

# VISIONS OF SOCIAL MEDIA: SURFACING SCHEMAS FROM FIRMS' INFORMATIONAL ENGAGEMENTS

*Completed Research Paper*

## **Shaila Miranda**

Price College of Business  
University of Oklahoma  
Norman, OK 73072  
[shailamiranda@ou.edu](mailto:shailamiranda@ou.edu)

## **Jama Summers**

Price College of Business  
University of Oklahoma  
Norman, OK 73072  
[jama.summers@ou.edu](mailto:jama.summers@ou.edu)

## **Inchan Kim**

Price College of Business  
University of Oklahoma  
Norman, OK 73072  
[ick881@ou.edu](mailto:ick881@ou.edu)

## **Abstract**

*Prior research has noted the salience of informational engagements that culminate in an organizing vision to the diffusion of technology and the value firms garner from the technology. In contrast to sociological theories that view meaning as inherently pluralistic, information technology research has espoused a single community-level organizing vision. Drawing upon schema theory, we posit that different schemas or organizing visions underlie firms' informational engagements. We consider the constitutive cognitive elements of these schemas in terms of six evaluative principles derived from six prototypical "orders of worth." We apply relational class analysis to surface the schemas reflected in informational engagements about 675 social media initiatives by 26 of the top 30 Fortune firms. Contrary to extant perspectives on organizing vision, we identified four disparate schemas or visions of social media and observed firms' informational engagements typically to reflect multiple visions.*

**Keywords:** Value of IT, adoption, social media, organizing vision, informational engagement, schema, relational class analysis, orders of worth

## Introduction

*“To engage in action is to act linguistically, to designate a thing as belonging to a semantic category. Meaningful action, then, should be understood as at once a reference in language and a marking of things in the world as potential resources for action” (Sewell 2005: 217).*

*“Schemas ... are not distinct things but rather collections of elements that work together to process information at a given time” (Strauss and Quinn 1997: 49).*

Organizations engage with information technology (IT) not just materially but also informationally (Swanson and Ramiller 2004; Wang 2008; Wang 2010). Firms' informational engagement with technology refers to their *participation in ongoing discourse about the technology via newspaper, news releases, reports, magazines, and scholarly journals* (Wang and Ramiller 2009). Material engagement is defined as the adoption of the focal technology (Wang 2010). Informational engagements contribute to the community's organizing vision for a technology, i.e., *“a focal community idea for the application of information technology in organizations”*, facilitating interpretation and legitimization of the technology and collective action by vendors and adopters (Swanson and Ramiller 1997: 460).

Research has highlighted payoffs to firms' *informational engagements* with management (Westphal and Zajac 1998; Westphal and Zajac 2001; Zbaracki 1998) and IT (Wang 2010) innovation. This research has observed that payoffs to informational engagements – in terms of stock market returns, reputation, and executive compensation – accrue independent of payoffs to the material engagements they purport to represent. Such findings highlight need for a better understanding of informational engagements as *discourse* rather than as substance. Yet, most IT research investigating informational engagements has used them only as a proxy for firms' substantive investments in people (e.g., Chatterjee et al. 2001), in IT standards (Aggarwal et al. 2011), and in hardware, software, and services (e.g., Dehning et al. 2003).

On the other hand, consistent with Sewell's (2005) recognition of the embroilment of language and resource, IT researchers investigating users' *material engagements* have acknowledged the symbolic nature of those engagements (e.g., Davidson 2002; Davis and Hufnagel 2007; Gallivan 2001; Mishra and Agarwal 2010; Orlikowski and Gash 1994). These authors have examined the role of technology *frames* to understand technology adoption processes and decisions though. Here, we adopt a related concept of *schema* to understand (1) how organizing visions culminate from firms' informational engagements about technology, (2) how those visions might be pluralistic rather than a singular organizing vision, and (3) the specific nature of those visions about a focal technology.

The focal technology of interest in this research is social media. Social media is defined as *a group of Internet-based applications in which users participate and on which users collaborate* (Kaplan and Haenlein 2010). Beer (2008: 518) views them “not as spaces where users are solely preoccupied with forming networks around themselves but where they involve themselves primarily in other activities.” These activities often include discourse relevant to firms (Qualman 2009). Examples of social media platforms include Facebook, Twitter, YouTube, blogs, and Pinterest. In contrast to technologies such as decision support systems, enterprise systems, and business intelligence systems, social media platforms have evolved and diffused outside of firm boundaries (Kane et al. 2010). In addition to purely hedonic application, social media are being harnessed for political campaigns (Wattal et al. 2010), for political activism (Kim and Miranda 2011; Yetgin et al. 2012). Firms are also investing in social media (Bughin et al. 2009; Culnan et al. 2010) and avant-garde firms such as Dell and Starbucks have vibrant social-media-based customer communities (Di Gangi et al. 2010; Gallagher and Ransbotham 2010). Culnan et al. (2010) found that 65% of the Fortune 500 firms studied used at least one social media application.

Yet, reports suggest sensemaking about social media is still nascent, as firms struggle to understand the payoffs and risks entailed with the technology (Rozwell 2011). Understanding early informational engagements with a technology is particularly interesting because meanings have yet to coalesce around the technology, absent widespread material engagement with the technology to anchor the discourse. Social media, in particular, pose challenges to conventional corporate discourse about technology because they defy advance quantification of business value, they change expectations of how firms should interact with their stakeholders, they entail substantial risks such as process obsolescence and loss of information control, and the vendor space – relatively unpopulated by the traditional business systems vendors – is confusing (Qualman 2009). Such challenges to sensemaking ensure visibility of a wide range of meanings

surrounding the technology before convergence is achieved. Social media therefore provide an excellent opportunity to understand the breadth of meanings revealed in firms' informational engagements.

We use schema theory to understand the organizing visions produced and represented in firms' informational engagements. While virtual, schemas produce and are produced by human and material resources (Sewell 2005). Thus, as recognized by the sociomateriality perspective, firms' informational and material engagements are intrinsically linked (Orlikowski 2006). Yet, as the hermeneutic tradition notes, it is possible to understand social contexts solely through their texts (Ricoeur 1991). We study informational engagement via the texts issued by firms, i.e., their news releases, annual reports, and responsibility reports. We exclude news releases and articles by vendors, analysts, consultants, and journalists because we wish to capture the firm's voice on the focal technology, uncontaminated by voices of other entities. This is a meaningful precursor to analysis of impacts of firms' informational engagement on legitimacy and performance because firms' informational engagements as echoed or filtered by other agents such as vendors, analysts, and journalists risk conflating independent and dependent variable.

In contrast to received wisdom, which proposes a single organizing vision of a technology permeates a community, schema theory anticipates the prevalence of a plurality of schemas at the firm and community levels. The paradigm-shift afforded by this perspective is recognizing the possibility that informational engagements with a technology or set of technologies may vary *qualitatively*, not just quantitatively, within and across firms. The questions we seek to address are: (1) Do firms' discourse on – or informational engagements with – social media reveal a single or multiple organizing visions? (2) How do we understand the generic constitutive elements of (an) organizing vision(s)? (3) What is that nature of the organizing vision(s) underlying and informing firms' engagement with social media?

In the following sections, we first review existing research on firms' informational engagements with technology. We then review theory on schemas and related concepts to understand whether we should expect one or many organizing visions and what the constitutive elements of the visions might be. Next, we present our analysis of informational engagements with social media by 26 of the top 30 Fortune firms describing 675 initiatives. We conclude by discussing findings and suggesting research directions.

The **contributions** of our work to research investigating the business value of IT and IT diffusion are the following. First, we analytically surface and theoretically develop *four organizing visions* underlying firms' informational engagements with social media, demonstrating the plurality of organizing visions regarding social media. Second, in describing the nature of these disparate organizing visions of social media, we provide a typology, which Doty and Glick (1994) note represents an important form of theory-building. This has the following implications for future research. First, after ascertaining the generalizability of our visions, research on IT value can investigate how firms' different organizing visions, reflected in their informational engagements, influence their material engagements, legitimacy, and performance. Second, research on IT diffusion can examine the impact of differing visions on variations in technology diffusion. Practically, our work enhances awareness of the range of visions can drive firms' strategic development and use of repertoires for informational engagement with social media.

## **Research on Informational Engagement with IT**

Research on firms' informational engagement with IT appears in two literature streams – the business value of IT literature and the IT adoption literature. We briefly review these two literatures and note ways in which they can inform and be informed by our perspective of informational engagement as schema.

### ***Business Value of IT***

Much of this literature has used an event-study method, examining the relationship between IT investment and abnormal stock market returns. Here, the "event" has been firms' announcements of IT-related investments. For example, researchers examined announcements heralding the following: a new CIO (Chatterjee et al. 2001), investments in application versus infrastructure (Chatterjee et al. 2002), e-commerce (Dewan and Ren 2010; Subramani and Walden 2001), ERP (Ranganathan and Brown 2006), virtual world technologies (Yang et al. forthcoming), IT (Oh et al. 2006) and business processes outsourcing (Duan et al. 2009), and IT standards-setting (Aggarwal et al. 2011). In this research stream, informational engagement is simply a proxy for material engagement. Failure to recognize the ontological

separation between informational and material engagement belies the significance of informational engagements in constituting material engagements (Sewell 2005). It overlooks the possibility for decoupling the symbolic from the substantive, as anticipated by Meyer and Rowan (1977) and since borne out by empirical investigations (e.g., Westphal and Zajac 1998; Westphal and Zajac 2001; Zbaracki 1998).

Nonetheless, this research stream has considered cognitively-meaningful categories such as industry (Chatterjee et al. 2001; Dehning et al. 2003; Dos Santos et al. 1993; Im et al. 2001) and firm attributes (Im et al. 2001; Ranganathan and Brown 2006) that circumscribe the efficacy of firms' IT-related engagements. These considerations provide an antecedent to our investigation of schema communities. Specifically, it suggests the presence of distinct communities within which material engagements – and consequently schemas – tend toward homogeneity and across which they are heterogeneous. This research has also suggested that the larger the number of subscribers to a particular schema, the more success each subscriber is likely to enjoy (Aggarwal et al. 2011).

### ***IT Adoption and Diffusion***

In this literature stream, two concepts have foregrounded firms' informational engagements with IT, culminating in this concept: the notion of a community-level *organizing vision* about technologies (Swanson and Ramiller 1997) and the notion that business decision-makers and users apply *disparate frames* in deciding upon their level of substantive engagement with the technology (Orlikowski and Gash 1994). An organizing vision is a community-wide conceptualization of a technology (Swanson and Ramiller 1997). Researchers have considered the nature of organizing vision across ascendance and descent of technology fashions (Ramiller and Swanson 2003) and technology and firm correlates of firms' mindful engagement with an organizing vision (Swanson and Ramiller 2004). Wang and Ramiller (2009) noted that an organizing vision was constituted through firms' discourse, which Wang (2010) termed "informational engagement," an analytical construct *and* organizational behavior that is distinct from "material engagement." He found that while informational engagement improved both internal and external legitimacy, assessed in terms of executive compensation and organizational reputation respectively, material engagement led to performance improvements. How do we understand the contents of firms' informational engagements though and how they constitute an organizing vision?

To an extent, IT research on technology frames has begun to address this question. Researchers have considered framing effects on conflict about development and use of technology (Orlikowski and Gash 1994), individuals' participation in requirements determination (Davidson 2002), firms' use of B2B markets (Mishra and Agarwal 2010), and stakeholders' interpretation of organizations' communications about change initiatives (Gallivan 2001). A key contribution of this line of research is highlighting the heterogeneity of meanings that surround technologies, in stark contrast to the homogeneity implied by the organizing vision perspective. Additionally, this research has begun to identify discrete meanings that may be attached to technology, e.g., benefits, threats, or adjustment frame (Mishra and Agarwal 2010). Orlikowski and Gash (1994) identified three sets of frames – the nature of technology, technology strategy, and technology-in-use, but favored researchers permitting frames to surface from the data rather than imposing them upon the data. Below, based on schema theory, we develop an approach that both takes advantage of extant knowledge about evaluative lenses applied to decision-making as well as permits the data to enhance our understanding of those lenses.

## **Organizing Vision as Schema**

We now consider how the concept of schema can inform our understanding of how organizing visions emerge from and are reflected in firms' informational engagements. We begin with an exposition of schema theory and then consider frameworks that can inform our investigation of the constitutive components of schemas.

### ***Schemas and their Relation to the Substantive World***

Broadly speaking, schemas are "the rules of social life" (Sewell 2005: 131). They are "cognitive structures of organized prior knowledge, abstracted from experience with specific instances" that "guide the processing of new information and the retrieval of stored information" (Fiske and Linville 1980: 543). Schemas have to do with the *interconnections* among cognitive elements. Consequently, schematized

cognitions have been found to be more robust than non-schematized cognitions – they are recalled more frequently and confidently and resist disconfirmation (Fiske and Linville 1980).

“Schemas” and “frames” are sometimes used interchangeably (e.g., Orlowski and Gash 1994). Like frames, schemas inform “the decision maker’s conception of acts, outcomes, and contingencies associated with a particular choice” (Tversky and Kahneman 1981: 453). They shape both interpretation of action and enactments themselves. Whereas the concept of frames and framing have been used to connect cognitive and material elements though (e.g., Davidson 2002; Gallivan 2001; Mishra and Agarwal 2010), we use the term schema to focus on the *interconnections* within the “complex structures of mental representation” that “embody our taken-for-granted assumptions about the world” (Goldberg 2011: 1401). Thus, our distinction between the concepts of frames and schemas is simply for analytical purposes since consensus has emerged about associating the term “schema” rather than “frame” with the study of connections among cognitive elements (D’Andrade 1995). We do not necessarily suggest the terms reference ontologically distinct social facts.

Though virtual, schemas are intricately related to the tangible – to material and human resources (Sewell 2005). Schemas constitute the meaningfulness of these resources. In fact, “humans’ or substances’ specific value arises from their categorization within existing cultural schemas” (Sewell 2005: 216). Without a collective sense of value, material and human resources lack meaning beyond their ability to satisfy physical needs. Schemas thereby influence accumulation of tangible resources. The phenomenon of “irrational exuberance”, for example, speaks to individuals’ virtual schemas about the value of certain companies producing tangible resources for those companies. In people, schemas give rise to development of codes of action and skill sets, and legitimate individuals’ occupation of positions and roles. Schemas are visible in and reinforced by resources. For example, Sewell (2005: 136) noted: “The factory gate, the punching-in station, the design of the assembly line: all of these features of the features of the factory teach and validate the rules of the capitalist.” In this way, the symbolic and substantive – firms’ information and material engagements – are mutually constitutive (Orlikowski and Scott 2008).

Because of this mutual constitution, schemas operate not only at the individual, but also at the collective level (Sewell 2005). Shared schemas arise when social entities “have had similar socially-mediated experiences” (Strauss and Quinn 1997: 48). Thus, in contrast to the social psychological view of schemas, the sociological view schema is that they are social facts that exist beyond individual actors and prior to their action. Sewell notes that “agency arises from the actor’s knowledge of schemas” (2005: 143). Yet, schemas also arise from and are modified through individual enactments as actors detach old or attach new meanings to a schema (Sewell 2005). For example, the “No Child Left Behind” act of 2001, intended to raise academic performance in underprivileged areas, acquired a “teach-to-the-test” meaning in its enactment. In ongoing enactments, initial meanings of Facebook as a social tool morphed to include meanings of Facebook as a corporate tool.

Schema-as-social-fact implies shared, but not universal or identical, meanings: “You share [schemas] with people who have had some experiences like yours, but not with everybody” (Strauss and Quinn 1997: 49). Schema-as-social-fact implies “agreement on the *structures of relevance and opposition* that make actions and symbols meaningful” (Goldberg 2011: 1402, italics added). Thus, shared meanings can underlie *both agreement and disagreement* as “schematically overlapping” individuals, “who follow a similar relational pattern”, and “schematically different” individuals, “who follow *opposite relational patterns but still agree on the dimensions along which meaning is defined*” employ the same underlying schema (Goldberg 2011: 1402, italics added). For example, I, who am not partial to burgers, French fries, or milk shakes, am schematically similar to someone who loves all three, but not to someone who is fond of one or two but not all three. So, schematic similarity has to do with similarities in the organization of cognitive elements, not similarities in the valences of the elements.

Analysis of schematic similarities is therefore based on connectionist models, premised on the tendency of cognitive units to agglomerate in consistent ways within structurally- and/or experientially-similar social groups (Strauss and Quinn 1997). Goldberg’s (2011) relational class analysis offers an analytical approach to understanding shared schemas. This approach has been applied to surfacing communities of meaning underlying music tastes (Goldberg 2011) and political preferences (Baldassari and Goldberg 2010).

We now consider different approaches to identifying the “salient cognitive components” that constitute the schemas (Goldberg 2011: 1403) underlying firms’ allocative and authoritative actions, i.e., those

concerning actions pertaining to material and human resources (Giddens 1991). We begin by briefly reviewing the established theories on interpretive lenses and their use in IT research. We then argue that firms' engagements with social media, which emerged and diffused through social and political spheres before penetrating the economic sphere of action, necessitates a broader perspective on the constitutive components of schemas and propose such a perspective.

### **Typologies of Interpretive Lenses Informing Decision-making**

Earlier, we noted that the salience of schemas, frames, or other interpretive lenses lay in shaping decision-making. Researchers have developed different typologies for examining interpretive lenses. In analyzing these typologies, two sets of perspectives emerge. The first, following Tversky and Kahneman's exposition of Prospect Theory (1981), views decision-makers' lenses as an *evaluative disposition*, typically a positive or negative disposition toward goals, choices, or choice attributes (Levin et al. 1998). We summarize the key evaluative dispositions from existing research in Table 1, Part A.

Table 1: Perspectives on Interpretive Lenses					
Authors	Categories of Lenses				
A: Lens as Evaluative Disposition					
Tversky & Kahneman (1981)	<i>Gains frame:</i> Emphasis of positive aspects of outcomes		<i>Losses frame:</i> Emphasis of negative aspects of outcomes		
Mishra & Agarwal (2010)	<i>Benefits frame:</i> Focus on opportunity for gain		<i>Threat frame:</i> Focus on opportunity for loss		<i>Adjustment frame:</i> Focus on assessment of magnitude and impact of changes
Boltanski & Thévenot (2006)	<i>Justify:</i> Statements legitimating action		<i>Denounce:</i> Statements criticizing action		
B: Lens as Disparate Values and Principles					
Quinn & Rohrbaugh, (1983)	<i>Internal process value:</i> Focus on internal control; concern for communication and stability	<i>Rational goal value:</i> Focus on external control; concern for outputs and competitiveness	<i>Human relations value:</i> Focus on internal flexibility; concern for cohesion in human resources	<i>Open systems value:</i> Focus on external flexibility; concern for growth, resource acquisition, external support	
March (1991)	<i>Exploitation:</i> Focus on rapid improvement in existing competencies			<i>Exploration:</i> Focus on experimentation and innovation	
Denison & Spreitzer (1991)	<i>Hierarchical culture:</i> Focus on internal efficiency and coordination	<i>Rational culture:</i> Focus on goal fulfillment	<i>Group culture:</i> Focus on group maintenance - belonging, trust, cohesiveness	<i>Developmental culture:</i> Focus on growth, creativity, and variety	
Orlikowski & Gash (1994)	<i>Nature of technology:</i> Focus on technology capabilities and functionalities	<i>Technology strategy:</i> Focus on value of technology to organization	<i>Technology in use:</i> Focus on likely conditions and consequences of use to people		
Dehning, et al. (2003)	<i>Automate:</i> Focus on replacing human labor with automated business process <i>Informate:</i> Focus on information about business activities			<i>Transform:</i> Focus on redefining processes	
Boltanski & Thévenot (2006)	<i>Industrial order:</i> Focus on productivity and efficiency	<i>Market order:</i> Focus on monetary value and competitiveness	<i>Domestic order:</i> Focus on tradition, hierarchy, and trust	<i>Inspiration order:</i> Focus on creativity	<i>Civic order:</i> Focus on collective interests and solidarity
					<i>Renown order:</i> Focus on fame and recognition

The second perspective views interpretive lenses as *competing values or principles* governing firms' authoritative and allocative decisions. The most basic of these oppositional frameworks is the "trade-off" in investments in exploration versus exploitation (March 1991). Quinn and Rohrbaugh (1983) noted a more complex set of oppositions underlying firms' organizing principles: (1) between an internal versus an external focus; (2) between a flexibility versus a control focus; (3) between a means versus an ends focus. Since then, the notion of oppositional principles has permeated research in the management and IT arenas (e.g., Buenger et al. 1996; Dehning et al. 2003). We summarize the key oppositional values and principles from existing research in Table 1, Part B.

Research on lens-as-evaluative-disposition has been extensive, generally substantiating Prospect Theory's premise that individuals tend to make risk-averse choices when presented with positively-framed prospects and risk-seeking choices when presented with negatively-framed prospects (Kühberger 1998; Kühberger et al. 1999). Research on lens-as-competing-values has been less conclusive, both in terms of their implications for action as well as what the values are. As is becoming evident from the evolving literature on ambidexterity (e.g., Raisch et al. 2009), organizational action is not uniformly informed by values of exploration or exploitation and performance is not a clear function of one or the other. Emerging largely around organizational action, these frameworks do not provide a comprehensive account of principles underlying action in socio-political contexts, the arenas in which social media have diffused. We therefore look to a broader framework emerging from studies of complaints of injustice and adjustments of resources in businesses.

### ***Justification and Denouncement through the "Orders of Worth" Lens***

Boltanski and Thévenot proffer a framework termed "orders of worth" for understanding actors' "modes of justification" (DiMaggio 1997: 277). Actors wittingly or unwittingly draw upon six prototypical cultural repertoires to justify and denounce actions (Boltanski and Thévenot 1999; Boltanski and Thévenot 2006). In referencing these cultural repertoires, we use "principle" rather than the more-common "logic" because the latter has the connotation of both "material practices" and "assumptions, values, beliefs, and rules" in the institutional logics literature (Thornton and Ocasio 1999: 804), and we focus solely on discourse constituting firms' informational engagements, not on firms' material engagements.

The Boltanski and Thévenot framework is a comprehensive representation of the rationales applied to action, having drawn upon canonical authors including St. Augustine, Bossuet, Hobbes, Rousseau, Adam Smith, and Saint-Simon to identify prototypical social orders or worlds and their governing principles (Godechot 2009). The six prototypical worlds – and associated principles – are industrial, market, domestic, inspiration, civic, and renown. The first four correspond roughly with Quinn and Rohrbaugh's (1983) internal process, rational goal, human relations, and open systems values respectively.

The **industrial** order values "the *efficiency* of beings, their *performance*, their *productivity*, and their *capacity* to ensure *normal operations* and to respond usefully to *needs*" (Boltanski and Thévenot 2006: 204, italics in original). The governing principle in this world is the good of the collective. In the **market** world the "important persons are buyers and sellers", who are "worthy when they are rich" and whose valued qualities are therefore being "opportunistic in spotting and seizing the opportunities of the market, unhampered by any personal link" (Boltanski and Thévenot 1999: 372). The **domestic** world is characterized by a hierarchy of personal dependencies such as families or bureaucracies and the governing principle is position or status in the hierarchy. The world of **inspiration** is inhabited by artists and other individuals aspiring to be geniuses, and whose governing principle therefore is creativity. The **civic** world is inhabited by "citizens" who subjugate their "selfish lusts" and "direct themselves exclusively towards the common good" (Boltanski and Thévenot 1999: 371). The evaluative principle in the world of **renown** is fame, visibility, or public esteem. Boltanski and Thévenot (2006) note that while certain principles dominate certain worlds, e.g., the inspiration principle among artists and the market principle among firms, actors also draw upon the other principles to inform and justify action.

To some extent, Boltanski and Thévenot's civic principle is reflected in earlier researchers' focus on garnering external support for organizations (Pfeffer and Salancik 2003; Quinn and Rohrbaugh 1983). Yet, the Quinn and Rohrbaugh's (1983) competing values framework does not capture the connotation of corporate social responsibility (CSR) as active pursuit of social welfare beyond self-interested legitimacy-seeking and concern for firms' profit-and-loss statements (Carroll 1999). More recently, CSR research has linked firms' externally-focused activities oriented toward social responsibility to externally-focused

activities oriented toward innovation-based growth (Porter and Kramer 2006). Boltanski and Thévenot's civic principle therefore separates externally-focused activities oriented toward legitimacy-seeking or innovation-based growth from externally-focused activities oriented toward social responsibility.

Missing from earlier frameworks is Boltanski and Thévenot's concept of the principle of renown. As noted earlier, the principle refers to the desire for fame or attention. At a corporate level, the pursuit of attention can be seen as a legitimacy-seeking. At an individual level, Derber (2000) noted that the pursuit of attention was one of the fundamental behaviors in individualistic society, its more extreme form being narcissism. With the onset of social media, the internet has become about "self-promotion and exposure," especially among the American public (Lewis-Kraus 2012: 131). Consequently, research has begun to link social media use to the personality trait of narcissism, with individual narcissism predicting higher levels of social media activity and self-promotional content (Buffardi and Campbell 2008). Corporations successful in appropriating social media have been particularly cognizant of individuals' tendency to use social media for attracting attention by focusing on "listening" – or paying attention – to their target audience (Qualman 2009). Thus, Boltanski and Thévenot's principle of renown is certainly valuable in understanding firms' engagements with social media.

## **Methods**

Consistent with prior research (e.g., Culnan et al. 2010; Wang 2010), the sample for this study was drawn from Fortune 100 firms. Our sample consisted of the top 30 firms in the Fortune 100 list for 2011. Details of these firms are available in an Online Appendix (<http://faculty-staff.ou.edu/M/Shaila.M.Miranda-1/RCA/>). We sampled from the top of the Fortune 100 list for two reasons. First, we are interested in early sensemaking regarding social media and organization size has been found to be a strong predictor of early adoption of both technological and administrative innovation (e.g., Kimberly and Evanisko 1981; Tolbert and Zucker 1983). Further, research has demonstrated that early adopters participate more actively in sensemaking about the focal innovation, while later adopters tend to simply conform to the behaviors of early adopters (Westphal et al. 1997). Consequently, focusing on larger firms, i.e., those at the top of the Fortune 100 list, ensured a greater likelihood of finding texts reflecting firms' informational engagement with social media.

Second, because signaling, i.e., communicating with stakeholders (Zmud et al. 2010), via news releases is not costless, there is variability in the extent to which firms employ such signals. Larger firms signal more (Zmud et al. 2010). We confirmed this premise by comparing the total number of news releases for the first quarter of 2011 for firms in our sample with the 30 firms at the bottom of the 2011 Fortune 100 list. The average number of releases for the top 30 firms ( $\mu=1,315$ ,  $\sigma=1,128$ ) and the average for the bottom 30 firms ( $\mu=710$ ,  $\sigma=774$ ) were significantly different ( $p<0.01$ ). Sampling the top Fortune firms ensured a level of homogeneity in firm size and therefore in signaling, but heterogeneity in other characteristics such as industry, profitability, and reputation. Homogeneity in firm size helped ensure that cross-firm RCA analyses would reveal homogeneous schemas, while heterogeneity in industry, profitability, and reputation enhanced the generalizability of our findings to large firms. Sampling from firms that engaged in a high level of signaling made social-media-related discourse more visible than it otherwise might have been. Knowledge discovery techniques such as RCA rely on large samples (Puretskiy et al. 2010). Sampling from the top of the Fortune list helped maximize the number of social media initiatives in our dataset. Even so, no texts/initiatives were found for Fannie Mae, AIG, AmerisourceBergen, and Costco, and several firms in the sample had only a single text/initiative within the period studied, confirming our belief that social media diffusion in the corporate world is yet at an early stage.

As noted in the Online Appendix, the 26 firms analyzed represented 16 industries and varying profitability and reputations. Having a cross-section of industries enabled us to understand the role of industry and firm characteristics in the schemas underlying firms' informational engagements with social media.

### ***Identification of Texts and Initiatives***

Given our interest in firms' informational engagement, we focused exclusively on texts emanating from the firms. This enabled us to hone in on the "company line" on social media, unmitigated by vendor interests or journalists' viewpoints. To understand firms' discourse on social media, we examined their annual reports, responsibility reports, and newswires for the years 2007-2011. This time frame was

selected to coincide with the first year in which a peak for “social media” appeared on Google Trends. A “text” refers to a single newswire or report.

Starting with the social media identified by Culnan et al. (2010), we identified related terms through literature, trade press, and news searches before finalizing the list of search terms. We performed a keyword search of newswires issued by firms using LexisNexis and obtained annual and responsibility reports from the Internet. Search terms relating to social media use included Facebook, Twitter, social media, social networking, LinkedIn, Chatter, Salesforce, Tumblr, blog, wiki, Web 2.0, YouTube, mashup, rss, forums, online community, user-created content, virtual social world, Instagram, virtual world, social bookmark, and Flickr. Duplicate and non-relevant releases were removed from the sample. Irrelevant news releases were those not issued by the focal company or unrelated to the use or leverage of social media by the focal company.

We then identified the social media initiatives discussed within each of these texts. These initiatives represented the business case firms tacitly or explicitly made for social media. Each text had at least one initiative. Discourse about each initiative appeared in a single text or across multiple texts, e.g., Ford’s Fiesta Movement, which appeared in 27 texts. We identified 675 distinct initiatives from the texts coded. The average number of texts per initiative was 2.27 ( $\sigma=5.44$ ). We operationally define informational engagements as firms’ news releases and reports about an initiative involving social media; we then treated each text as a signal about a social-media-related initiative.

The research team consisted of the three authors and three research assistants – two graduate students and one senior undergraduate student. Our dataset of texts containing social media keywords consisted of a total of 1,164 news releases and 70 annual and responsibility reports.

### **Coding Justification and Denouncement of Principles of Worth**

We coded each text for each interpretive lens: evaluative dispositions and evaluative principles. Following Boltanski and Thévenot’s (2006), we coded evaluative dispositions “justify” or “denounce”; to account for evaluations that were neither positive nor negative and to be consistent with Mishra and Agarwal (2010), who provided the latest taxonomy of evaluative dispositions, we added a “qualify” category.

To enhance validity of our coding for the evaluative principles, we began with keywords culled from the margin notes provided in Boltanski and Thévenot’s (2006) description of the six principles. We then refined the list through iterative coding and discussion of the keywords, deleting ones that were ambiguous and surfacing others that were either synonymous with keywords from Boltanski and Thévenot’s work or captured their intent with regard to each of the six principles. Sample keywords and texts for each principle appear in Table 2.

Table 2: Coding Evaluative Principles

Principle	Sample Keywords	Examples from Texts Coded
Civic	Charity, civil right, collective, community*, dignity, educate*, solidarity	“Ford is launching a ... social media program ... to ... encourage more people to join in <i>the fight to eradicate breast cancer...</i> ” “...Responsibility Blog, where members of our corporate responsibility team ... express their views on social, educational and environmental issues.”
Domestic	Authority, benevolent, culture, empower*	“...four coaches ... will provide tips and advice on how to <i>empower women...</i> ” “...parents need better ways of <i>protecting</i> their child’s online safety...”
Industrial	Ability, analyze, control, efficient, method, optimize, standardize, tool, vote*	“Our <i>application programming interface ("API")</i> brings popular apps such as ... Twitter ... into the car.” “We’re <i>enabling</i> these valuable social networks by <i>providing our customers the tools</i> to share experiences...”
Inspiration	Create, discover* disturbing, escape from habit, innovative, insight	“Fiesta fans are being asked to <i>get their creative juices flowing</i> again, thanks to the Ford Fiesta Facebook Challenge ....” “...yesterday’s <i>work style is being replaced</i> with a more interactive exchange of <i>ideas inspired</i> by social networking tools such as Facebook, wikis ...”
Market	Benefit, business, buy, cost, compete, opportunism	“New for this year, Facebook Credit Gift Cards(7) - \$5, \$10, \$15 denominations when <i>purchased</i> at Walmart Store...” “growth of ... social media will continue to feed the <i>demand</i> for bandwidth...”
Renown	Attention, award, honor, popular	“Our <i>award-winning</i> online educational resource, Thinkfinity.org...” “ <i>awarding</i> \$200,000 to 10 nonprofits that are true heroes...”

\*additions to Boltanski and Thévenot’s list from iterative coding and research team discussions

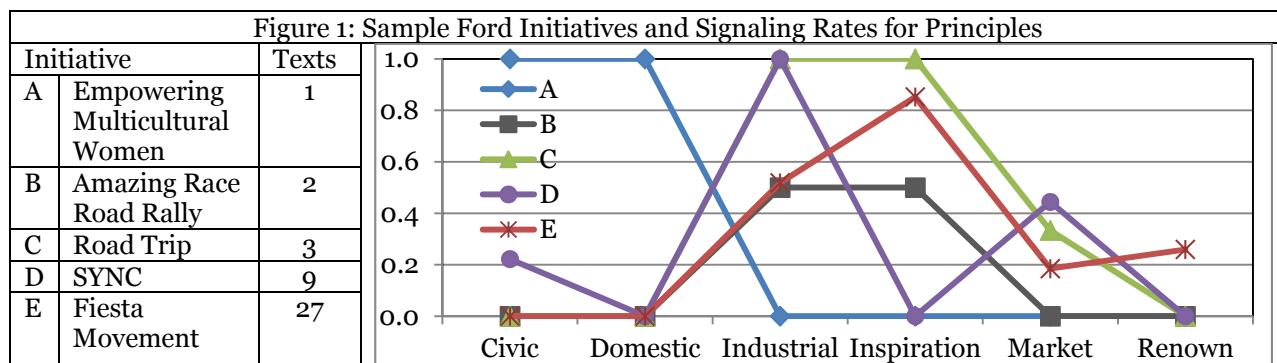
Because six different individuals – three researchers and three research assistants – performed the coding, we then took two steps to ensure consistent understanding of the different principles across the different coders. First, we developed a codebook consisting of definitions of each principle and lists of associated keywords. Second, all three authors coded a set of texts with each of the three research assistants employed and met several times to reconcile and discuss the research assistants' coding until we were satisfied that our understandings of the six principles had converged. We averaged about ten hours thus training each of the three research assistants. After this training period, each research assistant coded another set of texts with one of the three authors to ascertain inter-rater reliability. When a sufficiently high inter-rater reliability had been reached, following earlier work (Miranda and Saunders 2003), coders then coded independently of each other. Inter-rater reliability was computed as Cohen's kappa based on 207 texts (174 news releases and 33 reports). The Cohen's (1960) kappa for the evaluative dispositions (justify, denounce, or qualify) was 0.99; kappa coefficients for civic, domestic, industrial, inspiration, market, and renown principles were 0.99, 0.98, 0.89, 0.97, 1.00, and 0.98 respectively. These exceeded the recognized threshold inter-rater reliability (Boudreau et al. 2001).

Our coding revealed little variation across texts on evaluative dispositions. Over 97% of the social media texts were coded as "justify", less than 2% were coded as "denounce" and about 1% were coded as "qualify." We were therefore unable to analyze evaluative dispositions further. Subsequent analyses are robust to the inclusion or exclusion of texts qualifying or denouncing social media.

### **Analyses of Schemas**

Epistemologically, the initiative as the unit of analysis is consistent on our focus on informational engagements to the exclusion of material engagements. Lizardo (2010: 671) noted that "if schemas are embodied in the agent ... they cannot be immaterial." Consequently, agent-level analysis is necessarily materialized, while analyses of schemas is limited to the virtual (Sewell 2005). Pragmatically, we recognize that schemas diffuse differently within firms, especially those operating in diverse institutional environments. This perspective is consistent with schema theorists' exhortation to analytically recognize "the flexibility and plasticity of schemas" (D'Andrade 1995: 142). The initiative, rather than the firm, as the unit of analysis does not assume homogeneity of principles or underlying schemas within firms.

We surfaced schemas using Goldberg's (2011) relational class analysis (RCA). Further details on the RCA method implemented appear in the Online Appendix (<http://faculty-staff.ou.edu/M/Shaila.M.Miranda-1/RCA/>). For the RCA, a *signaling rate per initiative per principle* was computed as the number of texts within which a particular principle was signaled divided by the total number texts related to that initiative. Thus, the data meets the four requirements for RCA: (1) the data are operationalized as scaled variables; (2) the scales are ordinal and equidistant; (3) the classes (here, the six principles) are comparably scaled; (4) the scales range from zero to one (Goldberg 2011). Sample signaling rates for five Ford initiatives are shown in Figure 1.



Relational class analysis is a three-step process. In the first step, a relationality coefficient between each pair of observations is computed (formulas available from Goldberg 2011). The relationality coefficient signifies the schematic similarity between pairs of observations. Like a Pearson correlation coefficient, the relationality coefficient can, in theory, range from -1 to 1. In reality, the lower bound on the relationality coefficient depends on scale granularity and the number of classes, tending toward -1 as each

increases. While correlation computes association based on two vectors of data points, treating the data points within each vector as independent, relationality is sensitive to interdependencies between the data points. Unlike correlation, relationality is not sensitive to distributional variations across scales. Thus, correlations are sensitive to differences in use of extreme values; and, in the presence of zero variance, correlations are undefined. Relationality, however, is less sensitive to differences in scale usage and can be computed even in the presence of zero variance. Relationality and correlation coefficients are shown in Table 3. As per Goldberg, the correlation between relationality and Pearson coefficients is high ( $r=0.88$ ).

Table 3: Relationality and Correlation Coefficients for Five Ford Initiatives					
	A	B	C	D	E
A	1.00	0.20	-0.09	0.09	0.07
B	-0.50	1.00	0.71	0.43	0.82
C	-0.61	0.96	1.00	0.53	0.62
D	-0.33	0.43	0.51	1.00	0.20
E	-0.71	0.90	0.90	0.15	1.00

Note:  
*Relationality coefficients above diagonal  
Correlations below diagonal*

In the second step, schematically-similar groups are identified. Schematic similarity attains from the absolute value of the relationality coefficient, because highly negatively and highly positively related observations are treated similarly. The rationale is that when two initiatives are negatively related, they use different principles, but their use of the principles is organized in the same fashion (Goldberg 2011). Thus, even though initiatives A and C in Figure 1 appear to move in opposition to each other, they are seen as employing the same underlying schema because their use of the rules is similarly organized. To identify schematically similar groups of initiatives, we first developed a square matrix of the absolute value of the relationality coefficients between each pair of initiatives. This square matrix may be visualized as a non-directional network, with each initiative represented by a node and each relationality coefficient as an edge in the network. Because the relationality coefficient rarely equals zero and its lower bound rarely equals -1, not all relationality coefficients are believed to be meaningful and only those that were statistically significant (as determined by bootstrapping with 100 re-samples and  $p \leq 0.05$  for coefficient retention) were retained. To identify relationally similar groups, we then subjected the network to the Newman Community Detection algorithm. Unlike other agglomerative methods that can ignore peripheral vertices, the Newman algorithm tends to uncover more realistic community structures (Newman and Girvan 2004). The general guideline for determining the number of clusters is that it should be theory-based (Wasserman and Faust 1994). Given RCA's orientation of discovering "islands of meaning" that are implicit in collective patterns of relationships between individuals attitudes and beliefs" though (Goldberg 2011: 1402), RCA employs modularity maximization. This algorithm identifies the schematically similar clusters, i.e., sub-groups that organize cognitive components in similar fashions.

The third step involves representing the schemas detected as graphs. These graphs depict two properties of the schemas. The first is the correlations among the classes in the properties of the lines connecting the nodes representing the classes. The second is the extent to which each class "binds" together other classes in the schema. This is determined by the weighted clustering coefficient – formula appears in Goldberg (2011) and in the Online Appendix – and represented in the size of the nodes in the graph.

## Findings

We first report on the incidence of principles represented in firms' discourse about their social media initiatives. We then report on the RCA results and the schemas identified by the analyses.

### **Signaling of Evaluative Principles**

Table 4 reports the distribution of signaling rates of principles across the 26 firms in the dataset. The core principles typically anticipated in a business environment are industrial, market, inspiration, and domestic (e.g., Quinn and Rohrbaugh 1983). The industrial principle clearly dominates, especially when signaling rates are averaged at the initiative level, followed by the market principle. In contrast, inspiration was the *least* frequently signaled principle; the signaling rate for the domestic principle was almost as low. At the firm-level, renown and civic principles were the third and fourth most-frequently applied principles, speaking to the salience of these novel cognitions to corporate life.

Table 4: Average Signaling Rates for each Principle

Firm	Number of		Principle					
	Texts	Initiatives	Civic	Domestic	Industrial	Inspirat'n	Market	Renown
Wal-Mart Stores	36	26	23%	12%	66%	33%	62%	16%
Exxon Mobil	3	3	33%	0%	0%	0%	33%	67%
Chevron	28	17	29%	37%	67%	0%	0%	49%
ConocoPhillips	1	1	0%	0%	0%	0%	0%	100%
General Electric	6	6	25%	0%	67%	50%	33%	17%
Berkshire Hathaway	1	1	0%	0%	0%	0%	0%	100%
General Motors	6	7	43%	0%	43%	0%	29%	43%
Bank of America	4	4	25%	0%	75%	0%	25%	0%
Ford Motor	77	41	16%	7%	61%	32%	24%	47%
Hewlett-Packard	8	3	0%	0%	33%	0%	33%	33%
AT&T	284	132	13%	6%	94%	8%	18%	14%
J.P. Morgan Chase	7	3	33%	33%	33%	33%	0%	33%
Citigroup	6	5	0%	20%	40%	0%	40%	20%
McKesson	5	1	0%	0%	100%	0%	0%	0%
Verizon	285	141	11%	9%	89%	12%	9%	13%
IBM	238	91	7%	4%	94%	1%	10%	3%
Cardinal Health	1	1	0%	0%	0%	0%	100%	0%
Freddie Mac	2	3	100%	0%	0%	0%	100%	0%
CVS Caremark	16	16	25%	21%	92%	4%	15%	16%
UnitedHealth Group	43	29	6%	10%	85%	0%	4%	9%
Wells Fargo	56	42	26%	17%	95%	0%	15%	13%
Valero	1	1	0%	0%	0%	0%	100%	0%
Kroger	6	6	0%	33%	83%	0%	67%	50%
Procter & Gamble	101	82	11%	2%	91%	3%	21%	14%
Marathon Oil	5	6	33%	0%	100%	0%	0%	0%
Home Depot	8	7	50%	29%	100%	0%	14%	0%
<i>Firm-level average signaling rate</i>		20%	9%	58%	7%	29%	25%	
<i>Initiative-level average signaling rate</i>		15%	9%	86%	9%	17%	16%	

\*Multiple principles can be used for one initiative

### Schemas Underlying Social Media Discourse

While the dendrogram (available in the Online Appendix) produced by the Newman Community Detection algorithm suggested the viability of either a three- or a four-schema solution, the four-schema solution reported below optimized modularity for the 675 initiatives analyzed. We first provide a summary of the characteristics of the four schemas surfaced in Table 5.

We present the graphical representations of the schemas recommended by Goldberg (2011) in Figure 2. Recall that node size in the graphs represents the size of the clustering coefficients (CC), also represented numerically in the figures. In network terms, CC captures the principle of transitivity, the extent to which my friends' friends are also my friends. The size of the clustering coefficient therefore indicates the extent to which a particular principle is integral to holding together or excluding other principles with a schema.

#### The Efficient Business schema

This schema is defined by a focus on promoting business efficiency. This is apparent from the fact that every initiative in the schema applied the industrial principle (Table 5). Further, unlike the next two schemas, which consistently paired the industrial principle with one other principle, initiatives in this schema usually (88.46% from Table 5) lacked any such pairing and when pairings occurred, they occurred with any principle, except the civic principle. Thus, the principle of methodological efficiency was applied to a variety of business areas, not just one. From Figure 2A, we observe every CC, including that for the industrial principle, to be negligible. This suggests that the salience of the industrial principle to the *Efficient Business* schema lies purely in its dominance of the vision applied to evaluating initiatives, not in its integration of other principles into a coherent logic.

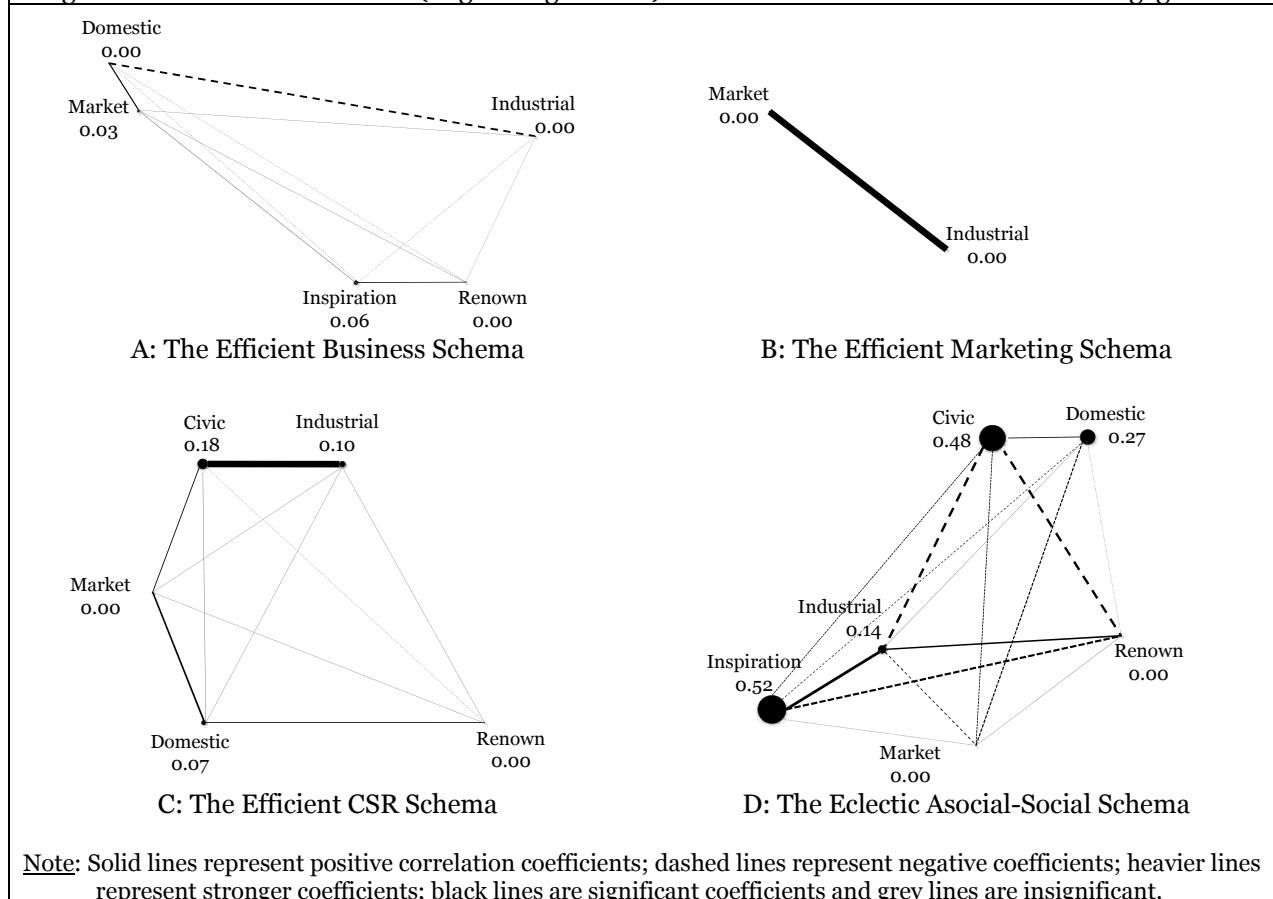
Table 5: Schema Characteristics

Characteristic	Efficient Business Schema	Efficient Marketing Schema	Efficient CSR Schema	Eclectic Schema
Number of initiatives (% of total)	338 (50%)	50 (7%)	69 (10%)	218 (32%)
% of initiatives in which principles represented				
Civic	0%	0%	100%	21%
Domestic	7%	0%	23%	16%
Industrial	100%	100%	100%	61%
Renown	3%	0%	4%	55%
Inspiration	1%	0%	0%	33%
Market	4%	100%	6%	33%
% of initiatives with a single principle	88.46%	0%	0%	27.52%
Average principles per initiative ( $\sigma$ )	1.15 (0.49)	2.00 (0.00)	2.33 (0.59)	2.18 (1.01)
% of firms' initiatives represented in schema				
Commercial Banks	Wells Fargo	45%	12%	31%
Computers	Hewlett-Packard	33%	0%	0%
Diversified Financials	Freddie Mac	0%	0%	0%
Electronics	General Electric	0%	17%	17%
Food and Drug Stores	CVS Caremark	44%	0%	25%
	Kroger	17%	17%	0%
General Merchandisers	Wal-mart Stores	8%	27%	0%
Healthcare: Insurance & Managed Care	UnitedHealth Group	72%	0%	7%
Household & Personal Products	Procter & Gamble	54%	12%	11%
IT Services	International Business Machines	74%	5%	8%
Insurance: Property & Casualty	Berkshire Hathaway	0%	0%	0%
Megabanks	Bank of America Corp.	75%	0%	0%
	Citigroup	40%	0%	0%
	J.P. Morgan Chase & Co.	33%	0%	0%
Motor Vehicles	Ford Motor	17%	2%	0%
	General Motors	0%	0%	14%
Petroleum Refining	Chevron	29%	0%	12%
	ConocoPhillips	0%	0%	0%
	Exxon Mobil	0%	0%	0%
	Marathon Oil	67%	0%	33%
	Valero Energy	0%	0%	0%
Specialty Retailers	Home Depot	29%	14%	57%
Telecommunications	AT&T	53%	13%	10%
	Verizon Communications	57%	1%	8%
Wholesalers: Health Care	Cardinal Health	0%	0%	0%
	McKesson	100%	0%	0%

Initiatives in this schema either reflected attentiveness to their own business efficiencies via social media or proselytized business efficiencies that could be garnered from social media use. For example, AT&T's "New Smartphone" initiative, discussed in 42 texts, combined the industrial principle (98% of texts) with inspiration (7%), renown (10%), and market (2%) principles. These texts signaled the phones' social media capabilities, sometimes playing up "an innovative GPS-enabled application that combines local search with social networking capabilities" (news release, 6/9/2008), or that customers could "share videos and pictures from their wireless device to the Web's most popular sites ... Facebook, Twitter, YouTube, and Flickr" (news release, 7/15/2009), or the company's ability to provide "customers even more opportunities to express themselves through their favorite social networks" (news release, 8/25/2010). A second example is the IBM "Analytics" initiative (55 texts) related social media use to better business decision-making through industrial (92%), market (7%), and renown (2%) principles: "The USC Annenberg Social Sentiment Index ... relies on IBM Social Analytics technology to analyze millions of tweets in order to assess public social media engagement and opinion from sports and film to retail and fashion" (news release, 10/19/2011). A third example was AT&T's "Small Business" initiative, appearing in 20 texts and signaling industrial (100% of texts), market (10%), renown (5%), and

inspiration (5%) principles. Rather than focusing on AT&T's efficiency advantages though, this initiative focused on AT&T's efforts to inform other businesses about the benefits of adopting social media technology as a standard business practice. For example, in one text coupling industrial with market principles, a speaker was slated to "...discuss how social media technologies ... can help small businesses ... sustain customer loyalty, increase sales and level the playing field in the increasingly competitive marketplace" (news release, 1/29/2010).

Figure 2: Social Media Schemas (Organizing Visions) Surfaced from Firms' Informational Engagements



### The Efficient Marketing schema

This schema is defined by a focus on lower marketing costs or increased sales. We derive the name for this schema from its constitution by industrial and market principles, to the exclusion of all others, as apparent from both Table 5 and Figure 2B.

One example of an initiative in this schema is Procter & Gamble's "New Gillette Fusion" campaign (1 text), which used social media to advertise and promote a new product: "More than 130,000 product samples were *distributed* to men using popular social networking sites, websites and blogs, and consumers were encouraged to share their *reviews* with others" (news release, 6/8/2010). IBM's "Smarter Commerce" initiative (14 texts) demonstrated how social media capabilities provided by IBM software could increase adopters' marketing opportunities: "The software incorporates new social networking *capabilities* and the ability for retailers to reach consumers with personalized *promotions*, *coupons* and other content, regardless of how or where the customer chooses to *shop* with them" (news release, 11/11/2009).

### The Efficient CSR schema

This schema is defined by a focus on efficient representation and conduct of firms' CSR activities. We derive the name for this schema from its primary constitution by industrial and civic principles, coupled

with the domestic principle in 23% of the initiatives (Table 5 and Figure 2C). The absence of a substantial CC indicates that no *three* principles typically inhere within this schema. Initiatives in this schema focus on social media as a tool to efficiently promote and enact movements that enhance the greater good.

Emergence of this schema is unsurprising. Rather than relying solely on annual responsibility reports, firms are harnessing the internet to communicate their social responsibility to stakeholders. For example, IBM showcased its employee skills-based volunteerism program in its “Centennial” initiative, cybercast on YouTube (news release, 4/27/2011). Further, as McWilliams and Siegel (2001: 125) note, “the internet has made it much easier for firms to target consumers who have social goals ... and for groups who share common social goals to share information.” Facilitating consumers’ social goals was visible in several initiatives. Procter & Gamble’s initiative “Imagine a Future” (1 text) focuses on social media use to spread awareness and encourage the public to join a movement by “providing tools and resources to foster a greater sense of self and confidence within the *next generation of young black girls*” (news release, 7/6/2012). AT&T’s “It Can Wait” initiative, consisting of 12 texts, utilized social media to disseminate information about and educating the public on the dangers of texting while driving: “AT&T’s ‘It Can Wait’ campaign launched in March 2010, and to date, more than 21,600 consumers have taken the pledge *not to text and drive* on AT&T’s Facebook page, in addition to more than 16,700 AT&T employees *through its internal social media channel*” (news release, 12/27/2010). UnitedHealth’s “Take Action for Change” Facebook campaign (1 text), encouraged participants to “*make pledges* every day to actively *improve their health*, from going for a walk to quitting smoking” and committed to donate 25 cents to one of three charities for each pledge received (social responsibility report, 2011).

### The Eclectic Asocial-Social schema

This schema is defined by a differentiated focus on asocial versus social concerns. We label this the “eclectic” schema because unlike each of the other schema that completely excluded at least one principle, this schema included all six principles. This does not mean that each initiative used all principles. Rather, as becomes apparent from Figure 2D, the industrial/inspiration/renown principles and the civic/domestic principles represent two oppositional groupings of meaning within the cluster. To understand this opposition better, we analogize it to an oppositional grouping of Cheetos and sodas versus kale chips and green tea, which reveals the organization of meanings to be the category of junk-versus-health-conscious food choices. The industrial/inspiration/renown versus civic/domestic groupings reveal an underlying category of asocial-versus-social concerns with social media.

One example of an Eclectic Asocial initiative is AT&T’s “Emerging Wireless Devices” initiative, a single text using only the industrial and inspiration principles: “There is also a host of *exciting new applications* -- from social networking to navigation to location-based solutions -- being developed that will rely on wireless connectivity” (news release, 10/15/2008). A second example of an *Eclectic Asocial* initiative, which primarily paired the industrial (52% of the 27 texts) and renown principles (85%), juxtaposing these occasionally with market (26%) and inspiration (19%) is Ford’s “Fiesta Movement.” The following text uses renown, industrial, and market principles: “The Ford Fiesta also is *gaining attention* on Facebook and Twitter, with more than 300 *fans* on the Fiesta Movement Facebook fan page and more than 600 *followers* on the @FordFiesta Twitter account”; “100 young trendsetters will test drive and ... then *relate* their experiences through a variety of social media sites”; “consumers ... use social media daily and offer a prime *opportunity* for Ford to tap into a group that hasn’t yet established *brand loyalty*” (news release, 4/7/2009). We see evidence of the principle of inspiration in a text touting the virtues of the Ford Fiesta: “...made clear through the *creative and fun* videos and blogs” (news release, 11/30/2009).

An example of an *Eclectic Social* initiative is JP Morgan Chase’s “Chase Community Giving” initiative, in which each of two texts used the civic, domestic, and inspiration principles, noting that they “launched the *innovative philanthropic* campaign, Chase Community Giving, engaging more than 2 million Facebook users in helping to direct over \$5 million to small and local *charities*” (annual report, 2009). An example of a more complex *Eclectic Social* initiative is Wal-mart’s “12 Days of Giving” initiative, where all eight texts discussing the initiative used civic and domestic principles, and 7 of the 8 texts used renown. The coupling of civic/domestic principles with renown was unusual in our data. Prior research has also shown that narcissists tend to be less concerned with the common good, focusing instead on benefit to the self, but at a long-term cost to other individuals and to the commons (Campbell et al. 2005), substantiating the opposition of these principles. We note though, that Wal-mart’s use of the renown principle was not in

celebration of individuals and individuality, but the collective good: “Organizations being honored on the company’s Facebook page today are serving communities” (news release, 12/23/2011). Finally, we note that unlike the *Efficient CSR* schema, the civic responsibility initiatives in this cluster eschewed the industrial principle, demonstrating less concern with efficiency in firms’ socially responsible activities.

## **Discussion**

In this manuscript, we set out to investigate whether firms’ informational engagements about social media revealed a single or multiple organizing visions of the set of technologies within a community and within the firms constituting that community. We operationalized informational engagements as firms’ news releases and reports about an initiative involving social media. We employed a novel knowledge discovery technique to surface the clusters of meaning underlying 675 informational engagements by 26 of the top 30 2011 Fortune firms.

Our findings unequivocally demonstrate *multiple* organizing visions within the community and within the vast majority of firms with multiple informational engagements about social media. These findings are unsurprising in the light of schema theory. In particular, Strauss and Quinn (Strauss and Quinn 1997) noted that shared schemas arise out of shared experiences. In corporate life, distinctive sets of experiences are constituted by a variety of factors such as firms’ founding conditions (e.g., Swaminathan 1996), industry and geography (e.g., Fritsch et al. 2006), and their social capital (e.g., Kalnins and Chung 2006). These different sets of experiences cannot but give rise to different schemas or organizing visions.

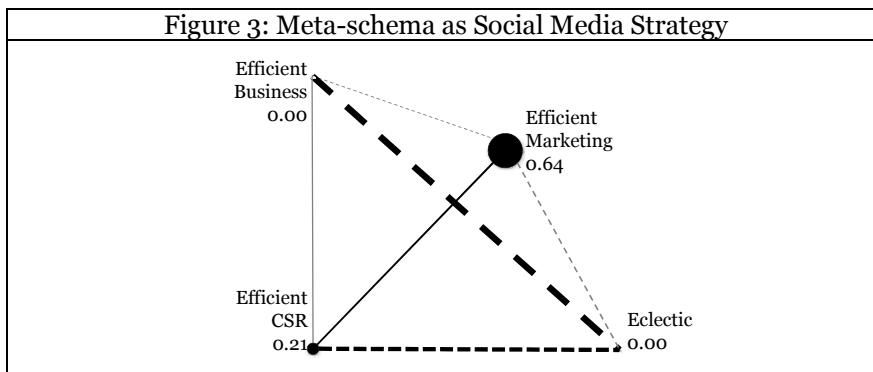
Our second objective was to understand the constitutive elements of these organizing visions. Our use of the Boltanski and Thevenot enabled us to broaden the scope of our examination beyond conventional business principles. In doing so, we found that 25% of the firms in our data set used the renown principle, which has not previously been the focus of business or IT research. This may be a function of the lenses previously applied, which did not accommodate consideration of this principle. However, it could also be that this principle is unique to the modern social media phenomenon, and social media have introduced this principle into the arena of corporate decision-making.

Our next question was: What then is the nature of these organizing visions or schemas surrounding social media? Our RCA-based investigation yielded four distinct visions or schemas – *Efficient Business*, *Efficient Marketing*, *Efficient CSR*, and *Eclectic Asocial/Social* schemas. The first two of these schemas reflect a belief that the value of social media lies in rendering conventional corporate activities more efficient – undifferentiated business activities with the first schema and a focus on marketing activities with the second schema. The third schema reflects firms’ value of social media for its ability to make their corporate social responsibility activities more efficient. Whereas these first three schemas reflect simple rules about the nature of social media engagements that would reap value, i.e., making business activities in general more efficient and marketing and CSR activities in particular more efficient, the fourth schema captured a more complex valuation of social media. Specifically, what emerges from the clustering of meanings in this schema is that corporate initiatives involving social media are seen as contributing value either through a combination of the industrial/inspiration/renown principles or through civic/domestic principles. The emergent organizing vision is therefore that a corporate initiative using social media can effectively employ either the asocial or the social combination of principles, but not both.

While not an initial objective of this study, firms’ disparate use of these schemas afforded us the opportunity to consider possible complementarities among organizing visions by way of a meta-schema of firms’ cognitions regarding social media. Complementary activities “have reciprocal positive effects on one another” (Argyres et al. 2007: 7). “Activities are substitutes if doing (more of) one reduces the attractiveness of doing (more of) the other” (Roberts 2004: 35). To develop a social media meta-schema, we examined the correlations and weighted clustering coefficients among firms’ use of the four schemas, as reflected in Table 5. We represent these graphically in Figure 3.

From Figure 3, we observe the following. First, firms using the *Eclectic* schema tend not to use any of the other schemas, especially the *Efficient Business* and *Efficient CSR* schemas. This suggests that the *Eclectic* schema substitutes for the *Efficient Business* and *Efficient CSR* schemas. This is consistent with our observation of the internal dichotomization of asocial and social initiatives within the *Eclectic* schema, which represent alternate ways of structuring meanings around business and CSR initiatives. Second, we note a positive association between firms’ use of the *Efficient Marketing* and *Efficient CSR* schemas,

suggesting that these two schemas complement each other within businesses. Finally, the strong clustering coefficient manifest by the Efficient Marketing schema suggests it plays a strong role in structuring meanings about social media at a community level. Specifically, Figure 3 suggests that the presence or absence of this schema within firms drives their use or disuse of other schemas.



### **Limitations**

One concern with this work might be that we treated social media as a singular technology when, in fact, it represents a collection of technologies (Beer 2008). Yet, most IT faces the same challenge of having multiple facets and functionalities (e.g., Akkermans and van Helden 2002). Nonetheless, we intend to ascertain whether the schemas or visions surfaced are robust to different social media technologies or are systematically associated with the different technologies.

### **Contributions and Future Research Directions**

Our research makes the following *theoretical* and *methodological* contributions to the literatures on business value of IT and IT diffusion. First, by demonstrating the presence of multiple organizing visions of social media within firms, we call into question the prevalent notion of a single organizing vision at either the community or the firm level. Second, as noted by Doty and Glick (1994), the typology we have provided serves as a foundational theory-building effort, enabling future consideration of how different types of organizing visions about social media contribute to – or detract from – different types of organizational and sponsor outcomes. Third, we have begun to speak to firms’ social media strategy in terms of the complementary and substitutive relationships that exist among the four types of organizing visions identified. Fourth, we identified the gaps in extant understandings of principles of justification or reason-giving for business and IT investments and demonstrated the need to fill them with principles posited by Boltanski and Thévenot (2006). Fifth, we demonstrate the viability of the RCA approach in surfacing disparate schemas or organizing visions of technology.

Several follow-on questions flow from our work. First, what is the relative value of informational engagements reflecting the four different organizing visions? Second, do legitimacy and performance advantages accrue to firms with singular or pluralistic organizing visions? Third, do the different organizing visions diffuse differently? Fourth, do they retain their original flavor over time, or do they homogenize into fewer visions, reflecting an evolutionary logic of variations in schema combination, culminating in survival of the fittest? Finally, complementarity has two connotations – co-occurrence of complementary investments, here organizing visions, and synergistic effects of those investments. While we have demonstrated co-occurrence of certain visions within our sample, future research will want to examine whether, and in what ways, co-occurrence yields synergistic outcomes.

### **Acknowledgements**

We thank the ICIS review team and participants at OU’s MIS Division research seminar for their constructive critique and insights, which have contributed to improving the quality of this work. Residual flaws are entirely our fault.

## References

- Aggarwal, N., Dai, Q., and Walden, E.A. 2011. "The More, the Merrier? How the Number of Partners in a Standard-Setting Initiative Affects Shareholder's Risk and Return," *MIS Quarterly* (35:2), p 445.
- Akkermans, H., and van Helden, K. 2002. "Vicious and Virtuous Cycles in Erp Implementation: A Case Study of Interrelations between Critical Success Factors," *European Journal of Information Systems* (11:1), pp 35-46.
- Argyres, N.S., Bercovitz, J., and Mayer, K.J. 2007. "Complementarity and Evolution of Contractual Provisions: An Empirical Study of It Services Contracts," *Organization Science* (18:1), pp 3-19.
- Baldassarri, D., and Goldberg, A. 2010. "Political Belief Networks: Socio-Cognitive Heterogeneity in American Public Opinion," in: *Southern Illinois University Carbondale Working Papers*.
- Beer, D.D. 2008. "Social Network (Ing) Sites... Revisiting the Story So Far: A Response to Danah Boyd & Nicole Ellison," *Journal of Computer-Mediated Communication* (13:2), pp 516-529.
- Boltanski, L., and Thévenot, L. 1999. "The Sociology of Critical Capacity," *European Journal of Social Theory* (2:3), pp 359-377.
- Boltanski, L., and Thévenot, L. 2006. *On Justification: Economies of Worth*. Princeton, NJ: Princeton University Press.
- Boudreau, M.C., Gefen, D., and Straub, D.W. 2001. "Validation in Information Systems Research: A State-of-the-Art Assessment," *MIS Quarterly* (25:1), pp 1-16.
- Buenger, V., Daft, R.L., Conlon, E.J., and Austin, J. 1996. "Competing Values in Organizations: Contextual Influences and Structural Consequences," *Organization Science* (7:5), pp 557-576.
- Buffardi, L.E., and Campbell, W.K. 2008. "Narcissism and Social Networking Web Sites," *Personality and Social Psychology Bulletin* (34:10), pp 1303-1314.
- Bughin, J., Manyika, J., and Miller, A. 2009. "How Companies Are Benefiting from Web 2.0," *McKinsey Quarterly* (9), p 2009.
- Campbell, W.K., Bush, C.P., Brunell, A.B., and Shelton, J. 2005. "Understanding the Social Costs of Narcissism: The Case of the Tragedy of the Commons," *Personality and Social Psychology Bulletin* (31:10), pp 1358-1368.
- Carroll, A.B. 1999. "Corporate Social Responsibility," *Business & Society* (38:3), pp 268-295.
- Chatterjee, D., Pacini, C., and Sambamurthy, V. 2002. "The Shareholder-Wealth and Trading-Volume Effects of Information-Technology Infrastructure Investments," *Journal of Management Information Systems* (19:2), pp 7-42.
- Chatterjee, D., Richardson, V.J., and Zmud, R.W. 2001. "Examining the Shareholder Wealth Effects of Announcements of Newly Created Cio Positions," *MIS Quarterly*, pp 43-70.
- Cohen, J. 1960. "A Coefficient of Agreement for Nominal Scales," *Educational and Psychological Measurement* (20:1), pp 37-46.
- Culnan, M.J., McHugh, P.J., and Zubillaga, J.I. 2010. "How Large Us Companies Can Use Twitter and Other Social Media to Gain Business Value," *MIS Quarterly Executive* (9:4), pp 243-260.
- D'Andrade, R.G. 1995. *The Development of Cognitive Anthropology*. New York, NY: Cambridge Univ Press.
- Davidson, E.J. 2002. "Technology Frames and Framing: A Socio-Cognitive Investigation of Requirements Determination," *MIS Quarterly*, pp 329-358.
- Davis, C.J., and Hufnagel, E.M. 2007. "Through the Eyes of Experts: A Sociocognitive Perspective on the Automation of Fingerprint Work," *MIS Quarterly* (31:4), pp 681-703.
- Dehning, B., Richardson, V.J., and Zmud, R.W. 2003. "The Value Relevance of Announcements of Transformational Information Technology Investments," *MIS Quarterly*, pp 637-656.
- Derber, C. 2000. *The Pursuit of Attention: Power and Ego in Everyday Life*. Oxford University Press, USA.
- Dewan, S., and Ren, F. 2010. "Risk and Return of Information Technology Initiatives: Evidence from Electronic Commerce Announcements," *Information Systems Research* (18:4), p 370.
- Di Gangi, P.M., Wasko, M., and Hooker, R. 2010. "Getting Customers' Ideas to Work for You: Learning from Dell How to Succeed with Online User Innovation Communities," *MIS Quarterly Executive* (9:4), pp 213-228.
- DiMaggio, P. 1997. "Culture and Cognition," *Annual Review of Sociology*, pp 263-287.
- Dos Santos, B.L., Peffers, K., and Mauer, D.C. 1993. "The Impact of Information Technology Investment Announcements on the Market Value of the Firm," *Information Systems Research* (4:1), pp 1-23.

- Doty, D.H., and Glick, W.H. 1994. "Typologies as a Unique Form of Theory Building: Toward Improved Understanding and Modeling," *Academy of Management Review* (19:2), pp 230-251.
- Duan, C., Grover, V., and Balakrishnan, N.R. 2009. "Business Process Outsourcing: An Event Study on the Nature of Processes and Firm Valuation," *European Journal of Information Systems* (18:5), pp 442-457.
- Fiske, S.T., and Linville, P.W. 1980. "What Does the Schema Concept Buy Us?," *Personality and Social Psychology Bulletin* (6:4), pp 543-557.
- Fritsch, M., Brixy, U., and Falck, O. 2006. "The Effect of Industry, Region, and Time on New Business Survival—a Multi-Dimensional Analysis," *Review of Industrial Organization* (28:3), pp 285-306.
- Gallaugher, J., and Ransbotham, S. 2010. "Social Media and Customer Dialog Management at Starbucks," *MIS Quarterly Executive* (9:4), pp 197-212.
- Gallivan, M.J. 2001. "Meaning to Change: How Diverse Stakeholders Interpret Organizational Communication About Change Initiatives," *IEEE Transactions on Professional Communication* (44:4), pp 243-266.
- Giddens, A. 1991. *Modernity and Self-Identity: Self and Society in the Late Modern Age*. Stanford University Press.
- Godechot, O. 2009. "Book Review: On Justification: Economies of Worth," *Cultural Sociology* (3:1), pp 193-195.
- Goldberg, A. 2011. "Mapping Shared Understandings Using Relational Class Analysis: The Case of the Cultural Omnivore Reexamined," *American Journal of Sociology* (116:5), pp 1397-1436.
- Im, K.S., Dow, K.E., and Grover, V. 2001. "Research Report: A Reexamination of It Investment and the Market Value of the Firm--an Event Study Methodology," *Information Systems Research* (12:1), pp 103-117.
- Kalnins, A., and Chung, W. 2006. "Social Capital, Geography, and Survival: Gujarati Immigrant Entrepreneurs in the Us Lodging Industry," *Management Science*, pp 233-247.
- Kane, G.C., Majchrzak, A., and Ives, B. 2010. "Editorial: Enterprise and Industry Applications of Web 2.0," *MISQ Executive* (9:4), pp iii-iv.
- Kaplan, A.M., and Haenlein, M. 2010. "Users of the World, Unite! The Challenges and Opportunities of Social Media," *Business horizons* (53:1), pp 59-68.
- Kim, S.W., and Miranda, S.M. 2011. "A Call to Arms: A Social Movements Perspective on" Issue" Surfacing on Social Media," *Academy of Management Conference*, San Antonio, TX.
- Kimberly, J.R., and Evanisko, M.J. 1981. "Organizational Innovation: The Influence of Individual, Organizational, and Contextual Factors on Hospital Adoption of Technological and Administrative Innovations," *Academy of Management Journal*, pp 689-713.
- Kühberger, A. 1998. "The Influence of Framing on Risky Decisions: A Meta-Analysis," *Organizational Behavior and Human Decision Processes* (75:1), pp 23-55.
- Kühberger, A., Schulte-Mecklenbeck, M., and Perner, J. 1999. "The Effects of Framing, Reflection, Probability, and Payoff on Risk Preference in Choice Tasks," *Organizational Behavior and Human Decision Processes* (78:3), pp 204-231.
- Levin, I.P., Schneider, S.L., and Gaeth, G.J. 1998. "All Frames Are Not Created Equal: A Typology and Critical Analysis of Framing Effects," *Organizational Behavior and Human Decision Processes* (76:2), pp 149-188.
- Lewis-Kraus, G. 2012. "In Search of the Living, Purring, Singing Heart of the Online Cat-Industrial Complex," *Wired Magazine* (September), pp 126-157.
- Lizardo, O. 2010. "Beyond the Antinomies of Structure: Levi-Strauss, Giddens, Bourdieu, and Sewell," *Theory and Society* (39:6), pp 651-688.
- March, J.G. 1991. "Exploration and Exploitation in Organizational Learning," *Organization Science* (2:1), pp 71-87.
- McWilliams, A., and Siegel, D. 2001. "Corporate Social Responsibility: A Theory of the Firm Perspective," *Academy of Management Review* (26:1), pp 117-127.
- Meyer, J.W., and Rowan, B. 1977. "Institutionalized Organizations: Formal Structure as Myth and Ceremony," *American Journal of Sociology* (83:2), pp 340-363.
- Miranda, S., and Saunders, C. 2003. "The Social Construction of Meaning: An Alternative Perspective on Information Sharing," *Information Systems Research* (14:1), pp 87-106.
- Mishra, A.N., and Agarwal, R. 2010. "Technological Frames, Organizational Capabilities, and It Use: An Empirical Investigation of Electronic Procurement," *Information Systems Research* (21:2), pp 249-270.

- Newman, M.E.J., and Girvan, M. 2004. "Finding and Evaluating Community Structure in Networks," *Physical Review E* (69:2), pp 1-16.
- Oh, W., Gallivan, M.J., and Kim, J.W. 2006. "The Market's Perception of the Transactional Risks of Information Technology Outsourcing Announcements," *Journal of Management Information Systems* (22:4), pp 271-303.
- Orlikowski, W.J. 2006. "Material Knowing: The Scaffolding of Human Knowledgeability," *European Journal of Information Systems* (15:5), p 460.
- Orlikowski, W.J., and Gash, D.C. 1994. "Technological Frames: Making Sense of Information Technology in Organizations," *ACM Transactions on Information Systems (TOIS)* (12:2), pp 174-207.
- Orlikowski, W.J., and Scott, S.V. 2008. "Sociomateriality: Challenging the Separation of Technology, Work and Organization," *The Academy of Management Annals* (2:1), pp 433-474.
- Pfeffer, J., and Salancik, G.R. 2003. *The External Control of Organizations: A Resource Dependence Perspective*. Stanford Business Books.
- Porter, M.E., and Kramer, M.R. 2006. "The Link between Competitive Advantage and Corporate Social Responsibility," *Harvard Business Review* (84:12), pp 78-92.
- Puretskiy, A.A., Shutt, G.L., and Berry, M.W. 2010. "Survey of Text Visualization Techniques. ,," in: *Text Mining: Applications and Theory* M.W. Berry and J. Kogan (eds.). West Sussex, United Kingdom: Wiley.
- Qualman, E. 2009. *Socialnomics: How Social Media Transforms the Way We Live and Do Business*. Wiley.
- Quinn, R.E., and Rohrbaugh, J. 1983. "A Spatial Model of Effectiveness Criteria: Towards a Competing Values Approach to Organizational Analysis," *Management Science*, pp 363-377.
- Raisch, S., Birkinshaw, J., Probst, G., and Tushman, M.L. 2009. "Organizational Ambidexterity: Balancing Exploitation and Exploration for Sustained Performance," *Organization Science* (20:4), pp 685-695.
- Ramiller, N.C., and Swanson, E.B. 2003. "Organizing Visions for Information Technology and the Information Systems Executive Response," *Journal of Management Information Systems* (20:1), pp 13-50.
- Ranganathan, C., and Brown, C.V. 2006. "Erp Investments and the Market Value of Firms: Toward an Understanding of Influential Erp Project Variables," *Information Systems Research* (17:2), pp 145-161.
- Ricoeur, P. 1991. *From Text to Action*. Evanston, IL: Northwestern University Press.
- Roberts, J. 2004. *The Modern Firm: Organizational Design for Performance and Growth*. New York, NY: Oxford University Press.
- Rozwell, C. 2011. "Business Gets Social Innovation Key Initiative," *Gartner Report* (G00214406), p 2006.
- Sewell, W.H. 2005. *Logics of History: Social Theory and Social Transformation*. Chicago, IL: University of Chicago Press.
- Strauss, C., and Quinn, N. 1997. *A Cognitive Theory of Cultural Meaning*. Cambridge, UK: Cambridge University Press.
- Subramani, M., and Walden, E. 2001. "The Impact of E-Commerce Announcements on the Market Value of Firms," *Information Systems Resaerch* (12:2), pp 135-154.
- Swaminathan, A. 1996. "Environmental Conditions at Founding and Organizational Mortality: A Trial-by-Fire Model," *Academy of Management Journal* (39:5), pp 1350-1377.
- Swanson, E.B., and Ramiller, N.C. 1997. "The Organizing Vision in Information Systems Innovation," *Organization Science* (8:5), pp 458-474.
- Swanson, E.B., and Ramiller, N.C. 2004. "Innovating Mindfully with Information Technology," *MIS Quarterly* (28:4), pp 553-583.
- Thornton, P.H., and Ocasio, W. 1999. "Institutional Logics and the Historical Contingency of Power in Organizations: Executive Succession in the Higher Education Publishing Industry, 1958-1990 1," *American Journal of Sociology* (105:3), pp 801-843.
- Tolbert, P.S., and Zucker, L.G. 1983. "Institutional Sources of Change in the Formal Structure of Organizations: The Diffusion of Civil Service Reform, 1880-1935," *Administrative Science Quarterly*, pp 22-39.
- Tversky, A., and Kahneman, D. 1981. "The Framing of Decisions and the Psychology of Choice," *Science* (211:4481), p 453.
- Wang, P. 2008. "Whatever Happened to Business Process Reengineering?," in: *Business Process Transformation*, V. Grover and L. Markus (eds.). New York, NY: M.E. Sharpe, pp. 23-40.

- Wang, P. 2010. "Chasing the Hottest It: Effects of Information Technology Fashion on Organizations," *MIS Quarterly* (34:1), pp 63-85.
- Wang, P., and Ramiller, N.C. 2009. "Community Learning in Information Technology Innovation," *MIS Quarterly* (33:4), pp 709-734.
- Wasserman, S., and Faust, K. 1994. *Social Network Analysis: Methods and Applications*. Cambridge University Press.
- Wattal, S., Schuff, D., Mandviwalla, M., and Williams, C.B. 2010. "Web 2.0 and Politics: The 2008 US Presidential Election and an E-Politics Research Agenda," *MIS Quarterly* (34:4), pp 669-688.
- Westphal, J.D., Gulati, R., and Shortell, S.M. 1997. "Customization or Conformity? An Institutional and Network Perspective on the Content and Consequences of Tqm Adoption," *Administrative Science Quarterly*, pp 366-394.
- Westphal, J.D., and Zajac, E.J. 1998. "The Symbolic Management of Stockholders: Corporate Governance Reforms and Shareholder Reactions," *Administrative Science Quarterly*, pp 127-153.
- Westphal, J.D., and Zajac, E.J. 2001. "Decoupling Policy from Practice: The Case of Stock Repurchase Programs," *Administrative Science Quarterly* (46:2), pp 202-228.
- Yang, S., Lim, J., Oh, W., Animesh, A., and Pinsonneault, A. forthcoming. "Using Real Options to Investigate the Market Value of Virtual World Businesses," *Information Systems Resaerch*.
- Yetgin, E., Young, A., and Miranda, S.M. 2012. "Cultural Production of Protest Frames and Tactics: Cybermediaries and the Sopa Movement," *International Conference on Information Systems*, Orlando, FL.
- Zbaracki, M.J. 1998. "The Rhetoric and Reality of Total Quality Management," *Administrative Science Quarterly*, pp 602-636.
- Zmud, R.W., Shaft, T., Zheng, W., and Croes, H. 2010. "Systematic Differences in Firm's Information Technology Signaling: Implications for Research Design," *Journal of the Association for Information Systems* (11:3), p 1.