to perceived gaps in performance by increasing commitment to IT processes. This would suggest an additional contextual variable—organizational commitment—as well as some sort of feedback from their commitment to the underlying IT process, such as improved systems development and maintenance.
- Second, note that one way to extend the three-stage model of creation→ use → consequences would be to recognize that systems are not just created once and for all, but maintained over time (Heales 2002).

Putting these two pieces together, one could critique the fact that the model currently 'stops' at organizational impact, and propose instead that a successful IS is not only reflected in its impact at a point in time, but also in an organization's commitment to rectifying negative impacts, e.g., by engaging in adaptive or corrective maintenance (Heales 2002; Clark et al. 2007). This would correspond with the view that performance outcomes "are just way-stations in ongoing processes…[and] interpretations of performance can have important effects on subsequent actions" (Langley and Abdallah 2011 p. 211). We illustrate this extension in Figure 6. The resulting model now incorporates elements from both the process and systems perspectives that were shown in Figures 4-5. That is, in line with strategy #7 in Table 4, the simple process model in Figure 4 has now been expanded to explain how the occurrence of an event (create and maintain system) hinges on a higher-level property of an organizational system (organizational commitment).

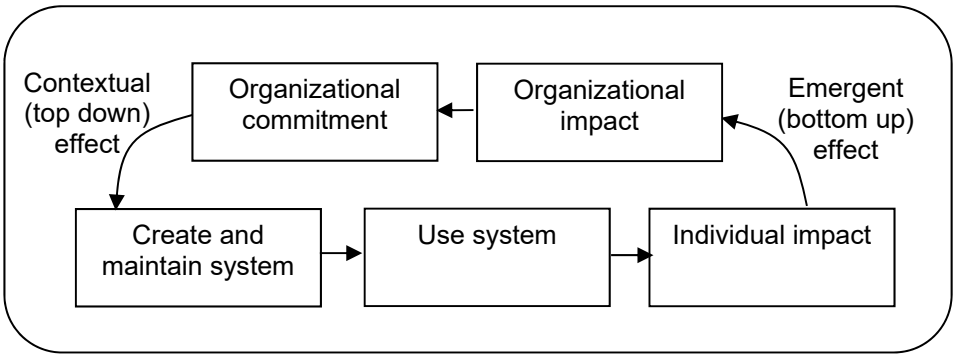

Figure 6: Elaborating upon the IS success model: illustrating approach #7

In our view, the model shown in Figure 6 would be a useful addition to research on IS success because it would allow researchers to reach a more comprehensive answer to the question driving the IS Success Model: *What is IS success and how does it come about?* In fact, given that some of the most well-known findings in IS research relate to the importance of system maintenance and managerial commitment (Lucas 1974; Swanson and Beath 1989), as well as evolutionary design and development (Checkland 1999), it is perhaps surprising, in hindsight, that the feedback loop shown in Figure 6 has not been considered in past research on IS Success. Nonetheless, this is just one of many ways to elaborate the IS Success Model. For instance, strategy #7 could also motivate an examination of the link from individual impact to organizational impact. This link implies an ongoing series of events (the accumulation of impacts). Strategy #7 would motivate us to examine if the occurrence of these events hinges on a higher-level organizational property. Organizational design could be one such property. According to Goodman (2000), the emergence of organizational impacts from individual impacts depends on organizational design variables such as the type of task coordination (additive, sequential, or reciprocal) and the presence of time lags between activities and outcomes at the individual level and activities and outcomes at the organizational level. If tasks are additive in nature and if time lags are short, changes in individual impacts tend to aggregate

more directly to organizational impacts (Goodman 2000 pp. 35-37). In other words, organizational design moderates the link between individual impact and organizational impact. Currently, the IS Success Model does not account for different contexts. This extension to the model could therefore provide a way to do so, by accounting for different organizational designs. That would then naturally motivate further elaborations, e.g., to understand the *process* by which individual impacts accumulate to the organizational level in different contexts, i.e., per strategy #8 in Table 4. In short, each strategy in Table 4 offers ways to extend models of IS success. The value of such extensions will come from the insights they bring, especially when comparing them against one's findings in empirical work.

Facilitating knowledge generation: from the variance/process dichotomy to conceptual latitude and conceptual fit

A fundamental message of this paper is that the traditional variance/process dichotomy should not drive the way that researchers think about theoretical models because: (a) it does not capture the range of theoretical perspectives available (such as the systems perspective), and (b) it is often treated more simply and rigidly than it needs to be. As noted earlier, theoretical perspectives are simply "ways of thinking about what we know or want to know" (Becker 1998 p. 5). Metaphorically, they can be thought of as cognitive tools available to researchers. What matters is not the tool *per se*, but the end result. An important part of any craft is learning and mastering ones tools, and learning how to choose the right tool for a given task. However, an equally vital part of any craft is being flexible and reflexive in the choice of tools, and learning how and when to combine tools, avoid tools, break or bend tools, or even create new tools.

As a result, we would say that researchers should be willing to *drop* the variance/process dichotomy, in the same spirit as Weick's (1996; 2007) notion of being willing to "drop one's tools." We do not mean dropping the dichotomy altogether, indefinitely, for as we have

mentioned, the long histories of the variance and process perspectives are probably a good indication of their usefulness. Rather, we believe researchers should be willing to drop the variance/process dichotomy when it could constrain the way they think about a domain. It may be that a researcher should use another perspective (such as the systems perspective) or create a mix suitable for the research study at hand.

In place of the traditional variance/process dichotomy, we suggest that researchers draw on Shaw and Jarvenpaa's (1997) observation that theoretical perspectives are *classes* (categories). In particular, research on classification shows that we can often benefit from looking beneath the level of the class at the underlying elements from which the class is formed (Parsons and Wand 2008). In other words, while the variance, process, and even the systems perspective can be useful, researchers should focus equally on the underlying conceptual elements used to form them, such as properties, events, parts, wholes, interactions, covariation, sequence, time, and feedback (see Table 2, earlier). Researchers could even suggest additional elements and thus additional theoretical perspectives. For instance, while the process perspective typically focuses on sequences of *events*, Chakraborty et al. (2010) took a different tack and focused on sequences of *states*.

By understanding the range of elements available, researchers can gain an appreciation for the *conceptual latitude*—the wide range of ways of thinking about a domain—available. Rather than being constrained to choosing between the variance and process perspectives, researchers should have the freedom to choose from this latitude a perspective that will help answer or elaborate on their research question, even if it means constructing a hybrid perspective. By choosing a perspective that matches one's research question, researchers can then achieve *conceptual fit*, much like fitting one's methodology to one's research question helps achieve methodological fit (Edmondson and McManus 2007). These two principles—*conceptual latitude* and *conceptual fit*—offer a flexible basis for thinking about theoretical

perspectives that is consistent with spirit of past advice to focus on one's research question (Van de Ven 2007), while allowing researchers to move beyond—and when necessary, even drop—the traditional variance/process dichotomy.

Consistent with our earlier arguments, researchers should use these notions of conceptual latitude and conceptual fit in a reflexive and pragmatic manner, not as a simple rule or checklist. Reflexivity involves appreciating the situated nature of knowledge. For example, what appears to a researcher, or research community to fit at a point in time, might later be considered not to fit. Achieving fit over time is likely to be a dynamic process, as IS researchers have shown in more substantive studies of fit (Sabherwal et al. 2001). A reflexive and practical attitude can enable researchers to see fit in a broad and open-minded way, attuned to the needs of a given study and the practical questions which originally motivated the research (Ramiller and Pentland 2009). Overall, the view we have advanced is motivated by the fact that building good theory is difficult and researchers need all the flexibility they can get.

Although the primary motivation for our suggestions is practical, we believe that our suggestions are consistent with broader treatments of knowledge generation in the philosophy of science. There are many views on the knowledge generation process, but the work of Immanuel Kant is certainly foundational. The principles we have discussed can be examined in relation to three of Kant's (1781) concepts—the *origin, object*, and *issue* of knowledge:

- The *origin* of knowledge refers to the source of one's knowledge claims. For instance, is knowledge derived from experience or reason? Kant explained that both elements were critical and, moreover, why we must recognize the *a priori* categories that inform our understanding, which influence both our experiences and our reasoning.
- The *object* of knowledge is what researchers wish to know. For instance, researchers have long debated whether the object is external to us – a thing in itself – or merely a mental

construction. Kant's view was that we should distinguish between the phenomenon (the object as sensed by a researcher) and the noumenon (the thing in itself, which is unknowable). According to Kant, we create phenomenon through objectification.

- Finally, the *issue* of knowledge refers to the role of science. For instance, does science produce dogma or skepticism? Kant argued that science involves a critique of dogma. Science also involves questions that surpass the ability of reason and experience and involves reaching agreements within communities of researchers at a point in time.

Relating these ideas to the principles outlined above, Kant's notion of the origin of knowledge relates closely to the notion of conceptual latitude. It reminds us that researchers have *a priori* categories of thought – such as the variance and process perspectives – that they use to think about their research. The principle of conceptual latitude reminds researchers of the broad variety of categories available and the need not to restrict oneself unnecessarily.

The object of knowledge relates closely to our notion of conceptual fit because it involves a researcher choosing what to study. The object is not 'out there.' Rather, it is a product of the senses and thus mainly inside the researcher's mind. Because the researcher has a role in choosing the object of study, it is his or her responsibility to choose conceptual categories suited to studying it—that is, to seek conceptual fit.

Finally, the issue of knowledge relates closely to our recommendation to use these principles in a reflexive and pragmatic manner rather than as a simple rule or checklist. Just as we have critiqued dogmatic interpretations of the variance and process perspectives, we do not seek to replace these with an alternative dogma. Nor do we wish to offer mere skepticism. Rather, we advocated a practical approach that is attuned to the interests of the researcher at a point in time and the need for flexibility and humility when engaging in the research process. Certainly, there are many paths to truth. We have taken one, while in no way denigrating other potential paths.

Conclusion

Our thesis is that IS researchers should revisit and move beyond existing norms for conceptualizing theoretical models. Norms are rarely held by all researchers. By definition, the most innovative researchers will generally not be following them. Nonetheless, norms often prove surprisingly strong. As we have explained, like Shaw, Jarvenpaa, and Abdel-Hamid before them, some researchers have begun to note the benefits of combining the variance and process perspectives (Thompson 2011) and the value of the systems perspective (El Sawy et al. 2010; Nan 2011). We believe it is timely to build on this momentum and reconsider past norms more broadly. To support such efforts, we explained why researchers should treat theoretical perspectives more flexibly than they have in the past. This does not mean that anything goes. Our aim, instead, has been to offer a flexible and inclusive approach, guided by the dual principles of conceptual latitude and conceptual fit. We hope this will provide researchers with a new way to think and talk about these perspectives, improving the knowledge generating process and encouraging more consideration, debate, and dialog on this important issue. Our contribution here is just one step. Just as we have encouraged others to extend their theoretical perspectives, we encourage others to extend our ideas and prescriptions too.

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