

TWO MODELS FOR INFORMATION SYSTEMS-SUPPORTED ORGANIZATIONAL FRAME ALIGNMENT

by

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(Under the Direction of Richard T. Watson)

ABSTRACT

As the strategic framing research expanded rapidly through the 1990s, scholars paid little explicit attention to the changes in frame deployment using digital communication channels. This dissertation illustrates two types of methods that organizations can use when engaging in online frame alignment. Paper one builds an information systems theory of organizational framing. We draw explicitly on framing theories from social movements research and build a process model for organizational framing. Our model illustrates the importance of both human and algorithmic assets in the detection of framing threats, the response formulation, and the deployment of a new frame. We use an illustrative case study to support the model and conclude with propositions for future research. Paper two presents a case study of a framing strategy in which a single social media message can be strategically framed in multiple ways, based on the individual interpretation of the message audience. In this paper, we show that online social networks offer features that afford new and creative ways to frame digital messages. We develop propositions to build a theory of digital differential framing. Our work demonstrates the value of conceptualizing information systems as channels for

framing. Ultimately, an information systems lens enables us to see innovative ways to channel frame alignment efforts to organizational stakeholders. This dissertation serves as a proof-of-concept piece for two such methods and demonstrates the potential value for future research in this area.

INDEX WORDS: social media; framing; digital communication; social networks;
 natural language processing; enterprise information systems;
 organizational decision-making, systems of framing

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CHAPTER 1

INTRODUCTION AND LITERATURE REVIEW

In October 2014, three American teenage girls were intercepted at a German airport on their way to Syria to join the Islamic extremist group ISIS. It was only after their parents realized that their daughters' passports were missing did they contact the FBI, who put out the notice that led to their apprehension.

These teens' story is not unique; the CIA estimates that over 2,000 Westerners have left their homes to fight in Syria. Many of them are described as "bedroom radicals" – individuals that receive and embrace ISIS' allure via online communications. This type of recruiting represents a dramatic shift from that which al-Qaeda engaged in just a decade ago. From a total budget of \$2 billion, ISIS employs a sophisticated social media strategy ranging from the production of slick online videos and bloggers that distribute messages and communicate with potential followers across many platforms (Anwar 2015). For ISIS, social media acts as a teleporter from the bedroom to the battlefield.

The investigatory aftermath of the three teens case has produced significant evidence that shows how ISIS is using social media to communicate with potential new recruits. In a statement to CNN, one law enforcement official expressed his surprise at the extent to which ISIS is able to generate such high levels of commitment using online communication through social media: "It's alarming that American youths are being radicalized to such a degree that they're willing to jump into the great unknown" (Perez et al. 2014). Counter-terrorism research supports the idea that social media tools are an

essential component of ISIS's recruiting strategy. The group uses a robust set of countermeasures to ensure that its multiple social networks' structure are resilient to account deletions and other disruptions across a number of social media platforms (Berger and Perez 2016).

While the platform owners do their best to limit the spread of terrorist accounts, counter-terror experts in the U.S. government are engaged in a counter-messaging campaign designed to prevent the group from radicalizing, recruiting, and inspiring others to violence. But the biggest problem facing the administration is determining whether any of their strategies are working. One U.S. official identified this as one of the most important problems facing modern counter-terror experts: "That is the billion dollar question...we don't have great, perfect data on why people become radicalized or why people change their mind....You can't prove a negative – 'How many young guys did you prevent going to Syria today?' – We don't know the answer to that. What we can do is learn what kinds of messages resonate" (Miller and DeYoung 2016).

ISIS' use of social media for recruiting illustrates two critical issues: First, online social networks are an important and powerful tool for recruiting, organizing, and mobilizing people on behalf of an organization's goals. Second, we have limited understanding of how organizations can use digital tools to tap into the motivations of individuals and to recruit or convince them to take real-world action—sometimes at great personal cost.

This dissertation approaches this set of questions in two ways. It first presents a model of information systems for organizational framing that builds a process model that illustrates the ways that information systems can be used to detect organizational framing

threats, prepare a response to those threats, and execute and assess that response. Second, this dissertation presents an in-depth study of a specific kind of online communication that is framed to be interpreted differentially by two groups of people. While frame alignment has been well-studied as a mediating process toward mobilization and persuasion (e.g., Benford and Snow 2000), this dissertation introduces framing to theories of networked sociotechnical systems resulting in new theories that ground frame alignment in modern organizational practice.

AN IS PERSPECTIVE ON FRAMING

Individuals respond to stimuli based on the way that they have made sense of that stimuli (Berger and Luckmann 1966; Weick 1979). This process relies on cognitive structures that identify, and extract salient cues to mentally organize the experience and make it more meaningful (Goffman 1974; Weick et al. 2005). For example, technologists, managers, and users may all have different expectations of a particular IS (Davidson and Pai 2004; Orlikowski and Gash 1994). These differences arise due to the different social and cognitive support structures that help each group understand the nature of the technology (see Bijker 1995). The technological frames of reference literature suggests that this difference in the way that stakeholder groups make sense of technology illustrates incongruence in their technological frames¹ and results in difficulties and conflicts around developing, implementing, and using technologies in an organization (Orlikowski and Gash 1994, p. 180).

While scholars have developed a robust stream of IS research using technological frames (e.g. Azad and Faraj 2011; Barrett et al. 2013; Davidson 2002; Kaplan and

¹ A technological frame describes an individual's interpretative orientation towards the *assumptions*, *expectations*, and *knowledge* required to understand and use a certain technology (Davidson and Pai 2004). Incongruent frames are those that differ along one of those three lines (Orlikowski and Gash 1994).

Tripsas 2008; Young et al. 2016), framing as a tool for meaning-making can be applied to many types of information processing activities (see Cornelissen and Werner 2014). For example, the theory is widely used by social movements scholars to describe the “sets of beliefs and meanings that inspire and legitimate the activities and campaigns of a social movement organization” (SMO) (Benford and Snow 2000, p. 614). These “collective action frames” describe grievances instrumentally by highlighting salient information to attribute blame, suggest solutions, and call for action (Snow and Benford 1988).

IS Channels for Strategic Framing

Extant IS research primarily uses framing theory to describe the knowledge structures that direct and guide information processing relative to a particular framing object, such as an IS or other sociotechnical cultural stimuli (e.g., Leonardi 2011; Su 2015). In this paper, we are concerned with information systems not as an *object* of framing but rather as a *channel* through which firms and advocacy organizations engage in strategic framing. Thus, our work diverges from the extant IS framing research in a fundamental way.

Information systems have the potential to disrupt the current state of theorizing around framing channels. For example, while organizations can use the news media to mediate public discourse, the presence of social media websites and apps allows organizations to take discourse directly to the public. In fact, the very idea of a “public discourse” is less relevant in the world of social media; instead of trying to shape all discourse, SMOs can target their messages to specific communities that might be more receptive to a specific framing. And because the cost of digital messaging campaigns is much lower than direct mail or in-person campaigning, such persuasive communications

need not wait until episodes of collective action to engage in consciousness raising. These factors result in substantial channel flexibility, which can be beneficial to, among others, extremist groups recruiting membership from across the globe. Because digital platforms are so pervasive and inexpensive to use, SMOs may be able to engage in strategic framing processes much more effectively than they had in the past.

IS-Supported Frame Alignment

Frame alignment—the linkage of an individual’s interpretative orientation with that of the SMO—builds commitment, which is a necessary condition for movement participation. SMOs today have access to a wealth of new sources of data (e.g., Internet trace data, social media data) and analytical methods (e.g., social network analysis, natural language processing) that can enable new frame alignment processes. For example, the alignment process of *frame bridging* involves linking the SMO with potential adherents that are structurally disconnected from the organization (Snow et al. 1986). Bridging, then, is performed by diffusing information about the SMO through interpersonal or intergroup networks, creating the structural connections necessary to enable collective action. In 1986, Snow et al. wrote that this diffusion had primarily occurred using mass media, the telephone, and direct mail but that new technologies were poised to dramatically change the alignment process:

In recent years, opportunities and prospects for frame bridging have been facilitated by the advent of “new technologies,” namely the computerization of lists of contributors or subscribers to various causes and literature (McCarthy 1986). The micromobilization task is first, to cull lists of names in order to produce a probably adherent pool, and second, to bring these individuals within the SMO’s infrastructure by working one or more of the previously mentioned information channels. (p. 468)

IS scholars are uniquely positioned to contribute meaningfully to research in this area given our comfort with studying new technologies that influence individuals' abilities to process information about shared patterns and entities (Watson 2014). The process of alignment is a vital link to building individual-level commitment to the SMO because it creates consistent ideological beliefs among individuals within the SMO. This ideological cohesion results in a common sense of devotion that can trigger affective and behavioral commitment (Downton and Wehr 1997; Nepstad 2004). As Klandermans (1997) notes, "The importance of the alignment of an individual's ideological frame with that of a social movement has been demonstrated time and again in the literature. The more commensurate the two ideological frames, the stronger the individual's attachment to the movement" (pp. 32-33).

UNDERSTANDING SOCIAL MOVEMENTS

We define a *social movement* as "a set of opinions and beliefs in a population which represents preferences for changing some elements of the social structure" (McCarthy and Zald 1977, pp. 1217–1218). In this dissertation, we follow McCarthy & Zald's (1977) guidance to conceptually distinguish between the preferences of a population and organized action in support of the movement. As they note, social movements are often supported by multiple organizations and their rise and fall is dependent on factors external to the size of the social movement or the intensity of grievances within it (McCarthy and Zald 1977). Additionally, this perspective underscores the possibility that an SMO (or some other mobilizing structure) may not exist in support of a given social movement. As a result, the preference structure ought to

be conceptually distinguished from the mobilization structure. The definitions of these and other theoretical elements of social movements research are summarized in Table 1.

**Table 1. Theoretical elements of a social movement
(adapted from McCarthy & Zald, 1977)**

Macro-level elements	
Social Movement	A set of opinions and beliefs in a population which represents preferences for changing some elements of the social structure and/or reward distribution of a society.
Social Movement Organization	A complex or formal organization which identifies its goals with the preferences of a social movement or countermovement and attempts to implement those goals.
Social Movement Industry	All social movement organizations that have as their goal the attainment of the broadest preferences of a social movement.
Social Movement Sector	All social movement industries in a society, no matter to which social movement they are attached.
Countermovement	A set of opinions and beliefs in a population opposed to a social movement.
Micro-level elements	
Adherents	Those individuals and organizations that believe in the goals of the social movement.
Constituents	Those individuals and organizations that provide resources to the social movement organization.
Bystanders	Non-adherents who witness social movement activity and are not opponents of the social movement and its social movement organizations.
Opponents	Those individuals and organizations that disagree with the opinions and beliefs of the social movement.

An SMO is a “complex or formal organization which identifies its goals with the preferences of a social movement or countermovement and attempts to implement those goals” (McCarthy and Zald 1977, p. 1218). Although collective action does not require the presence of an SMO, a substantial portion of social change oriented collective action in modern Western society is either directly managed by or indirectly supported by an SMO (Coddou 2016; Edwards and McCarthy 2004, p. 136). The SMO—whether it is a formal hierarchical organization or an emergent complex adaptive system (e.g. Anderson 2008; Holland and Miller 1991; Miller and Page 2007)—distributes the costs of

participation such that individuals are not forced to bear social and economic costs above that which they are willing to pay (King 2008). On a macro level, SMOs—like many other organizations—can use information systems to achieve a competitive advantage by organizing and responding to uncertainty (Galbraith 1973, 1974) or conserving organizational resources (Mata et al. 1995). On a micro level, SMOs can use information systems to maintain relationships with adherents and constituents and monitor opponents (See e.g. Bennett and Segerberg 2012; Earl and Kimport 2011).

Because a social movement may have multiple organizations acting in support of its goals, McCarthy and Zald (1977) use the term *social movement industry* to describe the group of SMOs that have as their goal “the attainment of the broadest preferences of a social movement” (p. 1219). This definition parallels the idea of industry in Economics in that the products provided by the various SMOs within a social movement industry are somewhat substitutable (due to the organization’s support of the preferences of the social movement). Although, as a practical matter, it can be difficult to classify organizations based on their industry, this idea of demand interdependence forms the theoretical basis for demarcating the boundaries of a social movement industry. Although the SMOs within a social movement industry share the general preferences of the movement, each may employ a different organizational structure, tactics or strategies in support of those preferences. Thus, SMOs can compete with one another for resources and support from adherents, constituents, and bystanders. As information systems are a source of organizational competitive advantage (Ives and Learmonth 1984; Mata et al. 1995), SMOs may deploy IS to increase their relative efficiency and effectiveness within a social movement industry.

As an illustrative example, Greenpeace and the World Wildlife Fund are both SMOs within the broader environmental movement. As a part of this campaign, each organization supports the broad preference structures of the social movement (such as advocacy for the sustainable management of natural resources). Combined with all the other SMOs under the environmental movement, they are the industry of the environmental movement. Because they compete with one another for resources and support, they will typically differentiate with respect to their organizational structures, use of IS, and their portfolios of tactics. For example, although Greenpeace began mobilizing at about the same time as other environmental movement organizations, Greenpeace's activism is based on nonviolent direct action while other groups often prefer political and institutional tactics such as lawsuits, political lobbying, or placing advertisements in news media (Carmin and Balser 2002). Figure 1 illustrates the theoretical relationships between two SMOs in the environmental movement.

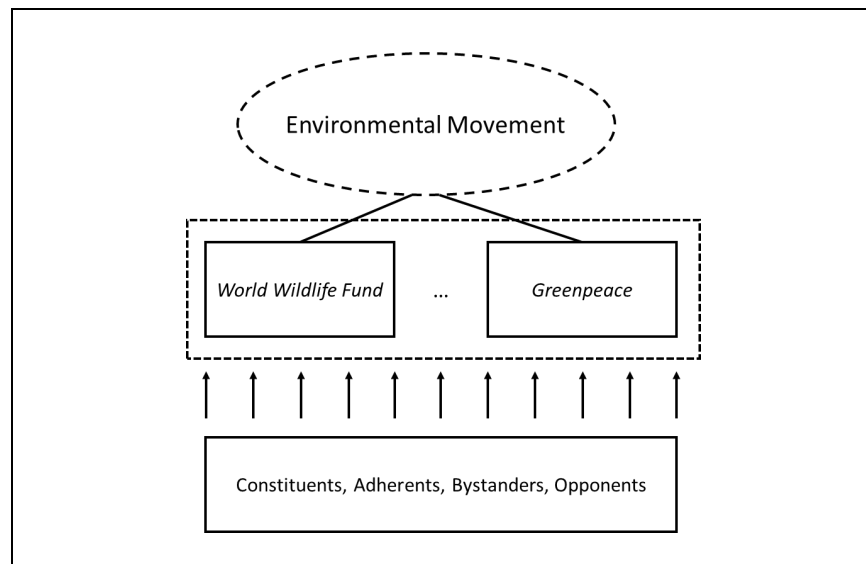


Figure 1. Illustration of the Theoretical Elements of a Social Movement Organization

Although there are many ways to classify the individuals and organizations that support an SMO, we continue to follow McCarthy & Zald (1977) because their scheme is reasonably exhaustive. Other classification schemes often exclude important groups of actors (such as bystanders and opponents) or fail to provide collectively exhaustive categories, which narrows their utility to specific contexts and functions (such as the process underlying recruitment or engagement) (e.g. Oegema and Klandermans 1994). Thus, as McCarthy and Zald (1977) note, from the perspective of an SMO, the individuals and organizations that exist in a society can be classified as *adherents* if they believe in the goals of the social movement or *constituents* if they provide resources to an SMO. Individuals or organizations that are aware of the movement but are not adherents are either *bystanders* or *opponents*, depending on whether or not they are opposed to the social movement (McCarthy and Zald 1977). Information systems are not only used to mediate the information flows from the organization but are also used to activate adherents and constituents to mobilize in support of collective action.

SOCIAL MOVEMENT ORGANIZATION FRAMING

Framing theories of social movement mobilization evolved out of discontent with the organizational-structural theories of the 1970s and 1980s. During this time, the primary theoretical bases for social movement research focused on *political opportunities*, research that sought to show how changes in political systems led to responsive collective action, and *mobilizing structures*,² organizational and meso-level research that focused on the collective vehicles through which activists mobilize and engage in collective action (McAdam et al. 1996). The framing perspective aimed to

² The two most common theoretical perspectives that fall under the mobilizing structures umbrella are resource mobilization theory and (McCarthy and Zald 1973, 1977) and political process theory (Tilly 1978).

unlock the black box of individual grievance interpretation and incorporate a dynamic model of participation while maintaining the organization as an entity that set the movement's agenda via the generation of frames (Snow et al. 1986; Snow and Benford 1988). Since the mid-1990s, the framing perspective has risen “almost meteorically” to take its place alongside political opportunity structures and mobilizing structures as one of the fundamental perspectives on social movements (Benford and Snow 2000, p. 612). Since then, the majority of framing research has examined the effect of frames on movement mobilization and political or economic outcomes (Snow et al. 2014), and as digital tools can be framing platforms, IS scholars can contribute to this research.

The framing perspective focuses on the work of meaning construction that activists and SMOs (and antagonist organizations such as countermovements) engage in regularly (Snow 2004). The verb “framing” signifies an “active, processual phenomenon” and implies that the framing party has “agency and contention at the level of reality construction” (Benford and Snow 2000, p. 614). In the social movement context, collective action frames are created explicitly to “assign meaning to and interpret relevant events and conditions in ways that are intended to mobilize potential adherents and constituents, to garner bystander support, and to demobilize antagonists” (Snow and Benford 1988, p. 198). Klandermans (1997) describes three channels that SMOs can use to construct frames: *public discourse* via interactions with the media, *consciousness raising* during episodes of collective action, and *persuasive communication* during mobilization campaigns. Persuasive communications are uniquely useful in this regard because SMOs deliberately create them with the intent to influence beliefs, which makes

the generation of collective action frames very visible within these artifacts (Klandermans 1997), particularly as today's social media create digital data streams.

IS Contributions to Social Movement Studies

In our journey to carve out an IS research agenda for digital commitment and social movements, we have defined the boundaries and various theoretical elements of the research domain, the micromobilizing frame alignment processes that form a link between the macro-level and micro-level theoretical elements, and the organizing and mobilizing processes that are required by SMOs. While we believe there are major IS contributions to be made at the intersection of these areas, this is only a small portion of the overall social movement studies landscape.

Examining the role of digital technologies in framing has the potential to open new avenues of theory development in this line of work. For example, these tools reduce the cost and increase the reach of a SMO's messaging (Earl and Kimport 2011). As a result, an SMO that takes advantage of these tools will be able to more quickly take advantage of salient events and deliver more information to potential followers. Additionally, information systems enable new and sophisticated frame alignment strategies. For example, CRM systems enable SMOs to A/B test frames for effectiveness, micro-target specific population subgroups, or trade email lists to extend frames to new potentially-sympathetic populations. Finally, the nature of online tools changes the processes by which frames are contested and interpreted. Because SMOs can use online social networks and other communications platforms to directly communicate with supporters (and provide a venue for supporters to communicate with one another), the SMO may be able to short-circuit the traditional battlegrounds of frame contestation in

public discourse because of their control over conversational platforms. Thinking about digital tools in the framing process, then, opens up new theoretical ground in areas such as speed and spontaneity, micro-targeting and hybrid organizational identities, and communication networks.

IS scholars have already begun to pursue research questions involving social movements. Specifically, the field has begun to tackle the role of social media in social change (Oh et al. 2015), digital repertoires of action (Selander and Jarvenpaa 2016), the social exchange implications of digital forms of organizing (Ghobadi and Clegg 2015), and other topics in the broad space of collective action writ large (see Constantinides and Barrett 2015; Ling et al. 2015; Wattal et al. 2010). These papers illustrate the importance of an IS contribution to social movements research by showing how digital tools alter the various processes that underlie a social movement organization's organizing and mobilizing strategies.

DISSERTATION STRUCTURE

The objective of this dissertation is to present two models for using information systems as a channel for organizational framing tasks (what social movements scholars call "micromobilization"). In this way, the dissertation acts as a proof of concept piece for the novelty, interestingness, real-world relevance, and theoretically-grounded nature of future work in this area.

Specifically, the first manuscript (presented as Chapter 2 of this dissertation) builds a theory of information systems used for framing external stakeholders' interpretative orientations toward a focal firm. Drawing on framing theories from social movements research in sociology, we show how digitally-enabled information systems

can be used for strategic framing purposes and why the use of such systems may result in new forms of manager short-termism in designing responses to organizational framing threats. In this paper, we describe digital communications tools designed to detect and respond to framing threats by conducting specific framing tasks, such as “keying” certain pieces of information as relevant or linking two otherwise-unconnected ideas (see e.g., Goffman 1974).

The second manuscript (presented as Chapter 3 of this dissertation) studies a case of digital differential framing in the political context. Here, we closely examine the lifecycle of a single piece of communication during a national political campaign as a single case study. By contrasting the public responses to the communication from two different constituent groups alongside the public statements made by the speaker, we show that the message was intended to serve as a form of impression management signaling such that the two constituent groups would believe two separate meanings of the message. We develop propositions that build theory around these digitally differentiated messages by invoking the affordances and social network structures of the platforms on which they are transmitted.

If, as we suggest, online frame alignment communications are a valid and reliable tool that organizations can deploy to manage stakeholder impressions and build relational capital-based pathways to increase stakeholder commitment toward the organization, a better understanding of when and how these processes are effective can be used to respond to threats of online radicalization from foreign extremist groups, both by preventing radicalization and helping to develop countermobilization tools.

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CHAPTER 2

WINNING HEARTS AND MINDS: FRAME ALIGNMENT USING ORGANIZATIONAL INFORMATION SYSTEMS

The structure of the modern corporation is quietly undergoing a set of seismic shifts. Models of organizing, manufacturing, marketing, and capital expenditure have been disintermediated and distorted by forces such as globalization and the influence of information systems technologies (Davis, 2016b; Zammuto, Griffith, Majchrzak, Dougherty, & Faraj, 2007). Today's organizations engage production by forming new types of connections with one another within and across the strategic action fields in which they operate. For example, information systems can provide coordination and decision support necessary to produce effective corporate alternatives that range from the relatively low-tech (e.g., cooperatives and mutuals) to the cutting edge (e.g., commons-based peer production) (Davis, 2016a). Additionally, the rise of ecosystem and platform models of governance represent one of the most significant changes to corporate organizing in decades (J. F. Moore, 2006; Parker, Van Alstyne, & Choudary, 2016). Each of these models operates under the assumption that monolithic, vertically-integrated corporations may not be agile enough to adapt to rapidly-changing customer demands or fluctuations in the supply chain.

As a part of these “de-integrating” shifts in the structuring of corporate activity, organizations in many industries have projectized their manufacturing and production

processes (Davis, 2016b). Instead of an internal organizational process, manufacturing is outsourced to a third party bound by a contract that governs the duration of the project and the parties' duties and obligations (Child & McGrath, 2001). For example, firms like Nike and Apple outsource manufacturing into a series of projects, allowing them to focus on "the cognitive and asset-light work of design and brand management" (Davis, 2016b, p. 54). The success of "lightweight" organizations such as these has so transformed the corporate landscape that the number of public corporations in the United States has dropped by more than half since 1997 (Davis, 2016a).

Although strategic partnerships that result from de-integrating a corporation can bring a variety of risks and efficiencies to an organization, one change is immediately salient: The shift toward outsourced projects causes the organization's coupling risks to move from a micro, inward-focus (e.g., ensuring the coordination of materials and labor to construct a finished product) to a macro, outward-focus (e.g., ensuring the coordination of contracted parties, each of which coordinates materials and labor for construction). Although an organization that moves manufacturing out of the corporate vertical reduces the complexity of its internal task environment, it creates a need for a new set of interorganizational systems to manage and coordinate the broader stakeholder relationships in its ecosystem.

As Nike and Apple illustrate, de-integrating manufacturing processes allows a firm to focus on design and brand identity management, the latter of which is particularly critical in a market environment in which consumers are more and more attuned to issues of corporate social responsibility (Davis, 2016b; Klein, 2000; Soule, 2012). While these organizations no longer require large capital investments in manufacturing, they may

instead make significant investments in new types of information systems to manage the way that its broad set of constituents understand the brand (e.g., Baron, 1995). These systems may guide much of the organization's nonmarket strategy, such as its responses to social movement activism (Luo, Zhang, & Marquis, 2016; McDonnell & King, 2013) or its corporate political activity (Hillman & Hitt, 1999; Hillman, Keim, & Schuler, 2004).

The theoretical models that underlie our understanding of these organizations are being tested in new ways. For example, while the integrated structure of a firm provides transactional efficiencies over market-based organizing (Coase, 1937; Williamson, 1979), information systems that support organizational coordination and decision making have substantially decreased the cost of organizing commercial activity, opening up new types of “small and provisional” organizing models (Davis, 2016a, p. 129) Thus, organizations now source many of their human and material production inputs on an as-needed basis, forgoing an increased efficiency in transaction costs for more agility in an uncertain operating environment (Davis, 2016b).

Additionally, the vision of the firm as a “nexus” of contracts that govern decision-making and control agency problems (Fama, 1980; Fama & Jensen, 1983) may be less useful when the relationships that form those contracts are likely to be more transient (Leighton, 2016), less formal (Boatright, 2002), structurally disconnected from one another by economic intermediaries (Rodrigues, 2011), or embedded in a complex network such as a platform ecosystem. Perhaps more significantly, managers must now concern themselves with a broader set of constituents—secondary stakeholders that seek

to wield influence over the firm on the contested digital terrain of online social media (King, 2008).

The increasing importance of managing constituents' interpretive orientations toward the organization opens space for new theorizing about the role of information systems in organizations and requires that scholars and practitioners create new concepts and lenses for observing and understanding their organizational environments. In this conceptual paper, we draw upon the social movements' literature from organizational sociology to build a theory of organizational information systems for interpretative framing. We begin by drawing upon Moore's (2011) classification of organizational systems to define a system of framing and identify its place in an organization. Systems of framing are designed to help organizations monitor digital data streams to identify potential threats as they form, develop processes to resolve those threats, and determine the best way to execute those processes in the face of extant environmental conditions.

Then, drawing on our reference literature, we introduce frame alignment as a commitment-building process for a social movement organization (SMO) and situate it in the larger set of organizing and mobilizing activities undertaken by organizations. We build a systems of framing theory (SOFT) by applying the principles from social movements theories to our current understanding of modern organizations. We conclude by illustrating the roles of information systems in the framing process, building propositions that help to organize and illustrate the relationship between information systems, strategic framing, and systems of framing. We intend for this work to contribute to extant research in digital persuasion that focuses on marketing (Ho & Tam, 2005) as

well as political and social movements research in Information Systems (Selander & Jarvenpaa, 2016; Wattal, Schuff, Mandviwalla, & Williams, 2010).

THREE TYPES OF ENTERPRISE INFORMATION SYSTEMS

Traditionally, enterprise information systems have focused on mitigating risks due to uncertainty within the organization and sensing potential changes in an unstable external operating environment (Galbraith, 1974; Tushman & Nadler, 1978). These organizational tasks require the system to receive facts, dates, and commitments and organize them into a “single version of the truth” that supports functions such as accounting and operational decision-making. These systems, which Moore (2011) described as systems of record, capture commercial data, such as data generated in sales transactions or human resource assignments, and organize it such that it can be analyzed and delivered to the most appropriate decision maker in the corporate hierarchy (Galbraith, 1973, 1974).

Moore’s (2011) taxonomy of organizational information systems distinguishes these largely internally-focused information systems from those necessary to execute more communicative uncertainty mitigation strategies (Galbraith, 1973, 1974). This second set of organizational information systems, systems of engagement, support communication and collaboration in both business-to-business and business-to-consumer engagements (G. Moore, 2011). For example, systems of engagement can be used to support collaboration among a network of suppliers, distributors and partners (in the business-to-business context) or to improve customer service by using social media tools to increase the efficiency with which consumers can communicate with the firm (in the business-to-consumer context) and vice versa (G. Moore, 2011). Because these

communicative tasks are instrumental in nature, they are judged based on their efficiency: social media-based communications technologies allow organizations to act more nimbly than ever before and, thus, assisting more customers than ever before. They also force organizations to be nimbler in responding to brand or reputation damaging incidents.

Together, systems of record and engagement capture information about an organization's transactions and interactions, respectively. Together, these can provide a firm with the information resources required to produce, deliver, and support goods or services. But a modern corporation—especially one that sheds manufacturing complexity associated with vertically integrated production—may require the use of a system that can construct and defend a brand identity by engaging more broadly with constituents outside of the sales or support contexts. We distinguish these broad systems with the label systems of framing. Thus, we add to the types of organizational information systems (Table 2).

Table 2. Three Types of Organizational Information Systems

<i>System of Record</i>	An information system that supports the management of organizational transaction data and environmental facts.
<i>System of Engagement</i>	An information system that supports organizational communication and collaboration with respect to operations or service delivery.
<i>System of Framing</i>	An information system intended to influence one or more audiences' interpretative orientation toward the organization.

Unlike systems of engagement, which focus on communicative interactions with partners or customers, systems of framing are concerned with the development and alignment of an individual's underlying interpretative orientations (e.g., Goffman, 1974), which can be used to influence their understanding or perception of the firm or its products. Additionally, because systems of framing are not focused on coordinating

economic transactions, they are used to engage a wider group of stakeholders such as “influencers” and other potential customers. Systems of framing help organizations target these stakeholders using “social skill” (Fligstein & McAdam, 2012, p. 46) to strategically manipulate their attitudes about the organization itself or about external events related to the organization’s strategic action field.³

Table 3. Characteristics of Three Organizational Information Systems

	System of Record	System of Engagement	System of Framing
<i>Purpose</i>	Managing natural, economic, and human capital	Managing human and social capital	Managing human, social, and symbolic capital
<i>Method</i>	Tracking resource use and availability	Instrumental communication	Instrumental and expressive communication
<i>Operational Stance</i>	Ongoing process	Reactive	Reactive and proactive
<i>Intended Audience</i>	Internal	Market stakeholders	Market and non-market stakeholders
<i>Example Use</i>	Compliance audit	Dissatisfied customer	Disparaging viral video
<i>Primary Standard</i>	Accuracy	Efficiency	Efficiency and effectiveness

Systems of framing can help an organization respond to a potentially harmful external event by shaping “which actors care about a nonmarket issue, how those actors perceive their interests, the political setting in which the issue plays out, and the information and assets that can shape how the issue is resolved” (Bach & Blake, 2016, p. 67). For example, immediately following the Deepwater Horizon crisis, BP took steps to frame the public discussion “as an event with external causes” to avoid taking blame for

³ Fligstein and McAdam (2012) define social skill as a mix of cognitive, affective, and linguistic facilities that produce “the ability to induce cooperation by appealing to and helping to create shared meanings and collective identities” (46). In their theory of fields, the basic problem for social actors with social skill involves framing “stories” to “help induce cooperation from people by appealing to their identity, belief, and interests, while at the same time using those same stories to frame actions against various opponents” (50-51).

the consequences of the oil spill (Schultz, Kleinnijenhuis, Oegema, Utz, & van Atteveldt, 2012, p. 103). A system of framing can help a firm move beyond the realm of the proximate transaction and provide it a new lens for presenting individual and organizational behavior to build (and defend) its brand identity. Effective framing processes are particularly beneficial for organizations with strong brands that may be dependent on building social capital or a commitment to a particular ideology.

As the nature of commerce evolves, systems of framing become more critical to an organization's stack. In a world of industrial production, systems of record were necessary to engage in internal operational planning and to handle accounting tasks. Similarly, systems of engagement were used internally, to coordinate production among corporate stakeholders, and externally, to efficiently communicate with customers (or potential customers). The post-industrial commercial environment, however, is characterized by both an increasing importance of brand identity and a loosening of centralized corporate control over that identity. Specifically, the growth of social media networks has brought with it new opportunities—and new threats.

Additionally, overwhelmingly negative product reviews and other disparaging materials (such as videos of poor customer service) can be spread virally across vast, multiplex social media networks, viewed by individuals not connected to the organization, let alone its point of sale. This broader set of stakeholders, combined with a broader set of risks requires that we examine new types of organizational information systems designed to proactively strengthen (or reactively defend) the organization against these increasingly unpredictable threats. This paper articulates a new way of thinking about the needs of enterprise information systems by illustrating the potential utility of

organizational systems of framing—systems that are intended to influence their audiences’ interpretative orientation toward the organization, mitigating the risk of such harms.

USING SOCIAL MOVEMENTS THEORIES TO REFORM CORPORATE COMMUNICATIONS

The asset-light, brand-oriented company often competes on the symbolism of the brand rather than the qualities of the assets themselves. This style of competition—competing on ideas and associations in addition to materialist outcomes such as service provision—has been well-examined by social movements scholars in the field of sociology. Because SMOs engage in both instrumental communication (such as mobilizing constituents to act) and expressive communication (to establish values and interests), research from this area can be instructive to firms that are now interested in broader and potentially more expressive corporate communication. Thus, this paper relies heavily on the “strategic framing” literature to theorize about information systems that support organizations that wish to manage the expressive and instrumental communications strategies that enable them to exert greater control over the ways that their organizations are perceived.

Systems of Framing within Social Movement Organizations

An SMO is a “complex or formal organization which identifies its goals with the preferences of a social movement⁴ or countermovement and attempts to implement those

⁴ We define a social movement as “a set of opinions and beliefs in a population which represents preferences for changing some elements of the social structure” (McCarthy & Zald, 1977, pp. 1217–1218). In this paper, we follow McCarthy & Zald’s (1977) guidance to conceptually distinguish between the preferences of a population (the social movement) and organized action in support of the movement (the social movement organization). As McCarthy and Zald (1977) note, social movements are often

goals” (McCarthy & Zald, 1977, p. 1218). Although collective action does not require the presence of an SMO, a substantial portion of social change oriented collective action in modern Western society is either directly managed or indirectly supported by an SMO (Edwards & McCarthy, 2004, p. 136). Irrespective of its size or level of formality, each SMO competes with other SMOs to accumulate constituents that can provide a variety of organizational resources.⁵ The SMO must invest these resources into building both organizing and mobilizing capacity to have the best chance at enacting the demand preferences of the social movement (McAdam, McCarthy, & Zald, 1996; McCarthy & Zald, 1977).

The distinction between organizing and mobilizing activities mirrors the SMO’s two dependencies on its constituent membership: First, the SMO depends on its members to demonstrate the necessity of social change to elites (McCarthy & Zald, 1973). In practice, these acts of demonstration may vary, but their underlying objective is to mobilize the organization’s resources to demonstrate worthiness, unity, numbers, and commitment (Tilly, 2006, 2008). Second, the SMO depends on its constituents for movement operation (McCarthy & Zald, 1973). Members must provide the SMO with economic or human resources to ensure the continuity of the organizational infrastructure (Edwards & McCarthy, 2004; Zald & Ash, 1966). This infrastructure is particularly important to sustain SMOs over long timeframes, which may see temporary periods of abeyance characterized by a non-receptive political or social climate (Taylor, 1989).

simultaneously supported by multiple SMOs, each of which may rise and fall due to factors external to the size of the social movement or the intensity of grievances within it.

⁵ By “resources” and “capital,” we refer broadly to factors of production generated by prior investments. This can include, inter alia, natural, human, symbolic, social, economic, and organizational capital (Edwards & McCarthy, 2004; Mandviwalla & Watson, 2014).

We define mobilizing as “the activation of actors [or other resources] for a cause” and organizing as “developing an decided order among actors [or other resources]” (Han, 2014; Haug, 2013). The “ordering” process of organizing involves the creation of a “consensually validated grammar” for reducing organizational equivocality via interlocked behaviors in support of organizational tasks (Weick, 1979, p. 3). Thus, organizing activities strengthen the base of the SMO and result in the creation of structures—formal or informal—that enable mobilizing (McAdam et al., 1996; McCarthy, 1996). Both organizing and mobilizing activities are necessary for an SMO to achieve its desired outcomes. An organization with a highly-organized, well-coordinated series of protests may not be effective unless it can also mobilize activists to participate. Similarly, an organization with strong participation levels in protests or boycotts may not be effective if it lacks coordination capacity or effective leadership.

For example, although there has been much scholarly attention paid to the 2008 Obama presidential campaign’s use of technology (Cogburn & Espinoza-Vasquez, 2011; Levenshus, 2010; Talbot, 2008) in support of effective mobilization strategies (Osborn, McClurg, & Knoll, 2010; Panagopoulos & Francia, 2009), technology and mobilization techniques do not tell the full story. The campaign’s success was also due to the effectiveness of its organizing: training volunteers, developing their leadership skills, and empowering them to represent the campaign in their communities (McKenna & Han, 2014). The campaign’s organizing strength produced a cadre of highly-trained volunteers that formed the core of the field operation and supported the broad-reaching technology-supported mobilizing processes. These organizing activities operated with a smaller span

of control and emphasized non-instrumental strategies while the mobilization activities emphasized focused on specific objectives and reaching large numbers of people.

Building Organizing Capacity with Systems of Record

An SMO organizes around a particular structure for two reasons. First, the structure provides the adherents and constituents of the movement an outlet toward which they can aggregate their efforts in support of its goals (King, 2008). Without an organizational structure—formal or informal—individual supporters of the social movement lack a critical coordination tool that can enable collective action. Second, the organization distributes the cost of involvement in the activities of the SMO widely enough such that individual adherents or constituents do not have to bear costs beyond what they may be willing to bear (King, 2008). Those individuals that may not be willing or able to contribute significant amounts of time or money to the SMO may still be able to participate meaningfully because of the possibility for decomposable task allocation in the organization (Anderson, 2008; Simon, 1996). Some SMOs, particularly for continuous organizational activity that lasts for longer periods of time, become professional organizations and hire full-time staff to handle routine management, fundraising, routine organizational (McCarthy & Zald, 1973).

At an abstract level, organizing activities involve either the division of labor or the integration of effort (Mintzberg, 1979; Puranam, Alexy, & Reitzig, 2014). Division of labor involves a) the decomposition of the organization's goals into discrete tasks and b) the allocation of those tasks to individuals within the organization (Puranam et al., 2014). Systems of record can be used to assign organizational tasks to those members best able to fulfill them (Kittur et al., 2013) or, in the alternative, to identify skill gaps in the

organizational hierarchy that would require new investments in human resources to fill. Integration of effort involves the resolution of cooperation problems via the provision of individual rewards and coordination problems via the provision of information distribution (Puranam et al., 2014). These organizing activities are primarily supported by organizational information systems of record. These enterprise systems contain the relevant information about facts, dates, and commitments (G. Moore, 2011), which represent the organizational work elements that must be divided and allocated efficiently in organizing.

Building Mobilizing Capacity with Systems of Engagement

Strong SMOs serve as structures through which resources can be mobilized—activated and converted—to influence the goals of the social movement. Although mobilization commonly refers to the activation of human capital via an in-person action repertoire such as a public meeting, street demonstration, petition or letter-writing drive (Tilly, 2008), many different forms of capital can be mobilized and converted into new forms of capital (See e.g. McCarthy & Wolfson, 1996). Additionally, digital technologies have expanded the activist’s toolkit, giving them new kinds of action repertoires that they can deploy to try to meet their goals (Earl & Kimport, 2011; Rolfe, 2005; Selander & Jarvenpaa, 2016).

Mobilizing activities, particularly those that deploy human capital, rely on systems of engagement as a hard prerequisite. To activate the mobilizing actors, they must be told when, where, and how to coordinate their action if the mobilization effort is to be successful. The organizational enterprise systems that enable such communication

are systems of engagement—systems that enable collaborative interaction and can attract potential members to engage with the organization (G. Moore, 2011).

Systems of engagement can benefit greatly from digital communications technologies. For example, the low reproduction and transmission costs associated with digital communications ensure that the organization's communications can be sent to many geographically diverse members at a low cost (Shapiro & Varian, 1999). This allows digitally-enabled social movements to rapidly increase the scale of their reach—particularly compared to pre-digital alternatives such as face-to-face mobilization or mobilization by direct mail (Bennett & Segerberg, 2013). Additionally, systems of engagement can create efficiency in the organization's communications infrastructure. For example, database systems can allow organizations to keep track of large prospect pools for potential membership and enable them to contact many such members at once (Han, 2014). These databases (or subsections thereof) can be bought, sold, and traded by ideologically-aligned organizations, which further increases the speed with which they can grow.

From the perspective of the activist, systems of engagement can decrease the costs of participation in collective action. For example, many digital action repertoires relax co-presence requirements of collective action by leveraging the ubiquitous accessibility of social media websites (Earl & Kimport, 2011; Selander & Jarvenpaa, 2016). The various messaging and networking features of these sites allow activists to engage their targets asynchronously and without the requirement of geographic proximity that would be present for many forms of protest (with the notable exception of consumer boycotts, which have significantly lower requirements for geographic proximity and

synchronized collective action) (See Schlosberg, Zavestoski, & Shulman, 2007). Thus, activists can quickly involve themselves in protest activities without incurring the financial costs of traveling to protest sites or the social costs of exposing themselves to the risks and stresses of in-person confrontations.

In addition to lowering the importance of geographic and temporal copresence for effective collective action, systems of engagement can lower the costs of active participation for activists. For example, to “join” an SMO, new members may simply need to join a mailing list or connect with the SMO using one of its customer-facing engagement systems. As a result, members can join many organizations and show their support and align themselves with a cause very quickly (Vie, 2014). Additionally, when engaged in digital repertoires of contention, the activist can outsource more of the preparatory work of collective action to the SMO. For example, the organization can prepare form letters or scripts for activists to deploy against a target corporation or relevant stakeholders in collective action (Schlosberg et al., 2007). Because digital communications are so easy to reproduce and transmit, these systems can dramatically decrease activists’ cognitive costs associated with communicative engagement.

While systems of engagement can help an SMO determine who to mobilize and provide a channel for that mobilization, they alone are insufficient to produce effective displays of worthiness, unity, numbers, and commitment as required for effective collective action (Tilly, 2006, 2008). To invigorate mobilization, the SMO must also articulate to the activists why collective action is necessary. This process requires attaching meaning to objects, events, and experiences encountered by the activists to motivate them to act. The social movements literature refers to this type of organizational

work as micromobilizing (Benford, 1993; Snow, Rochford Jr., Worden, & Benford, 1986).

Micromobilizing Activities as Systems of Framing

Micromobilizing activities are “the range of interactive processes derived and employed by SMOs and their representative actors to mobilize or influence various target groups with respect to the pursuit of collective or common interests” (Snow et al., 1986, p. 465). Thus, micromobilizing activities exist at a meso-level between the organizing activities that build governance capacity, systems of record, and the mobilizing activities that motivate individuals, systems of engagement, to participate in direct action campaigns. Strategic framing, the archetypal micromobilizing activity in the social movements literature, combines the organizational instrumentalism of strategy with the individual, interpretative elements of framing.

The micromobilizing role of strategic framing has been extensively studied as a conceptual bridge that links individual-level social-psychological explanations for participation in collective action commitment with organizational-level resource-based explanations processes of activism movement participation (Snow & Benford, 1988; Snow, Benford, McCammon, Hewitt, & Fitzgerald, 2014; Snow et al., 1986). Thus, the task of micromobilizing involves deploying the SMO’s organizing capabilities to promote the success of its mobilizing capacity by ensuring that the way it engages in diagnosis, prognostication, and motivation communication is most likely to be successful. Thus, these are the SMO’s strategic communicative processes that frame the phenomena of interest such that the mobilizing activities are more likely to be successful, given the

audience of the message. The three SMO collective action capacities are summarized in Table 4.

Table 4. SMO Collective Action Capacities

	Organizing	Mobilizing	Micromobilizing
<i>Definition</i>	An organization's ability to develop a decided order among its actors [and other resources].	An organization's ability to activate its actors [or other resources] for a cause.	An organization's ability to strategically influence one or more audiences' interpretative orientation toward the organization.
<i>Level of Analysis</i>	Organizational	Individual	Meso-Level
<i>Examples</i>	Developing a formal governance structure; building capacity among leadership	Individual direct action (protests, boycotts); fundraising	Identification of values and alignment with organizational activities; "keying" stakeholder experiences to imbue meaning (strategic framing)

The framing work of micromobilizing, then, involves the construction of an interpretive frame which serves as a bridge between the strategic organizational action taken at the macro level and the demonstration of worthiness, unity, numbers, and commitment through mobilizing action at the micro level. Specifically, micromobilization tasks for a SMO can include developing contact lists of potential supporters to broaden the organization's base of support, cataloguing the values and interests of supporters to improve alignment with the organization's activities, or producing content to imbue specific meaning to experienced phenomena (e.g., by assigning credit or blame) (Snow et al., 1986). Each of these examples illustrates a specific task that supports the overall goal of an organizational system of framing: the strategic influence of an audience's interpretative stance toward the organization itself.

Distinguishing between organizing, mobilizing, and micromobilizing activities in organizational processes is useful for scholars of organizational information systems: The

way that information systems supports the organizing functions of an SMO generally operate from macro-level processes (e.g. Galbraith, 1974; Morgan, 2006; Tushman & Nadler, 1978) that evoke systems of record while the ways they support the mobilizing functions of a social movement generally operate from micro-level processes (e.g. Bennett & Segerberg, 2011, 2013; Earl & Kimport, 2011) that evoke the communicative functions of systems of engagement. The next section illustrates the importance of micromobilization in this context by illustrating the link between strategic framing processes and the metrics for organizational success.

SYSTEMS OF FRAMING AND DIGITAL COMMITMENT OUTCOMES

Frames are interpretative schemata that enable individuals to locate, perceive, identify and label social occurrences, imbuing them with symbolic value (Klandermans, 1997) and rendering them personally meaningful (Goffman, 1974; Snow et al., 1986). Frames are useful tool for persuasion and identity creation because social experience is not objective; the same social condition can simultaneously be defined in positive and negative ways by highlighting and labeling particular portions of that experience (Berger & Luckmann, 1966; Goffman, 1974; Weick, 1995).

Frame construction can occur by way of three overlapping processes: Individual communications that occur within the context of organizational activities (discursive processes), deliberate and instrumental organizational communications (strategic processes), and communications that push back against developing frames, either from within the organization or from opponents, bystanders, or the media (contested processes) (Benford & Snow, 2000). In this work, we focus primarily on the second of these:

strategic framing⁶ involves “the use of rhetorical devices in communication to mobilize support and minimize resistance to a change” (Cornelissen & Werner, 2014, p. 185).

Frames alter the processes by which information is interpreted in three ways. First, they focus attention—like a picture frame—by specifying what information is relevant and irrelevant with respect to the object of orientation. For example, the anti-drunk driving movement benefited greatly by shifting the framing of automobile-related deaths from engineering quality and safety standards to human behavior (Cress & Snow, 2000; McCarthy, 1994). Second, they serve as an articulation mechanism that ties together various elements of a scene to convey a consistent story or narrative. For example, the environmental movement’s framing of ecological issues ties aspects of social justice with respect to human living conditions with long-term ecosystem sustainability (McCright & Dunlap, 2000). Finally, frames serve as a transformative device that can alter the meaning of objects of attention and their relationship to focal actors. These transformations include reconfiguring aspects of one’s biography or the transformation of a “routine grievance” into a mobilizing injustices designed to induce collective action (Snow, 2004, p. 384).

On the enterprise level, a system of framing is a micromobilizing mechanism that is designed to strategically highlight and label information to positively influence the public’s interpretative orientation toward the organization. A system of framing is designed to produce information interventions that imbue a message with certain signals—predetermined patterns of information—to ensure that the message is interpreted as its sender intended (Watson, 2014). Organizational systems of framing

⁶ The use of *strategic* here is not meant to imply a distinction between organizational strategy and tactics. Thus, for example, an organization may tactically deploy a strategic framing response to an environmental event.

differ from traditional brand management exercises because brand identities are recursively co-created with their customers, rather than produced like corporate marketing materials (Pitt, Watson, Berthon, Wynn, & Zinkhan, 2006). Thus, the intrinsically contested nature of a frame implies that the framing organization cannot simply force any new reality it desires onto its stakeholders (Benford & Snow, 2000); instead, the organization can aim to find areas of relative agreement in the contested frame's diagnostic or prognostic prescriptions,⁷ or its degree of resonance (Benford, 1993).

For an SMO, the primary framing task consists of casting evaluations of existing circumstances as a shared grievance that can be transformed into demands presented to social elites (Klandermans, 1997). For these organizations, strategic framing may involve assigning meaning to events that helps to establish that grievance, attributes it to a certain societal actor, proposes methods to ameliorate it, or motivates activists into action (Snow & Benford, 1988, p. 198). Applied to the broader organizational context, however, strategic framing can help an organization justify or legitimate its activities to its stakeholders (e.g., Fiss & Zajac, 2006; Mantere, Schildt, & Sillince, 2012; Rhee & Fiss, 2014). Once the framing signals are embedded into the message, it can be distributed to the organization's adherents (and other stakeholders) during a mobilization campaign (Klandermans, 1997).

Evidence from political campaigns suggests that that simple discursive changes have a significant impact on outcomes (Lakoff, 2004; Lakoff & Johnson, 2003). In his

⁷ Diagnostic framing refers to framing the identification and attribution of the problem or grievance; prognostic framing refers to the articulation of a proposed solution to that problem (See Benford & Snow, 2000).

guide to framing for progressive politicians, Lakoff (2004) illustrates the power of framing using the term tax relief:

When the word tax is added to relief, the result is a metaphor: Taxation is an affliction. And the person who takes it away is a hero, and anyone who tries to stop him is a bad guy. This is a frame. It is made up of ideas, like affliction and hero. (4)

The power of an effective strategic frame is most evident as it spreads. In the case of tax relief, the messaging diffuses from the White House to radio stations, TV stations, and newspapers. “And soon,” Lakoff (2004) writes, “the Democrats are using tax relief—and shooting themselves in the foot” (4). The skillful manipulation of expressive communication techniques opens up new strategic paths for organizations and ultimately enables them to simultaneously influence multiple, disparate groups while communicating effectively to both (Hersh & Schaffner, 2013; López, 2014).

STRATEGIC FRAME ALIGNMENT AS AN INFORMATION INTERVENTION

The frame alignment perspective of micromobilization suggests that SMOs are more likely to succeed when their interests, values, and beliefs are linked with those of individual members (See e.g., Bloemraad, Silva, & Voss, 2016; Ferree, 2003; Heaney & Rojas, 2014; McCammon, Muse, Newman, & Terrell, 2007). Frame alignment is most effective at producing mobilization when the substance of the organization’s proffered frame is believable and compelling, resulting in a state described as “frame resonance” (Snow et al., 1986, p. 477). The ideological cohesion that results from a state of frame resonance can trigger affective and behavioral commitment in an individual (Downton & Wehr, 1997, 1998; Nepstad, 2004). As Klandermans (1997) notes, “The importance of the alignment of an individual’s ideological frame with that of a social movement has been demonstrated time and again in the literature. The more commensurate the two

ideological frames, the stronger the individual's attachment to the movement" (pp. 32-33).

Table 5. Alignment Processes Underlying Systems of Framing (adapted from Benford & Snow (2000))

Frame Bridging	"Linking of two or more ideologically congruent but structurally unconnected frames regarding a particular issue or problem." (624)
Frame Amplification	"Idealization, embellishment, clarification, or invigoration" of preexisting values or beliefs." (624)
Frame Extension	"Depicting an [organization's] interests and frame(s) as extending beyond its primary interests to include issues and concerns that are presumed to be of importance to potential adherents." (625)
Frame Transformation	"Changing old understandings and meanings and/or generating new ones." (625)

Seminal frame alignment research suggests that organizations use four different types of frame alignment processes in their micromobilizing processes (Snow et al., 1986), each of which should be supported by a system of framing (Table 3). While Snow et al. (1986) and the research that follows present the four types of frame alignment processes as a list without underlying theoretical structure (p. 476), we conceptualize the four as a typology with ideal types along two axes: existing or new target group and existing or new values and beliefs.⁸

Frame bridging involves the linkage of two structurally-unconnected pools of individuals with the assumption that their value structures are congruent or complementary while frame extending involves the depiction of the organization's interests as extending into those issues and concerns that are presumed to be important to

⁸ The two axes are derived by placing the Benford and Snow (2000) items into the organizational scheme used the Ansoff (1957) product development matrix. The Ansoff (1957) matrix distinguishes between new and existing markets and new and existing products to support new market entry. Although the typology that we present in Figure 1 flattens out some nuance from the Snow et al. (1986) list of frame alignment processes (particularly around frame extension), a parsimonious theoretical structure is useful to build a digital theory of frame alignment.

their adherents. We can place these two processes along one axis that describes the target group of the framing effort: Frame bridging involves expanding into a new target group while frame extending involves targeting the original group. As one axis describes to the novelty of the target group, the other axis describes the novelty of the values and beliefs in the frame itself. Frame amplification involves highlighting and bracketing original values and beliefs while frame transformation involves the creation of new values and beliefs. The resulting typology is presented in Figure 1.

Target Group Micromobilization: Frame Bridging and Extending

Strategic frame bridging involves linking two or more “ideologically congruent but structurally unconnected” frames regarding a particular grievance or problem (Benford & Snow, 2000, p. 624). The bridge itself can operate at either an organizational level (between ideologically congruent organizations) or an individual level (between unmobilized “sentiment pools” of individuals that lack an organizational base on which to build a foundation for action) (Snow et al., 1986, pp. 467–468). For example, to create an organizational level bridge, an advocacy organization may construct its organizational identity across the boundaries of a particular social movement, such as Code Pink: Women for Peace or Veterans for Peace in the antiwar movement (Heaney & Rojas, 2014). On an individual level, organizations may create bridges across distinct interest groups (such as anti-war, ecology, women’s, and labor groups) (Gerhards & Rucht, 1992) or, on a less granular level, across ideological triggers (such as duty, rights, and equality triggers) (McCammon et al., 2007).

While frame bridging points outwardly, aiming to connect with individuals and organizations that would otherwise remain structurally unconnected, frame extension

points inwardly to drive strategic frame alignment.⁹ Strategic frame extension involves promoting organizational programs or causes “that may not be especially salient or readily apparent” to potential constituents and supporters, which can help forge alignment between the individual and organizational interpretative orientation (Snow et al., 1986, p. 472).

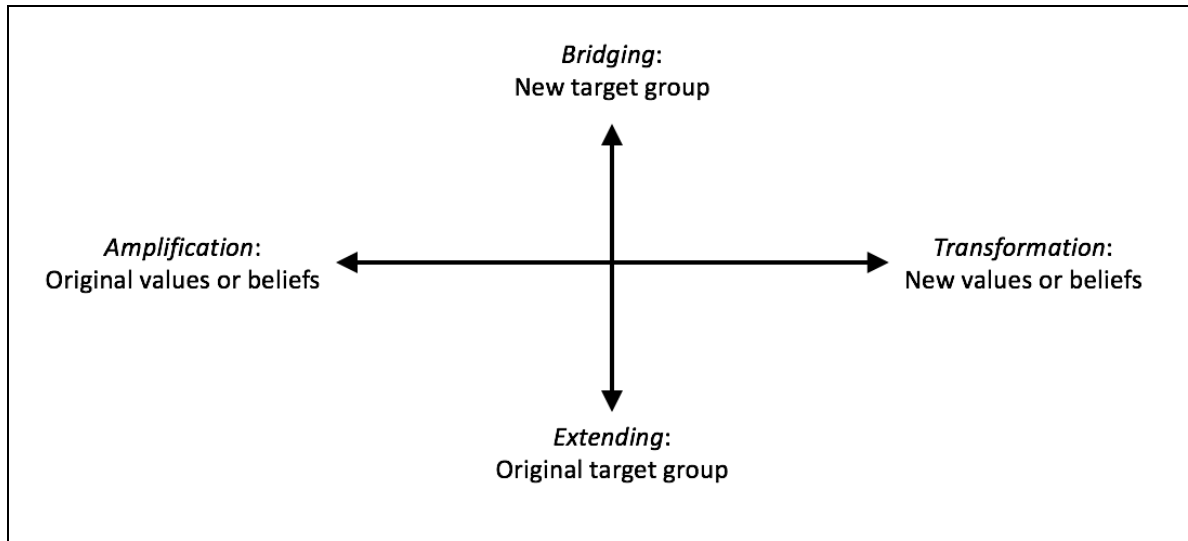


Figure 2. Systems of framing components

Frame extension can take a variety of forms. For example, Benford (1993) describes the pressures faced by the Nuclear Weapons Freeze Campaign to move from a strict focus on nuclear weapons nonproliferation to a broader set of issues that could be causes of future nuclear wars. Snow et al. (1986) illustrates a narrower frame extension strategy: the adoption of organizational programs that involved punk rock performances to broaden the range of linkages between individuals and the organization. In both cases the SMO looked inwardly toward its target group to try to extend their set of interests to create alignment with their existing constituents.

⁹ Note that strategic frame extension can be used to attract new adherents; the primary distinction we highlight here is that extension is inward-looking rather than outward-looking.

Values and Beliefs Micromobilization: Frame Amplification and Transformation

Strategic frame amplification refers to the “clarification and invigoration of an interpretative frame that bears on a particular issue, problem, or set of events” (Snow et al., 1986, p. 469). In his seminal work on framing, Goffman (1974) noted that the salience of a particular frame may ebb and flow based on an individual’s life events or the intentional actions of another (for example, through the process of fabrication) (pp. 83-84). As a result, organizations may choose to invigorate a framing device to increase its salience for those individuals that adhere to the preference structures of the movement but may require a new connection to that frame due to such a fluctuation. An organization may amplify either values, defined as normative states that are worthy of upholding, or beliefs, defined as relationships between two things (or between a thing and some characteristic of it, such as one’s beliefs about the problem’s seriousness or cause) (Snow et al., 1986, pp. 469–470).

While frame amplification seeks to invigorate a frame and increase the strength of a certain set of values or beliefs, frame transformation involves retiring a frame and adopting a new perspective through which a given set of issues should be understood. Such transformations can be limited by their domain (for example, suggesting that a particular grievance that had previously been taken for granted would be reframed as being problematic) or global in their nature (for example, when an entirely new framework is applied to an individual’s consideration of grievances, generally) (Snow et al., 1986, pp. 474–475). Global frame transformations often involve drastic lifestyle changes such as religious experiences that shape the individual’s interpretation of virtually all events and experiences in life. Because the individual transformation

alignment processes are so significantly embedded in a person, a successful global-level transformational frame would be exceedingly difficult to perform successfully using an organizational system of framing.

Organizational frame transformation strategies are relatively uncommon because they require the intentional undoing of cognitive linkages between a brand or image and specific intentionally-constructed identity markers. Because these identity markers are the result of marketing strategies and advertising expenditures, intentionally disassociating from that set of ideas can be an expensive undertaking. For example, in the late 1990's, Apple positioned itself as a creative brand in opposition to the corporate, "boring" IBM. Apple toasted "the crazy ones" with the "Think Different" campaign, which emphasized individuality and creativity. While Apple's oppositional framing was highly successful at the launch of that campaign, the brand's current framing of their products has moved past an oppositional framing—in part due to their success (and the ubiquity of their products).

Although the notion of frame alignment is well-studied in the organizational sociology literature on social movements, the practice of communicating and diffusing frames across a population has received significantly less attention (Benford & Snow, 2000). The use of digital communications networks to engage in framing work has increased the importance of this gap in the framing literature. With these technologies, organizations have new and innovative ways to embed and deploy the signal sets that underlie strategic framing. The next section returns to the "modern organization" first described in the introduction, and applies these micromobilization processes to the modern digital organization. In this section, we show how frame alignment theory helps

us understand how and why modern, digitally-enabled organizations can apply systems of framing thinking.

Managing Organizational Risk with Systems of Framing

The modern organization is characterized by the dismantling of heavy corporate verticals and the broadening of the range of stakeholders (such as contracted partners that provide manufacturing services or activist social groups) (Zammuto et al., 2007).

Because firms at the forefront of these organizing trends tend to outsource their manufacturing processes, the core of their business shifts toward product design and brand management (Davis, 2016b). But brand management in an open social system requires the organization to monitor its external environment for opportunities and threats to the brand and respond where appropriate (Thompson, 1967). These monitoring and response roles are managed by organizational systems of framing.

Traditionally, organizations monitored and evaluated their environmental risks to smooth input and output transactions, creating buffer for their internal core (Thompson, 1967). This risk analysis monitored transactional and commercial information to ensure smoothness in manufacturing cycles, protecting the organizational core against environmental shocks. While organizations must monitor and adapt to their market-based environmental risks, the range of environmental risks facing the modern corporation is larger than ever. For example, an Internet meme or negative viral video can have tremendous destabilizing power for an organization if it negatively shifts stakeholder interpretative orientations. These non-market risks require different human skills and computational support to monitor than the transactional risks of early organizational command and control structures.

Active management of an organization's nonmarket stakeholders is particularly important for these organizations. Because the organizations may have stripped down their internal manufacturing processes, manufacturing contracts must be planned and negotiated well in advance of delivery and, thus, may be more difficult to alter once performance has begun. Thus, although the organization reduces its internal complexity, it also reduces its operational and supply chain agility. In making such a strategic tradeoff, the organization's product design and brand identity become the more significant levers of organizational strategy. In a world of online social systems, brands are co-created by the organization and its stakeholders (Pitt et al., 2006). Design and brand are particularly vulnerable to nonmarket strategy events because those elements of an organization are subjected to opinion, ridicule, or critique from a broad group of stakeholders such as customers, fans, online influencers, politicians and pundits, or global activist groups.

Greater geographic distances between operating environments increases organizational environmental risk (Thompson, 1967, pp. 68–69). Distance, according to Thompson, increased riskiness due to the costs of communication and transportation across geographic space. From a market perspective, such risks are limited to the geographic area of the commercial environment, which can be limited by organizational decisions. If, after all, the organization chooses not to operate in a particular geographic area, demand spikes in those areas cannot impact the organization's internal core.

Nonmarket risks, however, can propagate from any geographic area in which organizational stakeholders exist—even if they are not linked to the organization via a commercial relationship. The organization—in its asset-light focus on product design and

brand identity (Davis, 2016b)—produces information artifacts that can be reproduced and transmitted around the globe for minimal costs (Shapiro & Varian, 1999). Furthermore, these reproduced artifacts can be manipulated to distort the original message. Nonmarket risk management, then, requires monitoring global stakeholders' reactions to those information artifacts. Because these stakeholders (such as activists or fans) can freely respond to and distort an organizational information production, the organization cannot control misappropriated artifacts and risk exposure increases significantly. Systems of framing can provide monitoring and response services to try to insulate the core of the organization from one of these destabilizing events.

INFORMATION SYSTEMS OPPORTUNITIES FOR SYSTEMS OF FRAMING

In the first half of this paper, we built the theoretical foundation of systems of framing by relying on frame alignment theory from the social movements literature. We theorized that all organizations—particularly those corporations that have focused on their design and brand identity—engage in both instrumental and expressive communications with their stakeholders and, thus, can benefit from an information system to help manage stakeholder messaging. In the remainder of this paper, we examine these systems less abstractly. First, by identifying the roles for information systems research in systems of framing, then by providing an illustrative case study into corporate frame-shifting, and finally by developing propositions for future research.

As we briefly describe in the introduction, systems of framing help organizations detect potential framing threats, develop organizational processes to respond to those threats, and determine the best way to execute those processes to realign the interpretative

frames of organizational stakeholders. Thus, we begin first with threat detection, then move to response formulation, and execution.

Threat Detection

Extant literature in the field of organizational studies has long considered models of organizations as sensing-interpreting systems that scan their operating environments and make strategy decisions based on managers' perceptions of that environment (Aldrich & Herker, 1977; Daft & Lengel, 1986; Daft & Weick, 1984). The emergence of online social media networks, however, enabled a new type of sensing and interpreting for organizations. While organizations have virtually all used communication channels that enabled firm-customer and customer-firm conversations, it was not until the inception of online social media networks that organizations were able to easily monitor customer-customer and customer-competitor conversations (Gallaughier & Ransbotham, 2010). Organizations that harvest the social data streams containing these conversations could use it to create organizational value, such as by using analytics tools to mine it for decision support purposes (Mandviwalla & Watson, 2014; Pigni, Piccoli, & Watson, 2016). Although there are few universal metrics to measure the effectiveness of organizational monitoring of social media, such monitoring can yield actionable market intelligence for organizations that engage in monitoring practices (Gallaughier & Ransbotham, 2010; Larson & Watson, 2011).

Using monitoring technologies to detect framing threats begins with harvesting and mining digital data streams from social media sites, review aggregators, forums, and blogs. Organizations can begin by monitoring these sources and creating metrics for detecting possible alerts. Although a relatively poor proxy for interpretative orientation,

starter metrics may involve string searches for keywords and an alert that will trigger if keyword counts are above or below a specific threshold. As the organization invests more resources into the system, alert triggers will become more and more granular. For example, they may include such filters as sentiment analysis or social network size and structure.

While keyword counts, sentiment, and network information are independently useful to organizations seeking to monitor their operating environment, these metrics fail to capture the “broader textual context” required to determine whether an interpretative frame truly exists (Johnston, 2002, p. 78). Although there is an ongoing debate as to the standard by which such a frame can be said to be present in a text, some form of triangulation across multiple words seems to be necessary (Bail, 2014). For example, some social movements scholars have defined frames with the presence of story-grammars, linkages of a subject (such as a social institution), a verb such as an action or demand, and an object at which the demand is directed (Franzosi, 1999; Johnston & Alimi, 2013). While story-grammar analysis is conceptually connected to the diagnostic and prognostic goals of strategic framing, it is difficult to automate and scale because it hand-coding is necessary to ensure accuracy.

Recently, however, scholars have turned to topic modelling techniques to uncover frames and other cultural markers (See e.g., DiMaggio, Nag, & Blei, 2013; Eric P. S. Baumer et al., 2013). Topic modeling algorithms such as latent Dirichlet allocation (LDA) analyze the co-occurrence of words in a set of documents to produce topics—sets of words that are thematically associated with one another (Debortoli, Junglas, Müller, & vom Brocke, 2016). Topic modeling algorithms can be used to identify frames because

some or all of the topics that are generated are substantively interpretable in most solutions—a necessary condition when dealing with individual interpretations (DiMaggio et al., 2013). Such techniques are ideal for frame threat detection because their underlying algorithms are agnostic to semantic information in the documents, meaning that the process can be automated to scale.

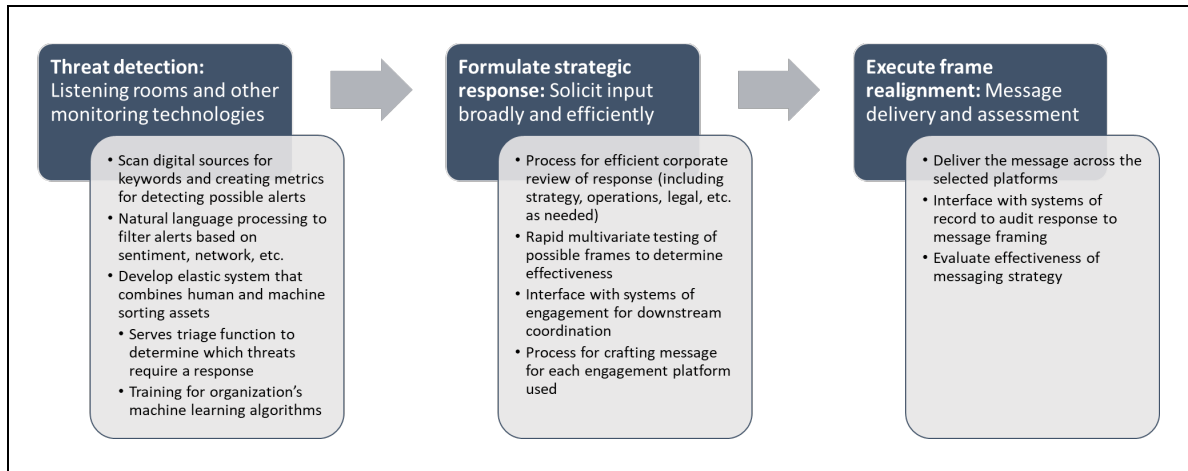


Figure 3. Three Functions of Systems of Framing

Thus, to capture changing interpretative orientation, mature framing threat detection systems should incorporate a topic modeling algorithm such as LDA or word2vec (Goldberg & Levy, 2014) to capture meaning created by groups of words, rather than by simply counting the number of individual keywords in a certain corpus of text. At the highest level of maturity, frame threat detection would be handled by an elastic sociotechnical system that would allocate various detection tasks to its human and algorithmic assets. Specifically, the system would alert human decision-makers upon detecting an anomaly that could be construed as a potential threat. This alerting process would operate as a triage system to prevent the human decision-makers from information overload. Additionally, however, the system would also be able to use those secondary human assessments to help train a supervised machine learning algorithms that would be

even more effective at identifying framing threats (Bail, 2014; Hanna, 2013). The relationship between threat detection, response formulation, and frame execution are presented in Figure 3.

Response Formulation

Response formulation is designed as a formal function of a system of framing to ensure that organizations that use systems of framing are deliberative when responding to social phenomena online. As an organization, the appearance of arrogance, indifference, and even appeasement can result in social media blowback, magnifying the negative impact of the framing threat. Additionally, organizational social media responses can be highly context-dependent, with the nature of the organizational response depending on the nature of the threat, the degree to which the threat is contested (vis-à-vis a countermovement, for example), and the nature of the organization itself (Jetha & Berente, 2014). Because there is no “one size fits all” solution and because the risk of failure can significantly intensify the harm, an organization’s response to a framing threat should be formulated carefully and deliberately.

The process by which an organization formulates a response to a framing threat is substantially dissimilar to organizational crisis communication and other public-facing responses. Organizational crisis management is generally associated with public relations issues arising from organizational action (or inaction) (Seeger, 2006). Because framing threats are significantly more subtle—and may even originate organically rather than from a known rival other stakeholder—they require a different type of response. Thus, while crisis management strategies (e.g., denial, evasion of responsibility, reducing

offensiveness of event, and mortification/apology) are appropriate for public, post-crisis image restoration, they are not necessarily germane to the frame realignment process.

For example, Apple's "Get a Mac" advertising campaign can be construed as a framing threat to their rival, Microsoft. The ads ran from 2006 until 2009 and featured Justin Long, wearing slim jeans and an oxford button-down, as a Mac and John Hodgeman, wearing a suit and tie, as a PC. Mac and PC act out a brief skit, anthropomorphizing the features of their respective platforms. Mac is laid back and creative while PC is "formal and somewhat polite, though uninteresting and overly concerned with work" (Dibiasi, 2016). This campaign explicitly frames Macs in opposition to their Windows-based counterparts and invites a rebuttal from Microsoft, should it wish to provide one.

In the response stage, organizational decision-makers must understand what they wish for their frame alignment strategy to accomplish (Bach & Blake, 2016; Benford & Snow, 2000; Snow et al., 1986). If the organization seeks to bring in new actors, it should consider a frame bridging strategy; if it seeks to shape existing actors' interest, it should consider a frame extension strategy. If the organization seeks to highlight its current set of values and beliefs, it should consider a frame amplification strategy; if it seeks to broaden its cultural base, it should consider a frame transformation strategy. This set of questions aligns with the frame alignment processes listed in Table 4.

As a practical matter, formulating a response is substantially more complicated than choosing one of four potential re-alignment processes. Organizational systems of record contain customer contact lists that can be bought, sold, or traded among companies. Thus, a bridging strategy may be cheaper and easier to pursue in the short term

than doing the requisite transformative work of ascribing new meaning to the organization. But despite its efficiency, it may be fleeting; a fundamental transformation of the organization may be necessary to revive its image. If we return to the example of the Mac and PC (and fully embrace the stereotypes from the campaign), it would be much easier for Microsoft to respond by “bridging” to an organization that would be predisposed to approve of Microsoft’s frame than it would be for Microsoft to transform its own image and make itself authentically cool. But despite its relative ease, bridging may not be the best long-term solution for the organization.

Along the same lines, online social media networks enable organizations to run experiments to learn how effective their frame alignment processes might be. For example, bridging-based alignment strategies can benefit greatly from automation in target group testing. For example, instead of identifying the types of potential adherents a priori (e.g., identifying the national accounting group based on a priori assumptions about their values and beliefs), an organization may be able to process automatic experiments using targeted Internet advertisements to learn about new, previously-unidentified groups that could be targeted via bridging frames. The differences in digital strategies across the 2016 presidential election candidates underscore the value of a flexible and data-driven target group strategy.

During the 2016 American election, the primary data contractor for the Republican National Committee campaign tested 40,000-50,000 automated advertising combinations every day on various social media platforms in order learn about messaging strategies that could attract audiences who had not been previously identified as likely to support their candidate. Their opponents eschewed this type of strategy, and instead

focused on targeted messages designed to appeal to the voter types that they had previously identified based on their research (Fischer & Hart, 2017). Digital systems of framing—when integrated with survey apps and websites and online social media—can be deployed to advance frame alignment such as multiple web sites to message different audiences and multivariate experiments to determine frame effectiveness.

Finally, some degree of organizational oversight should be present in the response formulation stage of a system of framing. This oversight helps to ensure that the framing strategy can be executed successfully and that other organizational entities do not act in a way that would be counterproductive to its success. Specifically, strategic leadership and public-facing organizational units (such as marketing, advertising, and public relations) should be consulted to ensure that the framing strategies deployed are consistent with the organization's future strategic directions. Because framing can only be resonant when it is believable (Snow et al., 1986), framing strategies that contradict other organizational signals can be counterproductive. Additionally, the organization's IS leadership and general legal counsel should be consulted to ensure that the operational aspects of the framing strategy are technically feasible and do not open new legal liabilities for the organization. Like other enterprise-wide systems, systems of framing are most effective when buy-in and consultation stretch throughout the organization.

Execution

Once a framing strategy has been established and approved by the relevant organizational stakeholders, the organization may deliver the message across the selected channels and platforms. Depending on the strategy involved, execution may rely heavily on the use of systems of engagement to transmit messages to their intended recipients.

While the execution process may seem relatively routine after the heavily technical work involved in detection and the heavily strategic work involved in formulation, the execution phase, execution should also include assessment and forward-thinking preparation.

Assessing the success of a frame realignment campaign is difficult for organizations. Not only are our metrics for success in social media relatively crude—particularly with respect to potential moderating factors in the social relationships of digital space but the social world is so contextually messy that organizations may not know why certain social outcomes occurred at all (Benford, 1997; Hoffman & Fodor, 2010; Larson & Watson, 2011). Systems of framing aid in this assessment environment in two ways, which we call individual assessment and organizational assessment. Because strategic framing is a mediating process between macro-level organizing action and individual-level mobilizing action, we can assess the framing acts of micromobilization from the perspective of both the organization and the individual. Organizational assessment—assessment of the organization’s ability to create and deploy frames downstream to the individual—may involve metrics such as message open rates, mouse tracking, click-through rates, and other social media measures. Individual assessment is concerned with the extent to which the individual receives the underlying frame from upstream. Here, systems of framing can help establish context behind the organizational metrics by comparing them with those metrics taken from prior campaigns and stored within the organization’s systems of record. This audit process can help the organization determine whether to conduct a more careful analysis of these metrics by directly surveying or focus grouping users. This dual-focus perspective helps

organizations move beyond the “show me the return” mindset rooted in traditional media and helps organizations “close the loop” with their customer engagement (Hoffman & Fodor, 2010).

In the next section, we illustrate these ideas with a case study of an organization that chose to transform its framing in a response to a public relations crisis. The case elucidates the value of appropriate organizational framing and the theoretical construction of systems of framing.

ILLUSTRATIVE CASE: THE JUICERO JUICER

The Juicero is an at-home, cold-press juicer that works by squeezing pre-assembled packs of fruit and vegetables using around four tons of force (according to the company’s founder, enough force to lift two Tesla automobiles.) As a Silicon Valley startup, Juicero offered investors a sophisticated mechanical product combined with a profitable subscription model in the popular health and wellness space. Juicero’s pitch as a potential platform for food delivery was potent; its investors included heavy hitters from Mountain View and Menlo Park such as Google Ventures and Kleiner Perkins Caufield & Byers alongside niche venture funds focused on the organic foods space. Dubbed the “Keurig for juice,” the juice press sold for approximately \$700 to individual consumers when it first came to the market (businesses paid as much as \$1200 for the press). Juice packs cost between five and eight dollars each.

Approximately a year after the product was first released, Bloomberg reported that the sealed juice packs could be squeezed entirely by hand, without using the expensive “high-tech machine” that formed the base of the Juicero platform (Huet & Zaleski, 2017). The piece immediately went viral and the company was pilloried by

virtually all major media outlets for the next week. For example, an Op-Ed in The Washington Post called Juicero, “an expensive solution to a non-existent cold-pressed juice shortage” and cast dispersions on the “Silicon Valley mindset” that encouraged it to grow (Emba, 2017). An article in Quartz drove the point home, writing that Juicero had received millions in funding to try to “disrupt” juice, only to be shown up by a human (Griswold, 2017).

The day after the Bloomberg article was published, Juicero CEO Jeff Dunn wrote a long and apologetic explanation post on the longform social sharing site Medium in which he offered a full refund to any customer who requested one—irrespective of that customer’s date of purchase. Alongside his corporate crisis management and customer engagement, he subtly reframed Juicero from a company focused on health and wellness via consumption of fruits and vegetables to a company focused on health and wellness via a supply chain that supports food safety (for example, by automatically alerting the customer to produce recalls).

We can follow the perception, formulation, execution model of SOFT to understand why and how this frame shifting took place. We begin with the threshold argument underpinning systems of framing: In the modern economy, framing threats can arise as a form of nonmarket strategy and, because of the ubiquity of online social media networks, those threats can disseminate quickly across a network. In the case, although the initial story came from a news report, ordinary people—disconnected from the organization—spread the story across their online social networks because they believed that it typified a Silicon Valley mindset that was out-of-touch with their lives. For the people that shared and commented on the articles, a \$400 juicer was already inherently

ridiculous because they could buy juice from a store and put it in a cup. The fact that the device was entirely unnecessary to obtain the juice raised the issue to level at which they wanted it to be known how they felt about the issue, even though they weren't personally-aggrieved customers or financially-interested stakeholders (e.g., Bach & Blake, 2016). Is it precisely because of these online mobs of opinionated non-customers that organizations should monitor digital data streams of their operating environment.

Threat Perception

The perception level of a system of framing is designed to help organizations anticipate and prepare for framing threats that may arise in the future. While Juicero likely has some degree of monitoring capabilities to help it assess how risky its positions are (particularly because it admits that it knew that the mechanical juicer was not required to extract the juice from the packages, because this emerged out of a breaking news story, it is not likely that the organization was able to engage in proactive frame alignment prior to its release. Thus, for the purposes of our illustration of SOFT, we can assume that Juicero held a reactive stance, rather than a proactive one.

Although we have established that the firm was reacting to a framing threat, it is important to identify how Juicero's strategic framing changed in Dunn's open letter so that we can understand precisely what kinds of framing threats Juicero was facing. We begin by identifying the organization's original and new frame, with an eye toward the understanding master frames that function above them.

The social movements framing literature describes frames as hierarchically nested within one another. Master frames, the outermost layer in this hierarchy, are those frames that subsume the granular, more specific frames underneath them. As a result, congruent

master frames can serve to unite social movements with one another but, standing alone, they lack attributional power and mobilizing potency (Benford & Snow, 2000; Snow & Benford, 1992). For example, “justice” or “civil rights” could be a master frame in that it has the potential to unite activist groups, but it lacks specific attributional power and, as a result, struggles to inspire mobilization. In this case, we identify global public health as Juicero’s master frame. Dunn, in an interview taken last year, stated that his life goal was to improve human health after watching his parents suffer through illnesses. Like the master frames “justice” or “civil rights,” Dunn’s goals lacked attribution and motivational power and required lower level frames (what are known as frames of contention in the social movements context). For Juicero, this began as a call for more consumption of fruits and vegetables. Specifically, the founder of the company noted that fewer than 20% of adults are meeting the US Health Department’s recommended daily amount of fruits and vegetables and that his product helps to solve that problem (Kastrenakes, 2017). A summary of Juicero’s frames are presented in Table 6.

Table 6. Illustrative Juicero Frames

	Frame Summary	Source
Master Frame: <i>“Human Health”</i>	Have the greatest impact on human health, the planet, and the environment.	Founder’s interview with Recode and The Verge
Initial Frame: <i>“Healthy Consumption”</i>	Help people consume the fresh foods that will manifest true health.	Juicero mission statement
New Frame: <i>“Technocratic Health”</i>	Closed-loop food safety system; consistent flavor for taste and nutrition; data-driven supply chain.	Juicero CEO letter, Apr. 20 2017

Bloomberg’s reporting on the juice press presents a threat to the consumption-centered framing of the company; the “worthless” nature of the \$400 press prevents

consistency problems with the founder's vision of the company, as articulated in its mission statement. At worst, the Bloomberg report demonstrates a misalignment between the interpretative orientations of the company and the stakeholders. Social movements theory suggests that frame alignment is a necessary condition for movement participation (Snow et al., 1986, p. 464), and the reaction to Bloomberg's reporting suggests that such alignment is similarly essential to corporate survival as well. Even if the report does not suggest misalignment, it likely causes a chilling effect for enthusiasm and believability, decreasing frame resonance and, ultimately, the effectiveness of the strategic framing endeavor.

Strategic Response and Execution

Because the information released in the Bloomberg article threatened the viability of the healthy consumption frame, Dunn's letter to American consumers took an alternative path: Instead of focusing on the health benefits of fruit and vegetable consumption, Dunn presented a technocratic vision of consumer health and safety. Specifically, in his letter,¹⁰ he told potential customers that the closed-loop nature of the juice pouches allowed the firm to respond immediately to recall announcements and automatically and remotely disable recalled pouches so that customers would not be able to use them. Similarly, Dunn argues in the letter that the data harvested by the juice press is used to optimize the firm's supply chain, which is particularly important given the short-term shelf-life of its products. Ultimately, while the organizational frame deployed in the Dunn letter does ultimately fit under the general "human health and wellness"

¹⁰ Note that while the letter does mention the consumption-based mission of the firm, the focus of the letter (and the only arguments in it that are highlighted by being placed into a numbered list) builds an argument very distinct from the prior consumption claims made in the mission statement.

master frame used by Juicero's founder, the path is now significantly more complicated than consumption of fruits and vegetables.

SOFT suggests that there is a relationship between the organization's monitoring abilities, its ability to plan a response that is both swift and consistent with the organization's goals, and its ability to execute that response effectively. In this case, the organization recognized that the framing threat was severe and immediately put the CEO on damage control. But of course, chief executives do not have the time to handle all the potential framing threats that an organization may face, particularly when those organizations are larger and less hierarchical than a relatively small (albeit well-funded) startup. As a result, the governance processes that form the foundation for the organizational response strategy are an essential part of a system of framing. An organization's social media managers must be given enough autonomy to respond authentically and quickly when appropriate but also have a plan to mobilize top executives should a severe threat arise.

Finally, it is important to recognize that while Dunn chose to subtly reframe the product by highlighting alternative links to the health and wellness master frame, this reframing was a strategic choice. Dunn could have doubled down on individual consumption, amplifying the extant framing from the organization's mission statement. He could have abandoned the individual customer and focused on his upscale corporate clients who were much less upset about the Bloomberg report than his individual retail clients. Or he could have focused on a new set of clients altogether—for example, instead of juice enthusiasts, he could target farmers that grow their own fruits and vegetables. No matter what type of frame alignment strategy Dunn chooses as his response to the

framing threat, he needs to be aware of the organization’s macro-level strategies as well as the trends uncovered by the digital data streams that monitor the various market and non-market stakeholder groups in the external operating environment. Dunn’s choice to maintain his original target group, but slightly expand the values and beliefs is illustrated in Figure 4.

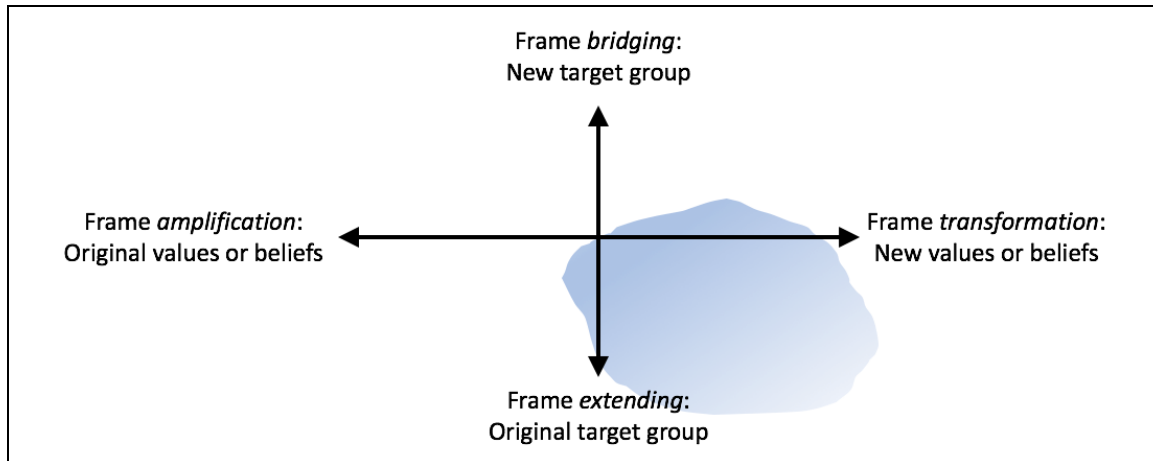


Figure 4: Juicero Frame Alignment Strategy

The frame alignment strategy map helps visualize who the organization is targeting with a particular framing strategy. But in addition to answering the “who” question, Dunn and his team would have had to make a number of additional decisions before finalizing their strategy: Why is Medium the best platform for publication? Should they do any A/B testing to validate the effectiveness of their strategy? How does the organization’s knowledge (or lack thereof) of stakeholder attitudes in the external operating environment affect the choice? SOFT gives us a grammar to help predict and explain organizational framing decisions. As organizations—particularly corporations and other commercial entities—become more and more “asset light,” their ability to sense, plan for, and respond to framing threats in their external environments will become more essential over time.

TWO PROPOSITIONS FOR FUTURE IS RESEARCH

Organizations that can align their customers' interests, values, and beliefs with their own in a believable and compelling way can build resonance with their customers (Snow et al., 1986). For an SMO, current frame alignment strategies involve two sets of choices. First, the leader of an SMO can decide either to look inward at current adherents or outward to other groups to determine whether to focus on the existing group of adherents or to build bridges to new groups. Second, he or she can decide whether to amplify existing values or beliefs or shift toward new attitudes or beliefs. The embattled fields over which these framing wars are fought, however, do not stay still for long. Within the discursive field, stakeholders such as competitors may be vying to disassociate their rivals' positive frame devices and replace them with negative ones (e.g., Kaplan, 2008).

A frame bridging strategy that targets a new, structurally disconnected group of potential adherents is an efficient way to mobilize, particularly with respect to building the size of the mobilized population. Successful frame bridging requires contacting members of an ideologically-congruent but structurally-unconnected group and crafting a resonant message to send to members of that group. Because these strategies rely on targeting individuals that are ideologically predisposed to the organization's message (or, in the case of extending frames, are being provided with new, additive justifications for alignment), the framing tasks of such alignment strategies are primarily handled by the system.

With respect to bridging, the work of the alignment process is primarily concerned with acquiring an electronic list of names and contact information and then

distributing messages to those people to encourage them to form formal structural connections with the organization (Snow et al., 1986). Because the underlying assumption behind the process is that these target groups are already somewhat ideologically predisposed to the organization's message, the organization is not required to carefully and strategically plan a new ideological strategy. Avoiding the strategic work of shaping values and beliefs allows these organizations to focus on the tactical work of reproducing and transmitting digital messages to potential adherents, natural strengths of digital communication channels (see e.g., Jetha, Berente, and King, 2017). As a result, there may be tactical benefits to leveraging the automation capabilities of systems of framing in a bridging process.

Proposition 1-A: Frame bridging strategies rely on an organization's tactical abilities and leverage the reproducibility and transmission cost strengths of digital information systems.

Unlike bridging to a new target group, values and beliefs-based framing is designed to either amplify existing values and beliefs or transform an organization's framing strategy in support of new values and beliefs. Because an individual's values and beliefs can be persistent and deeply-rooted in an individual's identity, they can be difficult to change via an organizational system of framing and such a strategy may be less effective than one based on identifying a new target group. As a result, target group strategies such as bridging may be significantly more efficient than any other frame alignment strategy.

The extent to which these efficiency benefits manifest themselves, however, depends on the nature of the values and beliefs framing strategy. Frame transformation strategies require the removal or mitigation of an existing frame and the selection and diffusion of a new frame. Thus, a transformation strategy requires significant strategic

work (e.g., selecting a new frame that would be persuasive to the organization's adherents) in addition to the tactical work of deploying and diffusing that frame effectively. Because the strategic work of frame selection is relatively difficult to automate and the deployment of that frame brings new opportunities for popular resistance, a frame transformation strategy cannot easily leverage the benefits of digital communication.

Proposition 1-B: Frame transformation strategies rely on an organization's strategic planning abilities and, as a result, it is more difficult to leverage digital information systems to execute them.

Frame transformation, however, is not the only way for an organization to engage in a values and beliefs-based framing strategy. Specifically, frame amplification strategies involve idealizing, embellishing, clarifying, or invigorating a frame to build resonance among adherent populations. Unlike frame transformation, which requires the construction and diffusion of an entirely new frame, frame amplification strategies rely on strengthening the connection between an individual and the organization as it revolves around a frame. Although the organization must make strategic decisions as to *how* to strengthen that connection, the strengthening process can rely on tactical tools such as repetition and multi-channel communications. Because the organization does not need to develop a *new* frame, it is possible to use digital information systems to execute the frame alignment work via messaging channels.

Proposition 1-C: Compared to frame transformation, frame amplification strategies can be performed more efficiently using digital information systems.

While tactical strategies such as frame bridging or frame amplification via invigoration can be effective (e.g., Walgrave, Bennett, Van Laer, & Breunig, 2011) they may be a double-edged sword for SMOs. Operationally, bridging signals an intent to

quickly expand a movement's numbers and putting mobilization first, rather than engaging the slower and more arduous tasks of organizing. Particularly in the social movements context, this strategy may not be effective at building a structure that is sufficiently powerful to achieve its goals (McAlevey, 2016). This view holds that for mobilization to be successful at all, it must be broad enough that it represents a significant and unmistakable showing of power and that the movement's demands will not be successful if it fails to clearly demonstrate that they are not sincerely held by the community. This type of sincerity is difficult to evoke via bridging, generally, and even more so using digital tools.

Relatedly, bridging strategies create a risk that individuals may join the movement not for ideological reasons but rather because low-cost, low-impact participation makes them feel good about themselves or fulfills impression management objectives (Kristofferson, White, & Peloza, 2014). Digital bridges (and the new repertoires of action that rely on them) have decreased the costs of participation while also increasing the breadth of tools that SMOs have to try to meet their goals (Selander & Jarvenpaa, 2016). Traditionally, these action repertoires included public meetings, street demonstrations, or petitions and letter-writing drives (Tilly, 2008) but the emergence of digital tools has broadened the portfolio of repertoires available to activists and decreased the direct costs of participation in those repertoires (Earl & Kimport, 2011; Rolfe, 2005; Selander & Jarvenpaa, 2016). This type of low-cost, low-impact activist involvement is often referred to as "slacktivism," a term that carries connotations of laziness and selfishness (McCafferty, 2011; Morozov, 2009).

While future research into systems of framing in the broader organizational context is necessary to understand the extent to which corporations and other types of organizations are affected by slacktivist tendencies in their framing efforts, the efficiency of using digital tools to achieve a bridging strategy illustrates the tension of slacktivism in the commercial context. Particularly for commercial organizations subject to reporting regulations such as corporations, decision-makers may face significant personal and institutional incentives to make short term-focused decisions, even when those decisions may not be the most optimal for the long-term health of the organization.

Systems of framing help organizations execute a frame alignment strategy that relies upon their technical expertise and the effectiveness of their persuasive messaging. But evidence from the study of online social movements suggests that digital technologies create new tensions between efficiency and effectiveness in this context: The digital tactics that support the organization's framing strategies vary substantially based on the type of frame alignment strategy it pursues. Given the tradeoffs and opportunity costs intrinsic in these tactics, organizations must be careful not to rely too heavily on one strategy or another. Formally stated,

Proposition 1-D: Over time, organizations that use a diversity of frame alignment strategies will be more successful in defending themselves against frame threats than those that do not.

Extant literature in organizational information processing presumes relatively hard information—facts or transactions as well as explicit communications germane to the organization's stream of commerce. According to the theory, the “critical limiting factor” in an organization is its ability to handle “critical, nonroutine events that cannot be anticipated or otherwise planned for in advance” (Galbraith, 1974, p. 30). The

information processing tasks associated with identifying and responding to these events can be handled by systems of record and systems of engagement. Because the relevant data are limited in scope to the organization's stream of commerce, the data context for these systems is highly predictable and, thus, efficiency tools such as automation or scripting may be used.

If the relevant information to support systems of records and engagement can be described as bounded by the organization's commercial interactions, the relevant information to support systems of framing should be described as all other information. The information processing requirements that underlie systems of framing are fundamentally different because they require surveillance of the "open" environment, including competitors, consumers, NGOs, and activist to detect changes in stakeholders' interpretative orientations relative to that organization. Thus, a robust system of framing may be responsible for harvesting information from digital data streams of social media networks, news media, product review aggregators, and other contextually-appropriate sources of information to identify framing threats or opportunities for organizational intervention (Pigni et al., 2016).

Harvesting and analyzing this deluge of data is neither quick nor easy. Business intelligence models of real-time data analysis identify three stages of latency in organizational response times (Hackathorn, 2004). First, capture latency measures the time that passes between the occurrence of an event and the point at which its data is available for processing. Second, analysis latency measures the time required to conduct the processing of that data, converting it into usable information to support organizational decision making. While these first two stages are largely technical in nature, the third

stage is human. That stage, decision latency, measures the time that it takes a decision maker to understand the information situation, decide on and frame a course of action, and initiate it. In the aggregate, we refer to these stages as an organization's framing latency.

Because systems of framing identify critical and nonroutine events from digital data streams at fixed rates, depending on the sophistication of the technology used to harvest information from the digital data stream and the data analysis methodologies employed, the primary lever available to organizations wishing to improve the action time of systems of framing is the decision latency period—the time taken for the decision maker to process the information and decide on a course of action. Thus, for a system of framing to respond to an event, the organizational structure must empower and support a decision maker with the authority to respond to framing threats or opportunities as quickly as possible. Because of the breadth of the open environment and the internal stakeholders that ought to be consulted prior to executing a framing plan, it may not be possible to automate these responses.

The shrinking timelines for organizational crisis communications in the digital age illustrates the importance of action time for nonmarket strategy. The 24-hour news cycle of televised news has condensed significantly since the rise of online news; newsworthy events are now picked up and reported on the Internet within minutes (Rosenberg & Feldman, 2008). And the organization's initial responses are the first of many significant response periods. For example, it takes approximately 2.5 hours for information to move from initial news reports to social media sites such as news blogs (Leskovec, Backstrom, & Kleinberg, 2009). Thus, if an organization wishes to publicly

respond to a framing threat, it must identify a particular opportunity or threat for strategic framing, develop a response strategy, and then publish that response online within the 2.5-hour latency period to have a chance of having that response appear in the blog reports of that story by the time interest in that story might have peaked.

Because framing threats can arise at any time, the organization may not be sufficiently staffed in such a way that approval for a strategic framing response can be sought from the necessary stakeholders (e.g., CEO, General Counsel, CIO). In these cases, organizational governance structures that allow wide degrees of decision-making authority to the first responders of framing threats can be vital to a timely response. Although failing to acquire approval from organizational stakeholders, the benefit of a timely response may, depending on the context of the threat, outweigh the precision associated with a finely-crafted response. Organizations must determine for themselves which types of framing threats are so severe that they require this kind of response. Thus, we propose:

Proposition 2: Systems of framing are most effective under organizational governance schemes that prescribe differential levels of decision making authority given contextual cues, such as the severity of the framing threat and response urgency.

CONCLUSION

“In both law and politics, I think the essential battle is the meta-battle of framing the narrative.” – Senator Ted Cruz

The picture we paint in this paper represents a very real scenario for the digital organization. As organizations outsource those components that do not contribute to their competitive advantage, their expressive communications and, thus, the framing of their organizational identity is essential to their success. Unpredictable non-market events such

as the release of a viral video or blog post can create framing threats that require precise strategic responses. Systems of framing are used to help organizations monitor digital data streams to identify potential threats as they form, develop processes to resolve those threats, and determine the best way to execute those processes in the face of environmental conditions.

In this paper, we make the case that enterprise systems of framing are a legitimate category of enterprise information systems. Systems of framing focus on shaping the conversation and affecting the underlying interpretative orientation of the broader public, rather than engaging with existing customers in service delivery. As sociotechnical systems, enterprise systems of framing may contain the same computing technologies as systems of record and systems of engagement, but the processes that underlie the operation of these systems differs dramatically.

This paper motivates the need a theory around organizational systems of framing by drawing on concepts from the social movements literature. It builds a formal process model that describes an elastic sociotechnical system that uses human and algorithmic assets to engage detection, formulation, and execution procedures. It then presents a brief case study in which an organization's value proposition is found to be misaligned with the way that it frames itself and then reframes itself in an attempt to establish a new value proposition. Finally, it concludes with two propositions that motivate future research in temporal efficiency for framing strategy.

Although this tension between fast and slow action manifests itself in much of digital life, it is brought to the forefront here. The first proposition suggests that digital tools enable highly efficient frame alignment strategies but that their efficiency may not

result in the most effective outcome, particularly given managerial incentives toward short-termism. The second proposition suggests that organizations should be cognizant of the value of a rapid response to a public framing threat due to the shrinking news cycle. While the rush to execute a “hot take” response may miss important strategic, legal, or technical concerns, each organization should be aware of the opportunity costs and explicitly allocate decision making authority based on that risk assessment. In addition to their practical applications for brand management and social media management in organizations, these two propositions illustrate the extent to which the presence of digital technologies in organizations implicate well-established theories in organizational behavior and strategy such as stakeholder theory, agency theory, and even transaction cost economics.

We introduced this section with a quote from Senator and former Presidential Candidate Ted Cruz to emphasize that today digital framing is the essential “meta-battle” that underlies much of commerce, politics, and law. The social movements literature is ripe with examples of this power (see e.g. Lakoff, 2004). Framing an issue in a certain way dictates what interests and information are relevant—and what are irrelevant. Believable and credible frames resonate with stakeholders, increasing their commitment levels to the organization. While this power has been well-studied in the context of social movements (Benford & Snow, 2000) and management (Cornelissen & Werner, 2014), the information systems-based approach for understanding and winning this meta-battle will be a valuable source for organizational action and future IS research.

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CHAPTER 3

DIGITAL DIFFERENTIAL COMMUNICATION USING SOCIAL MEDIA NETWORKS

“...Let’s not discuss politics.” -Miss Manners¹¹

Political discussions can be dangerous. Not only does one risk alienating one’s dinner guests, but many seemingly-innocuous terms intrinsic to such discussions are imbued with secondary meanings and associated value judgements. Ignorance of these code words can transform a discussant to a dunce. For example, the term “states’ rights” can refer to those political powers reserved to the states under the Tenth Amendment to the United States Constitution—or the right of Southern states to maintain Jim Crow laws and racial segregation (López 2014, p. 16). In political discourse, these dual meanings exemplify *dog whistle politics*, the use of phrases that have distinct meanings to different audiences (Cook 2016).

Politicians use dog whistles when they wish to convey ideas that risk alienating segments of the public. These are most frequently used in the context of racialized comments (e.g. López 2014) but can include other contentious or controversial political discourse, such as the context of political religious evangelism (e.g. Albertson 2015). In addition to the political communications context, this type of dual framing has been studied in advertising (Oakenfull et al. 2008), sociology (Padgett and Ansell 1993), and

¹¹ San Jose Mercury News, June 25th, 2017.

management and communications (e.g., Contractor and Ehrlich 1993; Eisenberg 1984; Jarzabkowski et al. 2015).

But as organizations shift their persuasive communications investments to online forums, it becomes important to understand how the new sociotechnical communications landscape enables and constrains differential framing strategies. On one hand, online political and marketing campaigns now have access to micro-targeting tools, which theoretically allow them to send personalized persuasive messages to specific targets avoiding the need to broadcast a potentially alienating message. On the other hand, such targeting strategies can be risky and expensive. Alternatively, though, the scope of social media networks increases the potential reach of a dog whistle-style message and the new communications features included in those networks allow new ways for organizations to encode messages to specific subsets of their followers. In this way, a successful online digital differential message can capture the scale and efficiency benefits of networked communication with the potential persuasive effectiveness of micro-targeting. Extant research, however, has not yet investigated the extent to which the use of digital communication as a transmission medium affects the processes through which a dog whistle message is created, sent, or received.

Our line of inquiry answers Wattal et al.'s (2010) call to information systems scholars to pursue a deeper understanding of the role of Internet communications technologies in the areas of politics, campaigning, and persuasion. Specifically, this paper is motivated by the following research question: How do digital technologies contribute to a differential framing strategy of persuasion? To answer this question, we conduct an exploratory case study that investigates differential communication, such as

dog whistling, online, where a differentially-framed message is the unit of analysis. Our findings, which we present in the form of propositions, show that both the design features of social media networks as well as the social norms that emerge around the practice of communication within those networks affect an entity's ability to engage in differential communication. The paper concludes with a theory of digital differential communication.

LITERATURE REVIEW

Differential framing is a type of targeted communication in which the targeting mechanism is the receiver's subjective interpretation of the message rather than its delivery channel. This type of targeting often takes the form of a coded reference in the message that is only understood by a subset of the total receiver population. We call differential framing a form of "macro-targeting," in contrast with contemporary micro-targeting strategies. Micro-targeting (depicted in Figure 5) is an extension of the traditional model of communication whereby a sender uses a channel to send an individualized message to a particular receiver (Dennis et al. 2008). While micro-targeted advertising is often perceived as somewhat of a panacea for persuasive messaging toward voters and consumers (e.g., Bimber 2014), traditional problems of communication still apply. For example, the process of micro-targeting requires the messaging organization to identify a pool of message recipients, understand each recipient's preferences on a granular level, and construct and deliver an individualized message to each recipient (Delany 2012). The information gathering and segmentation process can be quite costly at scale and the message delivery processes are operationally complex (e.g., Burton and Shea 2010; Frankel and Hillygus 2014).

While the message recipients of a micro-targeted communication will engage in subjective interpretative processes upon receiving the organization’s message, that model of communication presumes that such interpretation is a bug rather than a feature; this type of communication presumes that an individualized message delivered to a recipient and interpreted in one way (we describe messages that are crafted to be interpreted in one way as “unifocal” messages). For example, media richness theory (Daft et al. 1987) and media synchronicity theory (Dennis et al. 2008) both presume that a message sender would prefer a “rich” and descriptive communication medium in order to clearly convey its message unequivocally to any recipients. While maintaining message clarity may be highly valued for unifocal messages, clarity may be less valuable for differential messages—those with multiple potential framings that employ tools such as strategic ambiguity or coded references to engage in the differentiation process. This difference between unifocal and differential communication is illustrated by the arrows of interpretation emerging from the message in Figure 5 and from the individual in Figure 6.

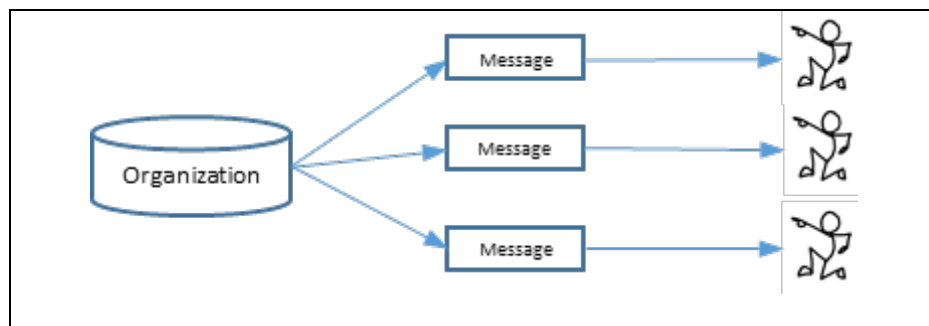


Figure 5. Illustration of Micro-Targeted Unifocal Communication

A message that uses differential framing methods, unlike a micro-targeted unifocal message, relies on the subjective interpretations of the receiver for “targeting” and requires a shared set of information symbols (such as a reference text, for example) so that each receiver interprets the message as it was intended for them to interpret. This

process includes both the strategic forming of the message from the sending organization and the subjective decoding processes described by post-structuralism and semiotics literature (e.g., Eco 1984; Wetherell 1998).

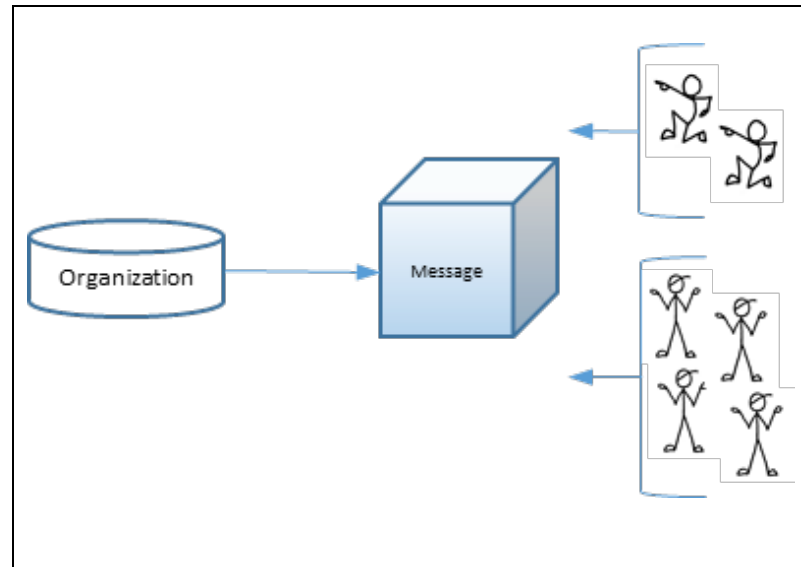


Figure 6. Illustration of Differential Communication

Scholars conduct research on differential framing under at least three different labels. Perhaps most prominent of these, political scientists use the term “dog whistle politics” to describe a “single piece of communication that has at least two distinct meanings, delivered by a speaker with the intent that only a subset of the audience will hear the second meaning” (Cook 2016, p. 10). In the field, the term is most often used to describe the way that political candidates make racial appeals to their constituents without using explicitly racist language (e.g., López 2014). Second, marketing scholars refer to differential advertising strategies using the term “polysemy,”¹² referring to “multiple meanings across an audience in response to the same message” (Puntoni et al. 2011, p. 26). The archetypical use of advertising polysemy in the literature refers to “gay

¹² Polysemy is originally a linguistics term that describes the multiple literal meanings of a certain word (Nerlich and Clarke 2003). In the advertising context, however, its definition is more specific.

window advertising,” or advertising messages that target the homosexual consumer but appear unremarkable to straight consumers (Borgerson et al. 2006). Third, organizational communications scholarship addresses “strategic ambiguity” in the context of potential stakeholder conflict (Eisenberg 1984). Strategically ambiguous communication can be used to minimize tension among organizational stakeholders because each can interpret the communication according to their preferences, decreasing the risk that conflict delays a particular project outcome (Contractor and Ehrlich 1993; Dickinson-Delaporte et al. 2010).

Table 7. Reference Literatures

Field	Term	Illustrative Archetypical Use
Political Science	<i>dog whistle</i>	Racial appeals using coded language (López 2014)
Marketing	<i>advertising polysemy</i>	Subtly targeting GLBT consumers (Puntoni et al. 2011)
Organizational Communications	<i>strategic ambiguity</i>	Organizational stakeholder management (Dickinson-Delaporte et al. 2010)

In addition to the three main sources of reference theory, this style of communications strategy has also been studied by organizational sociologists as “multivocal messaging” in a study of the Medici family in Italy (Padgett and Ansell 1993) and by social movements scholars as “polyvalent performances” to describe a repertoire of collective action that is interpreted differently by different audiences (Tilly 2003). We use the term “differential” here to avoid the political implications of “dog whistle” and the linguistics baggage of “polysemy” while specifying that the message is intended to have multiple, pre-defined meanings (rather than a general sense of strategic

ambiguity). Thus, the word *differential* in this context modifies the *target* of the message rather than its process or channel.

Dog Whistle Messaging

Commonly used to describe racial euphemism in political campaign speech, a “dog whistle” message contains coded language that operates simultaneously at two different frequencies:¹³ “inaudible and easily denied in one range, yet stimulating strong reactions in another” (López 2014, p. 20). Dog whistle communicators espouse positions that are unpopular or alienating to one segment of message recipients (typically the general public) but popular to another (the message in-group), without engaging in segmentation and targeting. As a political strategy, this type of message is best illustrated by the political strategist Lee Atwater who famously described how campaigns could use rhetorical abstractions of their positions to strategically to communicate racialized issues to voters:

You start out in 1954 by saying, "Nigger, nigger, nigger." By 1968 you can't say "nigger"—that hurts you. Backfires. So you say stuff like forced busing, states' rights and all that stuff. You're getting so abstract now [that] you're talking about cutting taxes, and all these things you're talking about are totally economic things and a byproduct of them is [that] blacks get hurt worse than whites. And subconsciously maybe that is part of it. I'm not saying that. But I'm saying that if it is getting that abstract, and that coded, that we are doing away with the racial problem one way or the other. You follow me—because obviously sitting around saying, "We want to cut this," is much more abstract than even the busing thing, and a hell of a lot more abstract than "Nigger, nigger." (Lamis 1999, p. 8)

When deciding whether or not to target a message toward a particular group during a campaign, political candidates consider the extent to which that group is *accessible* via communications channels, whether it is *persuadable* when targeted, and

¹³ The term “dog whistle” refers to the fact that, like a high-pitched dog whistle that can be heard by dogs but is not audible to humans, these messages can be broadly disseminated but only received by their intended targets.

whether reputational risks may arise as a result of targeting that group (Nteta and Schaffner 2013). Dog whistle messages are used when the campaign identifies a target population that is accessible and persuadable but when the act of targeting that group explicitly is likely to create reputational risks for the campaign. Specifically, these reputational risks derive from the degree of difference between the targeted group's ideology and the remainder of the sender's stakeholder population, whose support will likely be needed for electoral success.

While the term “dog whistle” implies that the coded language of a dog whistle message is “inaudible” to members outside of a specific segment, the literature demonstrates some flexibility in operational definitions. For example, Albertson (2006) distinguishes between dog whistle messages that are coded to create plausible deniability and those which are coded to create a truly “inaudible” message. In the case of racial dog whistle messages, the construction of plausible deniability is necessary to avoid violating social norms of equality (Mendelberg 2001). For these dog whistle messages, the coded language prompts the receiver to interject his or her pre-existing racial beliefs, a frame for interpreting the social environment, into the message (Khoo 2017). In situations that do not implicate such social norms (such as references to Evangelical Christianity in political speeches, for example), the references may not require deniability—they are simply coded to avoid potentially alienating a constituent who was not a believer in that religion (Albertson 2006). In these cases, the code words may create definitional ambiguity or leverage linguistic multidimensionality (Khoo 2017). Thus, as a matter of practice, dog whistle messages can vary substantially based on the type of social division used to create the message (See e.g. López 2014 for a list of social divisions used in the

construction of dog whistle messages). Table 8 contains a summary of the essential contributions to digital differential framing theory from the three reference disciplines under review.

Table 8. Contributions to Digital Differential Framing Theory from Three Literatures

Domain	Contributions
Dog Whistle Politics	• Differential communication can be used to resolve cross-pressure on a message-sending organization • Deniability can be used as a strategic tool to deflect criticism and may make institutionally-embedded stakeholders hesitant to make accusations. • Better way to get “elected than reelected” (e.g., if you send divergent messages to get elected, eventually you must take a stand and act). This encourages bad governance.
Advertising Polysemy	• Requires the <i>absence</i> of any <i>explicit</i> signals to (for example) GLBT culture and the <i>presence</i> of <i>ambiguous</i> symbols that members and allies of that community will interpret as intended. • When differential communicators use coded language to target stakeholder groups (identity appeals), they are generally pleased to have been targeted. • Differential communications must be received in a social context that facilitates individual receivers making their own subjective judgments about the meaning of the communication
Strategic Ambiguity	• Differential communication can be used as a persuasive technique to gain power in support of a decision that has not yet been made or a conflict resolution mechanism after a decision has been made. • Differential communication can be used to mitigate alienation by an out-group or to increase commitment from an in-group (such as by referring to the group). • Differential communication can be subtractive (such as when not enough information is provided to reach <i>any</i> conclusion) or additive (when too much information is provided about a person’s taste or style).

Purposeful Polysemy

Firms that engage in online advertising consider customer micro-targeting to be their “holy grail” because it has the possibility to significantly decrease their advertising revenues (Chen and Stallaert 2014). Generally, this type of advertising strategy works by creating profiles for Internet users based on trace and social data and subsequently

sending them specific advertising messages that closely match their interests based on an analysis of their user profile (Bleier and Eisenbeiss 2015; Trusov et al. 2016). But despite the effectiveness of this type of messaging for many advertising purposes, many organizations are not able to utilize micro-targeting due to financial costs and other social and technical factors that constrain the use of this type of messaging.

While organizations can, theoretically, pursue a targeting strategy without relying on social media platforms, the costs of acquiring and merging the requisite datasets can be overwhelming (Hersh 2015). And pursuing a targeting strategy using a platform that is not well-suited to support it can be challenging (e.g., Burton and Shea 2010; Frankel and Hillygus 2014). For example, because Facebook's feature set encourages its users to share significant amounts of personal information, the platform's advertising tools make individualized targeting more efficient than platforms like Twitter, which lack those features (Kreiss and Welch 2015).

Additionally, although research suggests that well-executed micro-targeting strategies can be successful, they can also create new strategic risks for the organization. For example, receiving a micro-targeted communication may feel like a violation of privacy and an accidental micro-targeting can derail the entire marketing campaign (Hersh and Schaffner 2013; Nteta and Schaffner 2013). Furthermore, the creation of individualized persuasive messages to be sent to each persuadable target may undermine the organization's ability to create a unified, common belief among its stakeholders (Mathiesen and Fallis 2017). Finally, micro-targeting, generally, fails to capitalize on the scale benefits of the Internet: Instead of sending a single message that can be shared virally by users across a social network, micro-targeting requires the message sending

organization to produce a list of receivers and then construct and send messages for each of them.

While digital tools may reduce the cost of targeting relative to “offline” advertising and allow advertisers to more accurately compute their returns on advertising investments (Goldfarb 2014), some advertisers are avoiding the risks and expenses of micro-targeting to engage in a kind of macro-targeting: advertising polysemy (Puntoni et al. 2010, 2011). In the advertising context, polysemy is defined as the existence of “multiple meanings across an audience in response to the same message” (Puntoni et al. 2011, p. 26). In some cases, *unintended* polysemy in a piece of advertising can have dramatic consequences. For example, when an Australian advertisement for Kentucky Fried Chicken featuring West Indian cricket fans was played in the United States, it was perceived without the sporting and cultural references on which it was dependent and, as a result, it was perceived as a racist depiction of people of color (Puntoni et al. 2010). *Purposeful* polysemy, on the other hand, can be a powerful tool to target subsamples of a market without requiring sophisticated micro-targeting capabilities.

Purposeful polysemy is perhaps most common in advertising to gay and lesbian consumers without using explicit references or stereotypes. For example, in the early 1990s—at a time when homosexuality was not well accepted in American society—the automaker Subaru targeted lesbian car purchasers using playfully coded messages that simultaneously meant different things to different subgroups of purchasers (Albertson 2015). One campaign showed Subaru cars that had license plates that said “Xena LVR” (a reference to *Xena: Warrior Princess*, a TV show whose female protagonists seemed to be lovers) or “P-TOWN” (a moniker for Provincetown, Massachusetts, a popular LGBT

vacation spot). Many ads had taglines with double meanings. “Get Out. And Stay Out.” could refer to exploring the outdoors in a Subaru—or coming out as gay. “It’s Not a Choice. It’s the Way We’re Built.” could refer to Subarus with all-wheel drive—or LGBT identity (Mayyasi 2016). The campaign was successful because of the way it used a single message to target those predisposed to respond favorably to the message while not alienating those who might be ideologically opposed to its existence.



Figure 7. Example Subaru Advertisement, Source: NPR

The strategy is designed to covertly appeal to gay and lesbian consumers without alienating (or even alerting) a potentially-homophobic general audience (Borgerson et al. 2006; Oakenfull et al. 2008). Subaru’s polysemic advertisements used a variety of tools to convey its appeal to lesbians: the women portrayed in the advertisement, the license plates on the cars, and the ambiguously-interpretable text of the advertisement itself (Mayyasi 2016). In addition to mitigating the risks of alienating a non-target group,

advertising polysemy strategies can be particularly effective for its target group—evidence suggests that audiences enjoy decoding the messages and feeling as though they are spoken to directly, as part of an in-group (King 2016; Mayyasi 2016). This type of advertising practice illustrates two criteria required for the effective use of advertising polysemy: (1) the absence of explicit heterosexual cues, and (2) the presence of ambiguous cues that could be construed as depicting a gay relationship or gay culture (Puntoni et al. 2011, p. 27). The underlying strategy suggests that the absence of explicit cues will prevent the alienation of potentially-unfriendly out-group audiences while the inclusion of ambiguous cues will be interpreted by the in-group and ignored by the potentially-unfriendly out-group audience.

Strategic Ambiguity

While the use of differential communication in advertising and political campaigns involves an ex ante message sent to induce some or all receivers to act (for example, by supporting a political candidate or by purchasing an advertised product), organizational communications scholarship in the area of strategically ambiguous communication shows us that a differential message can also be beneficial after an action is taken. Ambiguous communication is that which “supports several different interpretations at the same time” (Weick, 1995, pp. 91-92). Unlike a dog whistle or polysemic message, though, which emphasizes the *addition* of coded language to send a message to a subgroup of receivers, strategically ambiguous messages emphasize the *removal* of language to increase the equivocality of the message, allowing each receiver to subjectively “fill in” the gaps of meaning with the details that they find most acceptable (Eisenberg 1984).

As a practical matter, this type of communication often introduces ambiguity by removing concrete language from a message and replacing it with a symbolic platitude whose equivocal expression “allows for multiple interpretations while at the same time promoting a sense of unity” (Eisenberg 1984, p. 233). Because these rhetorical heuristics evolve over time, strategically ambiguous communication in an organization can resemble the coded language of a dog whistle or purposefully polysemic message. The coded language in such a message is not a dog whistle, though; instead, the jargon and in-jokes that are in strategically ambiguous messaging are used as a substitute for concreteness in the message (Eisenberg 1984).

This type of communication strategy is useful for many kinds of organizations (e.g., Contractor and Ehrlich 1993; Leitch and Davenport 2002; Scandellius and Cohen 2016) because of the way it creates a *unified diversity* among conflicting organizational stakeholders (Denis et al. 2011; Eisenberg 1984). A state of unified diversity allows an organization’s stakeholders to maintain multiple viewpoints (increasing the organization’s creativity, flexibility, and adaptability to change) without the risks associated with introducing dissensus and conflict into the organizational decision-making process (Contractor and Ehrlich 1993; Eisenberg 1984). Like polysemy or dog whistle messaging, this type of message is useful in situations in which an organization requires multiple, divergent networks of stakeholders to work together despite potential disagreements with one another.

Dickinson-Delaporte, Beverland, and Lindgreen (2010) illustrate the utility of strategic ambiguity for a Trappist brewery facing tensions among their stakeholders within their religious community, the marketers selling the product, and the consumers

purchasing it. While the marketing team would like to mass-produce advertising materials featuring the Order's religious iconography, the monks are uncomfortable with such overt displays of their religiosity. While the consumers would like to purchase the beer in mass market channels such as supermarkets, the marketers worry that easy access would ruin the product's mystique. And while the customers would like to take tours of the Abbey, the monks cannot accommodate such activities due to disruptions to their day-to-day lives. To reduce stakeholder tensions, the brewery deployed ambiguous language that allowed each group to feel as if their underlying needs were being met. Instead of making concrete plans to appease individual stakeholder groups, the brewery began emphasizing "authenticity" in communications, allowing "message receivers to selectively choose the cues that confirmed their biases of what authenticity ought to be" (Dickinson-Delaporte et al. 2010, p. 1868).

DIGITAL DIFFERENTIAL COMMUNICATION

Digital differential communication theory draws on scholarship on dog whistle political messages, purposefully polysemic advertisements, and strategically ambiguous organizational communications to build a theory around social media communications that depend on their target audience segments to appropriately interpret the "coded" symbol sets embedded in the message, rather than following a micro-targeting approach and identifying those segments *a priori*, targeting an individual message to each segment. To aid in our theorizing, we rely on Treem and Leonardi's (2012) framework of social media affordances and Monge and Contractor's (1999, 2003) emergent network perspective to analyze our case data. This section briefly explains the utility of this set of lenses before we apply them to the case study later in the paper.

Social Media Affordances

Social media channels create new ways for organizations to construct and deploy digital differential frames. Extant research on the capabilities of social media sites (e.g. Ellison and boyd 2013; Kane et al. 2014) suggests that they generally provide users with communication channels with feature sets that afford visibility, persistence, editability, and networked association (Treem and Leonardi 2012) (Table 9).

Table 9. Affordances of Social Media Networks (adapted from Treem and Leonardi, 2012)

Affordance	Description	Example
Visibility	Users can make their behaviors, knowledge, preferences, and communication network connections visible to others.	User generated content, personal profiles, search indexing
Persistence	Users may preserve communications so that they remain accessible in the same form as they were originally displayed.	Past content displayed on site, reuse of user content
Editability	Users can spend time and effort crafting communication before it is viewed (communication formed in isolation; asynchronous). Also, content can be modified or revised once communicated.	Asynchronous content submissions, revision/deletion permissible,
Association	Established connections between individuals, between individuals and content, or between an actor and a presentation.	Relations to others displayed, activities of others displayed on page, etc.

A Note about Affordances and Features

Although the term “affordance” opens up a fairly sizeable can of worms in IS research (See e.g., Bernhard et al. 2013; Pozzi et al. 2014; Torenvliet 2003), our use of the term in this research follows Treem and Leonardi (2012), which we rely upon heavily to organize our thinking of capabilities underlying social media networks. We use the term affordance to refer to an individual’s action possibility—an explicitly sociomaterial interaction (or potential interaction) between the individual, the object, and the environment. In this work, affordances are distinguished from features, which are

material properties of a system and exist independently of their use cases, whether those use cases are potential or realized.

Thus, in this paper, we follow Treem and Leonardi (2012) and use the word “affordance” to refer to higher-order capabilities (such as visibility, persistence, editability, and association) that arise as individuals use the features of an information system. Because the idea of “lower-order capabilities” can be somewhat reductive, an illustrative example is necessary:

An individual on a social media site may use the account name creation *feature* on a social media network to create an identifying name for herself. In this example, the individual uses the user name *feature* to *afford* herself identifiability and visibility on the network. In another example, an individual may use the account name creation *feature* on a social media network to create an account name that references a highly-polarizing political message--then use that account to send innocuous messages to a prominent political figure as an experiment to see if he will retweet one of them to his followers. In this example, the individual uses the user name *feature* to *afford* herself a signaling platform. The relationship between features and their varying uses also evokes the concept of an “unfaithful use” of that technology (DeSanctis and Poole 1994).

Emergent Communication Network Perspective

We use an *emergent communication network* perspective (Monge and Contractor 1999, 2003) to supplement our analysis of social media affordances in the case context.¹⁴

This perspective is characterized by a focus on a) the mutual influence between an

¹⁴ In traditional organizational social network scholarship, emergent network perspectives contrast with those focused on formal, hierarchical organizational networks (e.g. Aldrich 1976). Although the distinction between formal and emergent networks is less analytically useful today (Monge and Contractor 1999), the assumptions and ontological frameworks used by the emergent networks stream helps us understand the boundaries of our own theorizing.

individual's autonomy and the networks of collective action in which individuals are embedded, b) the study of multiplex networks (Monge and Contractor 1999)—those that exist in support of multiple goals simultaneously across many types of media, and c) the inclusion of a structurational perspective (DeSanctis and Poole 1994; Giddens 1984) that examines how the appropriation of a communications technology influences the individual that appropriates it (Contractor and Eisenberg 1990, pp. 161–162). This provides us a grammar for the relational connections between individuals participating on the social network.

Table 10. Theoretical Mechanisms Bridging Networks and Communications Media (adapted from Contractor and Eisenberg, 1990)

Level of Analysis	Example Mechanism
Individual level	Communicators and the characteristics of their own networks • <i>Network size</i> (e.g., the absolute number of contacts within a network) • <i>Network structure</i> (e.g., connectedness, centrality, etc.) • <i>Network range</i> (the degree to which a person communicates with heterogeneous groups of others along a salient dimension)
Dyad level	Communicators and their receivers • <i>Strength of relationship</i> (e.g., frequency or time spent communicating) • <i>Structural equivalence</i> (the extent to which two members share similar patterns of communication with the network) • <i>Multiplexity</i> (the number of types of relationships [in terms of content or media] that exist between two members)
Group level	Characteristics of the entire network • Network size (e.g., number of members in the network) • Network structure (e.g., connectedness, heterogeneity, centralization) • Linkages with environment (e.g., transactional content, level of contact)

Although many communications theories in the IS and organizational studies fields include some of these elements (Dennis et al. 2008; Miranda and Saunders 2003; Ngwenyama and Lee 1997; Te'eni 2001; Watson-Manheim and Belanger 2007; Yates and Orlikowski 1992), we believe that the integration of a network perspective with the

communications media perspective provides the most useful scaffolding for building a theory of digital differential communication. We have summarized the operative mechanisms of the theory in Table 10.

METHOD AND MATERIALS

Because we are interested in understanding *how* differential messaging is enabled by digital communications contexts and because extant research does not provide much guidance in this area, a case study method is well-suited to our inquiry (Eisenhardt 1989; Yin 2013). Studies of the social media environment are particularly well suited to case study designs because they allow researchers to incorporate highly contextual information from multiple sources into the data collection process (Levina and Vaast 2016; Urquhart and Vaast 2012). This is particularly relevant to studies of the practice of use on social media networks, which requires significantly more contextualization and translation in the cultural practices associated with use (Ellison and boyd 2013). Specifically, when studying social media networks, a practice-oriented perspective can illuminate unintended uses of various features that support covert and coded communications strategies. Here, our inductive approach helps to understand how the affordances of an online social networking platform and the structure of its social network enable and constrain this type of messaging.

Additionally, this style of communication is best suited for a case study research design. Although some types of differential communications (e.g., dog whistle messages deployed in a national political campaign) are designed to be widely disseminated, their nature makes them very difficult to study academically. Specifically, these messages are *deniable* by design; they are created to convey one meaning to a subset of recipients

while simultaneously denying the existence of that meaning to the entire set of recipients. Additionally, given the ambiguous language (Eisenberg 1984) often used in this type of communication, the extent to which they are successful depends on the interpretability of their coded language; if the intended recipient is not aware of the message or its meaning, it will not function as a dog whistle message (Watson 1995). Additionally, it is possible for a message to contain coded symbols, without the disseminating individual or organization being aware of its presence in the message. For example, Kuo (2007) describes how his team of political speechwriters would include snippets of old hymns (e.g., “the solid rock of economic principles”) and other obscure turns of phrase (e.g., “narrow is the path of wealth”) into their candidate’s political speeches to evoke Christianity in a way that evangelical Christians would immediately recognize but was not likely to be noticed by anyone else—including the speaking candidate himself (Kuo 2007, p. 59).

As a result, it can be difficult for an external observer to understand the sender’s true intentions. However, there are observers who have developed “antennas” for detecting such messages, for political, personal, professional, or academic reasons. Thus, in this paper, we characterize certain texts as containing a differential communication based on these interpretations by others (often not the intended recipient of the dog whistle) who write in popular and social media about their interpretations of the message. Because of our reliance on outside analysts, it is possible that the messages we identified were not actually intended to serve as dog whistle statements. After all, if every accusations of dog whistling were true, guilty parties would include prominent political figures in the United States, Australia, and Great Britain as well as corporations all

around the world (Cook 2016). For the purposes of our exploratory research agenda, however, over-identifying differential communications increases the breadth of the sample for potential study, which is useful for inductive research into an emerging phenomenon.

Our analysis is conducted by triangulating multiple sources of evidence to show convergence across primary and secondary sources, which demonstrates validity in the findings (Yin 2013). The politically contentious material under study in the sample presents additional challenges with respect to convergence: For each dog whistle message—particularly for those in polarized political contexts—sources that support the sender’s political ideology deny the characterization of the message as a dog whistle. To compensate for this, we extend the concept of an “implied audience” from the strategic ambiguity literature (Bitzer 1999; Jarzabkowski et al. 2015) and look for a convergent response from *only* the sender-supportive implied audience and the non sender-supportive out-group under the assumption that the sender-supportive out-group will deny the existence of a dog whistle message on political grounds, irrespective of the presence of such a message.

Case Selection

The three bases of theory suggest that differential communications can be strategically deployed in three contexts: politics, advertising, and communications to organizational stakeholders. Of these three, the political context provides the most utility for academic study: the field of competition is well-defined, the scope of competitors within the operating environment is both identifiable and constrained to a reasonable size, and—particularly in national elections—the messaging is designed to be broadly

consumed. Furthermore, the political communications context provides accessible data that is subject to scrutiny from academics, pundits, and the public. Thus, this context is most likely to result in a case study that contains rich detail from various stages in the communication process: the sending of the message, its dissemination, and its reception by various stakeholder groups. Finally, this line of research has the potential to make significant practical contributions in this area. Because national political contests in two-party systems often result in close election outcomes, those candidates that can activate to their ideologically-extreme bases without alienating the mass of voters toward the center of the political spectrum hold a significant advantage. Digital differential communication is one way for political candidates to capture such an advantage.

Table 11. Case Summary

<i>Channel Use</i>	Embedded image; Twitter. Delete and repost.
<i>Message Source</i>	Crowdsourced (with attribution removed)
<i>Form of Whistle</i>	Symbolic imagery
<i>Shared Reference Source</i>	Religious iconography
<i>Message Diffusion (descriptive)</i>	~9.5m followers, 11k retweets, 25.5k likes
<i>Result</i>	Delete and repost by sender (without hashtags).

Thus, case selection began by selecting a sampling frame of differential communication in political campaigns by conducting a systematic search in the news media. Specifically, we used the Factiva database to search for the phrase “dog whistle” (as it is the term used in political discourse to describe this style of communication) in The Washington Post, The New York Times, and The Wall Street Journal. While it would be unreasonable to assume that such a search would be exhaustive with respect to

all instances of differential communication in political speech over the search period, it is appropriate for our exploratory work because it limits the results to significant examples that could contain sufficient narrative richness for academic study. Because we aimed to study instances of political communication during the campaign cycles of recent national elections in the USA, our search was constrained to articles published from May 6, 2011 (eighteen months prior to the 2012 national election) to October 30, 2016 (shortly before the 2016 national election). Thus, we captured two full national elections, along with any midterm elections and extemporaneous, non-campaign political speech during that time.

The search resulted in 87 published articles published from May 9, 2011 to October 30, 2016. The articles were then content analyzed to determine the organizational “agent” sending the differential message, and the extent to which it used digital platforms in conveying the message. 16 articles were removed from the sample because they referred only abstractly to differential messaging in political discourse (as opposed to reporting on a particular message), or because they were otherwise inappropriate for study (e.g., the term was used in the review of a fictional work or was used to refer literally to a canine training device). The titles of the 71 remaining articles that comprised the reduced sample can be found in Appendix A.

Of the 71 articles in the sample, 36 were sourced from the *Washington Post*. Of the remaining 35 articles, 26 were sourced from the *New York Times* and nine were from the Wall Street Journal. As expected, most articles (76%) referenced communications in the political context, though the dataset also included communications in areas such as Brexit, gay marriage, environmental sustainability, cultural authenticity, anti-vaccination movements, and others. Of the political articles in the sample, the majority referenced

communications originating from the Trump presidential campaign (48%). The sample also contained articles containing communications from Democratic presidential campaigns (both Obama and H. Clinton), Republican primary campaigns (J. Bush, Walker, Cruz), and other political figures (Gingrich, W. Clinton, etc.). Most articles referenced oral communications and, thus, did not explicitly mention the role of digital communications tools. Those that did, though, both referenced specific platforms (Facebook, Twitter, Reddit, etc.) and the role of “social media,” generally.

Because the Trump presidential campaign was heavily represented in our sample of dog whistle news stories and because no other stories in the sample mentioned the uses of social media in communicating dog whistle messages, its campaign communications represent a useful case study of differential communications. Thus, the case can be revelatory for illuminating and extending the logic underlying the communicative processes for digital differential communication (Eisenhardt and Graebner 2007; Yin 2013).

CASE CONSTRUCTION

In the following section, the case is described in detail. The descriptions follow the elements of Berlo’s (1960) model, which describes communication with respect to the source/sender, message, channel, and receiver. Because the model of communication unfolds as a process from sender to receiver and the interpretative processes that underlie the communication do not lend themselves to a granularized event study, we use primary and secondary data sources to construct communication narrative (Pentland 1999).

Narratives, as stories that illustrate the process of events, help to a) connect cause with

effect and b) generate empirical tests to determine the plausibility of the narrative and the boundary conditions under which it can be generalized (DiMaggio 1995).

Because narrative construction lacks well-established evaluation mechanisms for validity and reliability, the process by which a single account emerges from “multiple, partial, subjective, and even conflicting accounts” is the main challenge of this type of method (Pentland 1999, p. 712). While we collect and present textual indicators within the narratives (Miles and Huberman 1994), we choose not to present a sequence of coded events, preferencing our ability to generate a rich and meaningful explanations at the cost of descriptive generalization on the phenomenological level (Pentland 1999, p. 714). After all, one does not simply observe an event; instead, events are focalized and stories are constructed to explain them. And while the process of narrative focalization inherently introduces subjectivity into the research, focalization is also present when choosing what constructs to measure, how they are measured, which results to report, and how they are reported (Pentland 1999).

In this research, the case selection processes described previously helps to guide the selection of the focal actors of the case and a rough starting point to the sequence of the narrative. Within the narrative itself, the we identify specific points of view and distinguish from among them when evaluating the sequence of events. When required, other indicators of content and context are included to indicate time, place, attributes of the characters, etc. These indicators are necessary to guide the reader’s interpretation of the narrative’s events (Barthes 1975).¹⁵

¹⁵ As an illustrative example, Pentland (1999) notes that once the reader knows that the scene is a wedding, the significance of the utterance, “I do” increases substantially. Prominent organizational theorists use similar indicators of content and context to build narrative (E.g., Cooper and Kaplan 1988; Weick 1993).

Source Characteristics

This case concerns a differential message (in the form of a Tweet) designed to activate a subset of supporters of a political campaign who are particularly resonant to a U.S. presidential candidate's¹⁶ allegedly anti-Semitic messaging.¹⁷ Because overtly embracing the white nationalist community would likely alienate the broader voting public, the candidate used dog whistle messaging to communicate with the group while maintaining a sufficient degree of plausible deniability that he was courting their political support.

The candidate, a prolific Twitter user adept at wielding its messaging features for political self-promotion (Barbaro 2016) had previously retweeted messages from a number of accounts linked to anti-Semitic and white supremacist Twitter users (Confessore 2016). Although he had publicly denounced white supremacist support, many such groups continued to support his candidacy due to his hardline immigration policies and dog whistle-style signaling both on and off Twitter (Reinhard 2016). This case describes one such message in detail.

¹⁶ As described above, this case is developed around the Trump 2016 presidential campaign. To depoliticize the manuscript, however, the narrative description of the case will refer to “the candidate” as the sender of the message.

¹⁷ Unofficial reports suggest that the candidate dictates Tweets to his staff to post until 7:00pm each day and that the candidate's tweets can be distinguished from posted by others by analyzing metadata embedded in the tweet (e.g., Robinson 2016). For this case, however, we use the term “candidate” to describe the sender, irrespective of the organizational representative who may be entering the text into the system.

Table 12. Summary of Events

June 15-22, 2016	Image is born on campaign supporter's Twitter account; later reproduced on alt-right message board
July 2, 2016 (9:37 am)	Candidate's initial tweet goes out from own account (i.e., not as retweet): "Crooked Hillary -- Makes History!"
July 2, 2016 (11:19 am)	Candidate deletes initial tweet and posts new tweet with a circle instead of star. Points of star are visible underneath the new circle. Hashtags not attached to original tweet are now added: #ImWithYou #AmericaFirst" https://twitter.com/realDonaldTrump/status/749261175968436224
July 4, 2016 (9:42 am)	Candidate denies dog whistle via tweet: "Dishonest media is trying their absolute best to depict a star in a tweet as the Star of David rather than a Sheriff's Star, or plain star!" https://twitter.com/realDonaldTrump/status/749961528422625281
July 4, 2016 (evening)	Candidate releases full denial statement on campaign website; Facebook page (but <i>not</i> on Twitter). https://www.donaldjtrump.com/press-releases/donald-j.-trump-statement-on-false-accusation-from-hillary-clinton
July 5, 2016	David Duke, former Imperial Wizard of KKK, remixes original image, adding explicitly anti-Semitic imagery and language https://twitter.com/DrDavidDuke/status/750395648835395584

Message Characteristics

On July 2nd, 2016 at 9:37 am, the candidate tweeted a negative image of his opponent alongside the text "Crooked Hillary - - Makes History!" (Figure 8) (Jacobson 2016). The tweet remixed campaign imagery of Hillary Clinton (the candidate's opponent) and featured a photograph of her head against a background of \$100 bills. A solid six-pointed star, substantially similar to the Star of David, was set on the right side of the image with the text "Most Corrupt Candidate Ever!" in a bold white font. A band reading "Fox News Poll" ran across the bottom of the image, referencing a nonscientific poll in which many viewers found the term "corrupt" to be a good term to describe her character.



Figure 8. Initial Candidate Tweet

While the image was tweeted by the candidate’s account, it did not originate from within the campaign. Journalists conducting an analysis of the image found that it was first posted to Twitter on June 15th by a user who shared “anti-Semitic images of journalists, violent propaganda about Muslims and refugees and racist images of Clinton and black Democrats” (Smith 2016). On June 22nd, the image was anonymously posted on a white supremacist message board using the file name hILLhISTORY.jpg, the stylized capitalization suggesting “a nod to the Neo-Nazi code for ‘HH,’ or ‘Heil Hitler,’” which the board’s members are “fond of hiding in plain sight” (Smith 2016).

These two initial postings of the image contained an attribution watermark on the bottom left side of the image with the Twitter handle of its creator, the user who posted it on June 15 (Mathis-Lilley 2016). The version posted by the candidate, however, completely obscured the watermark by placing the “Fox News Poll” banner over it, controverting the campaign’s typical practice of attribution for Twitter images shared by the candidate (Smith 2016). Although the campaign’s social media director would later claim that the image “was lifted from an anti-Hillary Twitter user where countless images

appear,” he did not identify the person and attribute the image to its source (Jacobson 2016).

Immediately after the candidate posted the image, Twitter users began to question whether the imagery of the six-pointed star and the pile of money used in the image was intended to refer to anti-Semitic stereotypes. By 11:19 am, less than two hours from the time of the original post, the candidate had removed the offending tweet and reposted it after superimposing a solid red circle over the six-pointed star in the embedded image (Figure 9). Instead of fully covering the star, however, the circle was precisely sized to allow two of the tips of the original star’s points to remain visible behind the new circle, hinting at its presence (Smith 2016). The candidate also added two new hashtags to the tweet with the reposted image (the original tweet did not contain a single hashtag).



Figure 9. Reposted Candidate Tweet

Receiver Characteristics

Two days after the original posting, in response to criticism about the tweet, the candidate denied that it was an intentional dog whistle first via a tweet that described the

star as a “Sheriff’s Star” rather than a Star of David and later via a statement that was reproduced in text on Facebook and on the candidate’s campaign website (but not on Twitter) (Trump Twitter Archive 2016). Although the initial post was only available on Twitter for a short period of time, it was quickly replaced to remove the offending star, and the candidate explicitly denied that it was meant to represent a Star of David, it still activated the white supremacist community.

On July 2nd, almost immediately after the candidate’s original tweet, The Daily Stormer, an American neo-Nazi and white supremacy news website posted an article titled “Glorious Leader Tweets Hillary Image with Dollars and Jew Star” (Anglin 2016). Almost immediately, members of various white nationalist message boards speculated that the star was meant as a signaling mechanism to their community. At 10:32 am—forty minutes before the tweet would be reposted—a member of the Daily Stormer’s message board posted, “No way that Jew Star is accidental or unintentional. Trump is dog whistling to us again” (The Daily Stormer BBS 2016). Even after the campaign revised the tweet, users posted similar sentiments. At 9:11 pm the next day, a member of the Stormfront message board posted, “I don’t think it was a slip. He knew exactly what he was doing....smart man” (Stormfront 2016).

Once the holiday weekend concluded, white nationalist organizations and political candidates followed suit, presuming that the original tweet reflected the candidate’s feelings. On Tuesday, July 5th, the image was remixed and reposted to Twitter by David Duke, a Senatorial candidate and former leader of the Ku Klux Klan (Figure 10). Duke added seven Israeli flags to the image alongside text that suggested that Hillary’s donors were “Zio-money Moguls.” Duke’s image was also posted to The Daily Stormer, where it

was used to promote his podcast on the site (Duke 2016). And on July 8th, the same publication posted one article that implied that the candidate regretted replacing the star with a circle and another titled, “Now Trump is Just Straight Trolling These Jews” (The Daily Stormer 2016; Zeiger 2016).



Figure 10. David Duke’s remix of initial tweet

THEORY BUILDING & DISCUSSION

The case-based data illustrates the value of problematizing the assumptions underlying conduit or capabilities-based models of communication. In the case narrative, the communicating candidate has a very large network with highly heterogeneous connections (described as “range” in Table 10). Network size and range become facilitating conditions for digital differential communication if the candidate faces cross-pressure from the conflicting goals of activating an ideological base without alienating the center-left or right of the political spectrum. In this case, the ideological base (the sender-supportive implied audience) is accessible via the network and persuadable via a message—but the candidate risks reputational harm if he directly targets that group,

because that message may alienate the ideological center (Nteta and Schaffner 2013). The emergent network perspective suggests that the receiver of a message co-constructs its meaning according to various semantic networks embedded within the larger network of the online social networking platform (Monge and Contractor 1999). Thus, it is possible that the communicator can construct a message using a set of symbols that simultaneously activates the ideological extremes at the base while also appearing meaningless, innocuous, or “easily explained away” to the rest of the network.

Although the communicator’s true intent can never be truly ascertained using *any* ethical research methodology, the researcher can contrast the internal communications among members of the sender-supportive implied audience (for example, by viewing their publicly-available message board websites) with the very public outward statements of denial made by the candidate. The difference between these interpretations of the original message suggests that online social networks can in fact be used to engage in differential messaging.

In the remainder of the discussion section, we draw further upon communications theory and the case data to build a theory of digital differential communication using online social networks. Specifically, we generate and formally present testable propositions that concern a) the ways that online platforms that are used in differential communications strategies and b) the practices of use that result from the digital formulation of a differential message.

Message Manipulation and Denial Using Digital Differential Framing

Social media networks use various features to allow users to make their preferences and behaviors visible to others using the network. The notion of visibility in

such a network refers to the amount of effort required in order to locate information using that network (Treem and Leonardi 2012). Thus, while many features may afford visibility, they vary with respect to the quality and quantity of the visibility they provide. For example, while a person can post content to a profile page to make visible certain preferences, the ease with which the information can be located may depend on the form of that content (text, video, or audio) and whether it uses networking features such as tags and mentions (which create content-to-content networks and content-to-user networks, respectively). Differential framers can take advantage of the visibility features in these communication networks to increase the effectiveness of their messaging strategy.

Because differential messaging can employ tactics such as follow-up denial messages or content deletion and editing, communicators can employ visibility features to help enhance the ambiguity in their messaging. For example, in our data, the presidential campaign's initial message eschewed the use of mentions or hashtags, the platform's key visibility features. Additionally, the differentiating content—the six-pointed star itself—was manifested as an image, rather than a searchable medium such as text. After almost two hours, the message was deleted and reposted as a new Tweet *without* the differential symbol but *with* two new hashtags, theoretically increasing its visibility. In that time, however, many Twitter users had created static reproductions of the original image and began to distribute their reproductions across their own networks.

Thus, like Schrodinger's Cat, the digitally differentiating message simultaneously exists and does not exist. On one hand, it has been deleted from Twitter and cannot be spread—at least as a Tweet—using that network. A new, even more visible message has replaced it—and the replacement no longer contains differential symbols. On the other

hand, though, a static facsimile exists that can be distributed through alternative channels, reaching those to whom it may be persuasive. In our data, these channels included those inhabited by sender-supportive implied audiences (such as the message boards of Stormfront and Daily Stormer, for example) as well as sender-opposed audiences, such as an opposition campaign. When the meaning of a message is determined in large part by the receiver's subjective interpretation of it, manipulating this paradoxical double-state of existence with a social media network's visibility features can increase the effectiveness of the messaging strategy.

Proposition 1: A differential framer will selectively use differential visibility features to increase ambiguity for the main audience and increase deniability by the secondary audience.

While visibility features can be manipulated to improve differential communication outcomes, they can also be used to better target such communications and also to audit the postings of a differential communicator. Specifically, social media communications platforms give communicators the tools to make their behavior, knowledge, preferences, and communication network visible and relatively easy to locate. They allow people to create and maintain vast searchable personal profiles, generate and push their "status update" messages to across their network, and create tags for content to make it easily accessible to others who may be searching for it (Treem and Leonardi 2012).

Organizations leverage the various visibility-affording features of a social networking site to engage in differential communication strategies. The visibility affordances of a social network disintermediate communications between the organization and the consumer: visibility allows an organization to push its messaging out to the network of recipients using, for example, the text and image sharing features of

a status update or shared link. Without these visibility features, organizations would have to rely on either heavily-mediated media forms such as newspapers and television or expensive individual targeting campaigns using direct messaging tools.

While organizations clearly benefit from being visible on an online social network, they can also benefit from observing others' visibility on the network. Specifically, the organization's ability to view the personal profile and posting history of the social networking site's users allows it to construct a body of metaknowledge on that user base, which it can then use to identify opportune moments for differential communication. If the profiles and postings of the site's users suggest that they hold strikingly divergent opinions on an issue, the organization may consider a differential strategy to disseminate a message without alienating those who might be opposed to it. In this way, online visibility features allow differential framers to confirm that the necessary heterogeneity for differential framing exists without drawing attention to members of the in-group.

Persistence refers to a social media network's ability to retain information beyond its initial presentation (Treem and Leonardi 2012). Persistence makes communication more consequential for two reasons. First, the retention of the communication ensures that parties to that communication cannot raise disputes regarding its contents—the original record serves as an objective measure of the veracity of what was originally posted. Second, persistence—particularly when combined with visibility features—opens the door to new practices of information access and use, such as search, annotation, visualization, and recontextualization (Treem and Leonardi 2012). Thus, persistent communication can be used in new ways *and* for longer periods of time.

Visibility and persistence both have substantial implications for digital differential communication strategies. As a threshold matter, visibility features are necessary for a communicator to assess the ideological heterogeneity in their network. If the communicator's network is ideologically homogenous, differential communication strategies may not be needed or effective. Furthermore, once a communicator has begun to use a digital differential communication, persistence and visibility features can allow ideologically-opposed receivers to collect evidence to support a claim that the sender is violating social norms. Persistent communication can be harder to deny with respect to its existence and the ability to search, annotate, and tag a sender's communications can increase the likelihood of a messaging being discovered and distributed by and to unintended viewers.

Proposition 2: For an initial differential message, a differential framer will prefer a social media network channel with large reach and ideological heterogeneity to disguise the in-group audience.

Proposition 3: For a given online social networking site, as visibility and persistence features become more robust, it will be more difficult to issue denials based on posts at that site and it will become less effective for digital differential framing.

Additionally, while the social media affordance literature tends to conceptualize visibility as occurring within a single platform or network (Treem and Leonardi 2012), we can also think about visibility across platforms or networks. In the case, the candidate's initial inflammatory statements were made on Twitter but his strongest statements of denial were posted on his Facebook page and his campaign website—but not his Twitter page, which is where the initial posting was deployed. This shift has two possible implications: On one hand, the distinction could be a result of the character limit per post on Twitter's content platform, which would suggest that these content length

limitations could be used as a tool to obfuscate meaning, increasing the effectiveness of such platforms for differential communication. On the other hand, the distinction could be a result of the nature of his visibility across these platforms. His most ardent supporters—those for whom a denial would be unimportant or unnecessary may prefer the informal norms of communication associated with a Tweet while political pundits and the media may prefer a formalized, institutionally-embedded press release, typically delivered via a campaign’s own website. Additionally, because the candidate’s Twitter presence is so significant, those ardent supporters

Here, both the candidate’s supporters and the political pundits in the media are likely to have multiplex dyadic ties (Monge and Contractor 1999) with the candidate—the former because of their enthusiasm for him and the latter for professional reasons. But because the information seeking behaviors associated with each of those groups may vary based on their personal political ideology and their professional relationship to the candidate, the choice to deploy a full denial message on an alternate forum—either an alternative social media site or from a non-social media based digital distribution channel, such as a personal website—is highly strategic and can determine whether a denial statement is more likely to reach the “correct” target audience.

For example, the candidate’s supporters may be more likely to have multiplex dyadic ties to the candidate across *social* social networks. Thus, these individuals would connect with the candidate on networks such as Twitter, Instagram, Snapchat, and Facebook. Individuals who have a purely information-seeking relationship to the candidate may be more likely to follow his posts on *professional* social networks such as LinkedIn and niche social networking sites such as the longform blogging site Medium.

Additionally, because these individuals are motivated by information gathering objectives, they may be more likely to follow *non-social* outlets such as the candidate's campaign website. To ensure that a strategic denial is most effective, the differential communicator will leverage this variable multiplexity to deploy the strongest messages of denial where it is least likely to be received by members of the in-group. In fact, the differential framer may even be able to deny (or otherwise walk back) their denials by leveraging variable multiplexity. For example, if the candidate were to participate in a relatively homogenous social network (such as the candidate's official Subreddit), he could take advantage of the homogeneity and downplay the seriousness of the denial statements made to the general public.

Proposition 4: An effective denial of a digital differential communication will be deployed where it is more likely to be received by the public and less likely to be received by the sender-supportive in-group.

Organizational Monitors and Signal Decoders in Digital Differential Contexts

But why might communicators need to deny a potential interpretation of their messages in the first place? The social contexts under which these digital messages are sent and received help us understand the answer. Differential communications strategies are used by high-status¹⁸ organizational communicators with a great deal at stake in the communication act. After all, the strategy of differential communication can most successfully be deployed when the communicator has a large and ideologically diverse

¹⁸ We use the term "high status" to mean that the communicator either *already has* or *has the means to obtain* the communications network necessary to engage in the mass communication tasks required of a digital differential communications strategy. For example, the candidate in the case had access to a broad organically-built digital communications network at which he could freely distribute his messages. The automaker described in extant research, however, did not have such a network (in part, because the events in question took place in 1993-1994). In that case, though, the organization had the necessary resources to push their differential message into enough analog in-group networks that it could circulate from there. "High status" is not meant to convey a value judgment on the individuals or organizations that engage in these strategies.

communications network to whom he can distribute a message and when the communicator fears reputational risks from openly and directly messaging the target group (Nteta and Schaffner 2013; Oakenfull et al. 2008). This is supported both by the literature and our case study.

For example, the *reason* that Subaru engaged in the politically-risky differential communication strategy targeting lesbian consumers is because the firm was fighting for its survival. When the company began targeting lesbian consumers, sales had been declining for years due to competition from market leaders such as Toyota and Nissan, employee morale was plummeting, and the firm's management believed that their "boxy, reliable wagons" lacked an identity (King 2016). And while the firm was lucky to identify a potential market segment for targeting, advertising to lesbian consumers was a political risk in the sociopolitical context of early 1990s America: The Clinton Administration had just instituted the "Don't Ask, Don't Tell" policy regarding homosexuality in the military and, later, Congress would pass the Defense of Marriage Act, which defined marriage as the union of one man and one woman (Mayyasi 2016). While advertising to gay and lesbian consumers was less risky for fashion labels and liquor brands, Subaru acted well before its market rivals in reaching out to the segment (Mayyasi 2016; Oakenfull et al. 2008).

Both communications environments were highly competitive and the communications themselves activated contentious individuals and interest groups whose norms and beliefs reside outside social norms. Both characteristics create incentives for signal interpreters to monitor the communications from the respective organizations to expose them and try to capture their share of the "market." In the case of the political

candidate, for example, these signal monitors may have interests that lie with the political opposition (e.g., the other candidate) or against the targeted group (e.g., Anti-Defamation League). These groups can use their specialized knowledge to decode and interpret messages with the intent to expose and uncover any potential coded meanings.

When Suburu's advertising campaign began in the early 1990s, monitoring tasks likely required significant human resources to consume enough media to reverse-engineer a coherent advertising strategy. Today, however, the affordances of social media networks create digital data streams, which reduce the costs associated with such monitoring (Piccoli and Pigni 2013; Pigni et al. 2016). These streams are aggregated in platform channels that support visibility-affording features such as timelines, tagging, and searching that can decrease the costs associated with monitoring (Treem and Leonardi 2012). Thus, any individual or group that seeks to engage in such monitoring only needs to form a dyadic connection with potential communicators using those networks. Additionally, digital data streams can be aggregated and analyzed efficiently, such as with the use of advanced analytics tools (Pigni et al. 2016).

Although opposition groups have been monitoring the communications of prominent politicians since the earliest days of democracy, our contention is that the relative ease of monitoring digital communications increases the depth and breadth of these activities while the existence of the communicator's messaging platform can be used to expose hidden meanings to a wider audience. Formally stated, we propose:

Proposition 5: Compared to traditional outlets such as print media, digital differential framing strategies are more likely to confront ideological opponents that aim to expose the differential framing.

Digital Artifacts and Differential Message Construction

A communication across a social media network is made up of bits rather than atoms (Negroponte 1995) and it orders those bits to convey or represent something to its receiver (Shapiro and Varian 1999). As digital communications, they can be inexpensively reproduced and, while in their digital form, they may also be effortlessly commingled with other bits, and can be “used and reused together or separately” (Negroponte 1995, p. 18). The interactions of these two properties—reproducibility and effortless commingling—result in a complex digital communication environment that both enables and constrains a differential message.

Reproduction of digital communications on social media networks can occur in one of two general forms. In one form, a communication can be reproduced by using the existing feature set of the social media network on which it was initially produced. For example, on Twitter, a user can reproduce another user’s post with just one click. By the act of “retweeting,” the original content is reproduced and replicated on the social feed of the retweeting user. This form of reproduction has three benefits: 1) it is quick and easy to execute; 2) it captures some of the structural benefits of the original sender’s social network (as it can be traced back to the original sender’s social network within the web application); and 3) it can receive dynamic updates, based on the actions of those accounts that are linked to the information (the number of retweets is displayed and updated in real-time).

In the other form, the message is converted into a static artifact as it exists in a single moment of capture, such as by taking a screen capture to generate an image of the communication content. This kind of reproduction that has two advantages over its more

dynamic counterpart: 1) it cannot be altered by changes made on the social media network on which it was originally produced and is, thus, robust to any deletion or alteration that may occur on that network; and 2) it can be removed from the social media network on which it was originally produced and put into circulation onto new networks that may not have had access to the message without static reproduction. Additionally, because of the commingling properties of bits, it becomes possible to further manipulate the static message with tools such as Photoshop, to produce new and persuasive communications.

	<i>Ideologically-Aligned</i>	<i>Ideologically-Opposed</i>
<i>Static Reproducibility</i>	Expose the symbol set to a network friendly to the target audience	Expose the symbol set to a network hostile to the target audience
<i>Dynamic Reproducibility</i>	Expose the symbol set to the sender's target audience	Expose the symbol set to the sender's public audience

Figure 11. In-Group Ideology Reproduction Matrix

Differential communication relies on both types of reproduction. Dynamic, within-network reproduction spreads the message broadly across the subscriber base and beyond it, including non-digital forms such as paper. The dynamic nature of the reproduction allows information in the message to update in real-time. For example, the viral spread of digital content can be easily assessed if the information artifact publicly counts the number of times it has been shared on its host platform. While dynamic information artifacts help to provide breadth, the mobility of a static information artifact can help produce depth—particularly when a coded meaning in the message undergoes a group interpretative process. Because the static artifact is not beholden to the governance

mechanisms of the social media network, it can be posted to private or semi-private fora in which group interpretative processes can occur unimpeded.

Differential communicators use ambiguity and denials to avoid being pinned to a single interpretation of their message. But members of the in-groups that differentially interpret a message may have ideological reasons to spread their interpretations of a message for a variety of reasons. For example, members of a sender-supportive in-group may wish to discuss the messages's secondary framing with an audience that supports their worldview. In such a case, the forum of discussion requires some sort of firewall between those individuals and the network on which the original messaging was sent. This prevents spillovers from the smaller network to the larger one, allowing the in-group to discuss those themes in the message that evoked a nod to the group. To create this distance, the group can unlink the message from its communication network via static reproduction. We perceived this in our case evidence: members of unofficial forums spoke freely about the extent to which certain messages constituted “dog whistles” to their group. Similarly, members of the network who are opposed to the sender may wish for a similarly non-networked space to freely discuss their counter-messaging strategies in forums in which they have control over moderation and information retention—two techniques that mitigate the risks of online harassment or leak discovery.

Proposition 6: Ideology determines the forum and function of reproducibility.

CONCLUSION

Political elections, particularly in first-past-the-post voting systems with two dominant political parties, are decided with extremely narrow margins. Since 2000, the average margin of victory in U.S. Presidential elections was only about two percent of the popular vote. The margins are narrower still if we limit our focus to those states

necessary to turn the electoral college. In these elections, popular wisdom suggests that candidates often move toward the center of the political spectrum (relative to their own positions in the primaries) to appeal as broadly to the voting public as possible. In such a communications environment, those campaigns that can *retain* the benefits of broad-based popularity toward the center of the political while *also* activating the partisan forces at the poles of their party have a significant advantage over those that mostly ignore the poles due to risks of alienating voters at the center.

Implications for Practice

While these two-party political systems can suppress minority positions, theoretically increasing a political system's overall stability, the use of differential messaging in politics can embolden those forces by activating them despite risks associated with their relative extremism. But with great power comes create responsibility: while successful differential communication techniques can be used by a savvy advertising firm to target lesbian consumers that love “camping, dogs, and long-term commitment,” it can also be used by a political campaign to embolden and activate a marginalized fringe that believes—rightly or wrongly—that a candidate is making a secret olive branch to its community.

Our research suggests that, due to their inherently risky nature, digital differential communication strategies may be limited to unique contextual environments (those in which a well-connected or otherwise powerful organization is engaged in intense, high-stakes competition in its field). What these research contexts lack in their probability of occurrence, they make up with the magnitude of their potential impacts. When rich and powerful organizations are backed into a corner, they may feel as though they must take

radical action to survive. Digital differential framing techniques (and more broadly, targeting persuasion efforts to the marginalized members a society) can be systemically risky and practitioners in a variety of professional disciplines can find value in understanding the processes that underlie the strategy to avoid unintended consequences.

Implications for Theory

This work makes several theoretical contributions to the information systems literature. Primarily, our work builds a process model and builds testable propositions to build theory around the idea of digital differential framing—communication that uses digital tools to engage in message segmentation via shared sets of communicative cues or symbols shared by the sender and receiver and their subjective interpretations. While the idea of individually micro-targeting persuasive communications remains popular in the marketing and political science literatures, these practices can be risky and prohibitively expensive—even in the most sophisticated form. Additionally, micro-targeting fails to take advantage of the communicative efficiency of the Internet because organizations engaging in these targeting practices are forced to identify the receiver of the message (*and* make judgments about the extent to which it will be persuasive) before they can even send it.

Macro-targeting, on the other hand, relies on the efficiency of power law distributions in online social networks and viral information spreading. Instead of an a priori assessment of the receiver and their preferences, macro-targeting using digital differential communication strategically pushes the targeting mechanism onto the subjective, interpretative communication processes that take place when a message is received. Decentralizing the targeting functions of a persuasive message can allow an

organization to better utilize its existing human and economic capital and focus on other potential organizational threats in the environment. Nested within our primary theoretical contribution are a number of theoretical advancements that we believe can advance a number of scholarly conversations within information systems.

For example, we build upon the classic scholarship on information goods (e.g., Negroponte 1995; Shapiro and Varian 1999) and create a distinction between the dynamic artifacts that are created by using a platform's features to reproduce digital content (by Retweeting it, for example) and the static artifacts that are created upon capturing the digital content as it exists in a single moment in time (by taking a screenshot of it, for example). While dynamic message reproduction is easy and carries benefits associated with relating to the dynamic network of messages being created and recreated around it, can also be quite fragile. When the governance rights of the message remain with the individual responsible for its creation, subsequent reproductions of the message may be subject to deletion or alteration at the whim of that one person's discretion. On the other hand, while the static reproduction of a message loses a great deal of the dynamism that comes from its embeddedness in a social network, it is robust to any attempts at alteration and can be moved from one social network to another without restriction. Each kind of reproducibility—static and dynamic—serves a valuable function in the process of digital differential communication. Future research building on the distinction between static and dynamic reproducibility can help to advance our understanding of information economics in networked information markets.

Additionally, we theoretically extend the concept of dyadic tie multiplexity from its initial context in intra-organizational social network studies to the digitally-enabled

social media networks of today. Many current studies that use social network analysis methods collect data from just one platform to assess the structure of the relationships among the nodes of the network. With the proliferation of social media networks and other Internet-based networks, today's social networking environment has changed substantially—both inside and outside the organization. Our work builds theory about the importance of the multiplexities between dyads, defined as the extent to which two nodes are connected by more than one relationship (Monge and Contractor 1999). The number of relationships between network nodes is more than just an indicator of tie strength; network multiplexity allows communicators to make strategic choices about which networks are the most effective for deploying specific messages—particularly impactful for digital differential communication and subsequent denials.

Specifically, our case illustrates the way that certain framing technique can be effective on a broader platform with features that may constrain the clarity of the message while other communications can be more effective on a slightly narrower platform with different features enabling in-depth forms of communication or a slightly different receiving audience. The extent to which the communicator holds multiplex ties with a network governs the extent to which he or she will be able to strategically select a network for communicating a message. Future social network research should consider dyadic multiplexity when designing studies relying on these methods.

Our research builds on important work in networks, information economics, political science, marketing, and communication. Because of its interdisciplinarity, it can contribute to various threads of scholarship within information systems. For example, the concept of strategic deception with plausible deniability may be theoretically linked with

new questions emerging around the credibility and rationality of information processing in social networks. As information control and access issues become more politicized over time, our hope is that this work serves as a useful set of theoretical tools for future researchers doing work in this area.

As the nature and sophistication of organizational communications strategy continues to evolve, competing organizations must devote resources to detect differential framing and other potential framing threats in cyberspace, as well as plan and execute response strategies to those framings. Thus, we can imagine a world in which future research in this area is essential not just for political organizations or social movement organizations but for commercial organizations as well. “Frame or be framed!” will be the rallying cry and those corporations that are unable to adapt and respond to these new communication tactics may instead fall victim to them.

APPENDIX A: REDUCED SAMPLING FRAME (71 CASES)

Source	Title	Agent
NYT	How Trump and Pepe the Frog Joined Forces	Trump
NYT	Life Is a Blur, and So Is New York	Trump
NYT	Actually, Many of America's 'Inner Cities' Are Doing Great	Trump
WaPo	Even worse than the tax scandal	Trump
NYT	Donald Trump Says Hillary Clinton Doesn't Have 'a Presidential Look'	Trump
WaPo	Isakson steers clear as the racial rhetoric flies	Trump
WSJ	Black Lives Matter to Donald Trump	Trump
WaPo	It's not a dog whistle if we can all hear it	Trump
WaPo	Dialing up the racial rhetoric	Trump
NYT	A Glass Ceiling Now Broken, Is U.S. Ready for a Madam President?	Trump
NYT	Gag Order	Trump
WaPo	The GOP reaps what it sows	Trump
WaPo	Bashing judge, Trump again defies political norms	Trump
WaPo	Not just another Trump vendetta	Trump
NYT	The Nazi Tweets of 'Trump God Emperor'	Trump
NYT	Putting Trump to the Test	Trump
NYT	The Upside to Overt Racism	Trump
NYT	Boris Johnson's Essay on Obama and Churchill Touches Nerve Online	Boris Johnson
WaPo	Ted Cruz is less dangerous than The Donald	Ted Cruz
WaPo	Explaining the Donald Trump phenomenon	Trump
WaPo	Politics as art, even at its ugliest	Trump
NYT	The Beast Is Us	Trump
WaPo	Fight over Arlington gun store escalates	Gun Shop
NYT	A Fiery Debate on K.K.K. in '16. Who Figured?	Trump
WaPo	Donald Trump's surly worldview	Trump

WaPo	The GOP's Frankenstein monster	Trump
WaPo	Clinton regrets 1996 'superpredators' comment	H. Clinton
WaPo	The next boxoffice superhero wears an R	Deadpool
WaPo	The alpha male ascends	Trump
WaPo	Ted Cruz, master of insinuations	Ted Cruz
WSJ	A Farewell to Entitlement Reform	Ted Cruz
NYT	Higher Math	Ted Cruz
WSJ	Why Vote for Trump?	Trump
WaPo	The year Trump destroyed the GOP	Republican Party
WaPo	Accused deserter Bergdahl faces trial	House Armed Services Committee
WaPo	We can't let Trump's fantasy become our reality	Republican Party
WaPo	Why Trump's rivals should be thanking him	Trump
WSJ	U.S. News: Trump Slaps Carson as Polls Shift	Trump
WaPo	Clashes at Trump events are a growing concern for GOP	Trump
NYT	Republicans Fear That Trump and Rivals Are Hardening Party's Tone on Race	Trump
WaPo	America's nativist roots	Trump
WSJ	All the President's Certitudes	Obama
NYT	Obama Battles ProIsrael Group, Raising Worries of a Lasting Rift	Obama
WaPo	A Sister Souljah moment	W. Clinton
NYT	Fringe Festival	Ted Cruz
WaPo	Bush talks up Fla. record in bid to win leery right	Jeb Bush
WaPo	Questions linger about why Walker left college	Scott Walker
WSJ	The Weird Vaccine Panic	Rand Paul
NYT	Your God and My Dignity	Jeb Bush
WSJ	Red Meat for Political Junkies	G.W. Bush
NYT	For Friends in the Know	Clothing items
WSJ	Word on the Street: 'Dog Whistles' Only Some Voters Hear	T. Geithner
WaPo	GOP breaks with Nevada rancher over race remarks	Cliven Bundy

WaPo	How Democrats should talk about racism	Republican Party
NYT	That OldTime Whistle	Paul Ryan
NYT	Repeated Good Fortune in Timing of C.E.O.'s Stock Sales	"Strategic Advisory"
NYT	When Emily Was Sold For Sex	Sex Slavery
WaPo	Va. may help get gay marriage to high court	Anthony Kennedy
WaPo	Language inequality	Newt Gingrich
WSJ	Toyota's Prius: Performance Is All That Matters	Prius
WaPo	The Barneys mess what can Jay Z do?	Thom Browne
NYT	De Blasio Lashes Out at Lhota Over a Television Ad	Joseph Lhota
NYT	Profiling Obama	Obama
WaPo	How can the GOP diversify?	Gingrich
WaPo	With 'one of us,' Obama ad echoes a racial code	Obama
WaPo	The blessing of silence	Romney
WaPo	Unmasking Obama	Obama
WaPo	Making a lot of noise on the way down	Gingrich
NYT	Risks for G.O.P. in Attacks With Racial Themes	Gingrich
NYT	Appealing to Evangelicals, Hopefuls Pack Religion Into Ads	Gingrich
NYT	Obama's Position on Gay Marriage Faces New Test	Obama

APPENDIX B: SUPPLEMENTARY CASE MATERIAL

	 FishBoneHead @FishBoneHead1 NEWS ALERT! Hillary Finally Achieves Something... #HillaryForPresident #CorruptHillary 
Points showing behind circle	Initial post with original attribution mark (image: Know Your Meme)

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