

# Communication for the Long Term: Information Allocation and Collective Reflexivity as Dynamic Capabilities

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## Abstract

In this commentary, we propose that two communication practices, *information allocation* and *collective reflexivity*, are dynamic capabilities that help develop a firm's long-term viability. The concept that an organization's actions or inaction constrain or enhance its future options and outcomes and—ultimately—its long-term survival, is the organization's viability. We discuss two facilitating conditions—presence awareness and organizational identification—and three organizational issues influencing the two communication practices that affect organizational viability—organizational members' perceived environmental uncertainty, organizational members' perceived scarcity of time, and feedback cycles between actions and outcomes that shape and are shaped by their temporal focus.

## Keywords

dynamic capabilities, information allocation, organizational adaptation, reflexivity, scarcity of time, temporal focus

In this commentary, we propose information allocation and collective reflexivity as two communication practices that promote an organization's viability. Viability is the extent to which an organization's actions or inactions, in the face of constraints,

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enhance its future ability to achieve desired outcomes. We posit that an organization's adaptive responses are mainly achieved through at least two communication practices—information allocation and collective reflexivity—which are influenced by facilitating and environmental conditions and members' temporal focus.

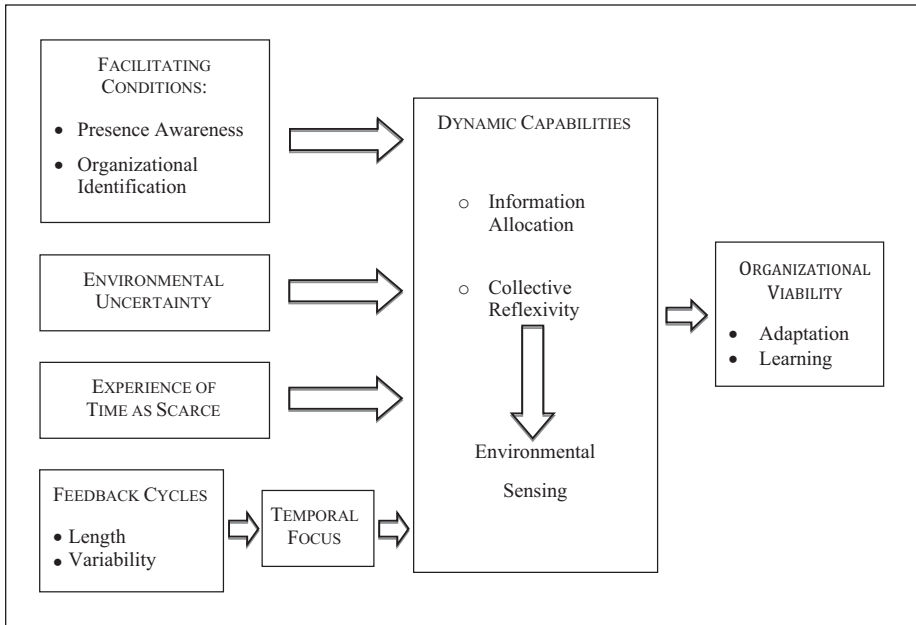
We define information allocation as forwarding new information to the organizational actor who can better act upon this information immediately and/or store it for future organizational actions (Huang, 2009; Wegner, 1995). This definition includes the possibility that the information will be acted on immediately rather than stored for future use. Although information allocation has been studied as a component of transactive memory systems (TMS), we consider that it deserves full examination in itself in order to avoid deemphasizing it in favor of information retrieval, which has been favored in most TMS research (Hollingshead & Brandon, 2003; Huang, 2009; Peltokorpi, 2008). We further propose that the development of effective information allocation necessarily requires collective reflexivity—organizational members pausing from their daily activities and coming together to exchange their views of action-outcomes linkages (Barge, 2004; Barge, Lee, Maddux, Nabring, & Townsend, 2008; Huber, 2004).

Both taking the time to allocate information and taking the time to collectively pause and reflect imply a constant tension between the present and the future; illustrated through common phrases “pay now or pay later” and the framing of negative short-term outcomes as “learning experiences” for the future. Given this temporal dimension, we acknowledge the role of experiencing time in organizational communication practices. Ballard and Seibold (2006) address the relationship between temporality and communication practices when they find support for the relation between a future perspective and interdepartmental communication.

We further suggest information allocation and collective reflexivity are dynamic capabilities because they develop through the configuration of organizational characteristics such as presence awareness, organizational identification, perceived environmental uncertainty, perceptions of time as scarce, length of action-outcome feedback cycles, and future temporal focus. Thus, information allocation and collective reflexivity develop over time and are difficult to imitate (Teece, 2007). Figure 1 presents a model describing the role of these communication practices in organizational viability.

## **Conceptual Foundations of Communication Practices as Dynamic Capabilities**

Scholars have suggested that, because environments are dynamic, viability is based more on an organization's resources and capabilities to adapt to their environments than on their market position (Teece, 2007). Resources that provide some advantage to the organization need to be nontradable, nonimitable, nonsubstitutable (Dierickx & Cool, 1989), and valuable (Barney, 1991).<sup>1</sup> Suggesting that what is difficult to imitate are not organizational resources themselves but the ways in



**Figure 1.** Information allocation, collective reflexivity, and organizational viability

which organizations configure resources into actions, Teece, Pisano, and Shuen (1997) propose the concept of dynamic capabilities as the

capacity to renew competences so as to achieve congruence with the changing business environment . . . [by] . . . appropriately adapting, integrating, and reconfiguring internal and external organizational skills, resources, and functional competences to match the requirements of a changing environment. (p. 515)

In this sense, organizational long-term viability is based on organizational intangible capabilities such as tacitness of knowledge (Dosi, 1988; Teece, 2007) and absorptive capacity (Cohen & Levinthal, 1990) embedded in different functions within the organization.

One of the intangible capabilities of organizations is the capacity to learn (Lei, Hitt, & Bettis, 1996; Leonard-Barton, 1992; Teece et al., 1997). Organizational learning is reflected in the range of potential behaviors, not necessarily in the behaviors or actions per se (Huber, 2004). The greater the range of potential behaviors, the greater the variability of actions organizations can take to face an unexpected event in the environment (March, 1991). In other words, learning implies developing the requisite variety to match environmental demands (Ashby, 1956). This requisite variety is not enough

for successful adaptation without the ability to sense changes in the environment and trigger organizational responses (Huber, 2004; Teece, 2007). We suggest that changes sensed in the environment by individual organizational members need to be shared in order to result in organizational adaptation. For this reason, the benefits of sensing cannot happen without information allocation—forwarding new information to those organizational members who can better store it (Huang, 2009) or act on it. Information allocation thus becomes crucial for both increasing the range of potential behaviors and for triggering organizational responses to changing environments.

To effectively allocate and retrieve information, organizational members need to identify who knows what within their organization or group (Hollingshead & Brandon, 2003). “Transactive retrieval occurs when at least two people work together to retrieve uniquely held information” (Peltokorpi, 2008, p. 379). Similarly, information allocation is also transactive and is enacted and brought to existence when interaction among organizational members leads to the appropriate allocation of information. This emergent property is what makes information allocation a dynamic capability. Furthermore, because information allocation can only occur when individuals can recognize those with the expertise to better store or use the information (Huang, 2009; Wegner, 1995), information allocation requires the reflexive recognition of interdependencies by organizational members. In other words, information allocation requires “accuracy in expertise recognition” (Palazzolo, Serb, She, Su, & Contractor, 2006, p. 226). Palazzolo and colleagues refer to accuracy not at an individual member level but at a network level, necessarily requiring collective reflexivity. Furthermore, because collaboration depends on perceived future interdependence (Parks & Posey, 2005), information allocation and collective reflexivity are related to organizational members’ focus on the future.

The following section elaborates on these two communication practices identified as dynamic capabilities—information allocation and collective reflexivity—and how their interplay with McGrath and Kelly’s (1986) three problems in collective action—uncertainty, scarcity of resources, and conflicting interests—requires scholars and practitioners to pay attention to the temporal tension between present and future in organizational communication practices.

## **Information Allocation and Collective Reflexivity**

In this section, we first define and explain information allocation and collective reflexivity. Then we describe how the enactment of these practices is constrained by the three problems in collective action identified by McGrath and Kelly (1986)—uncertainty, scarcity of resources, and conflicting interests.

### *Information Allocation*

Information allocation is related to Huber’s (2004) eclectic sensor responsibility because organizational viability is enhanced when organizational members are “alert

for firm-relevant information unrelated to their specific job responsibilities, and . . . communicate it to the relevant parties in the organization” (p. 55). Huber’s eclectic sensor responsibility is similar to boundary spanning, which is critical for organizational information gathering from external sources (Marrone, Tesluk, & Carson, 2007). However, Huber’s (2004) term *eclectic* further contrasts with the traditional practice of only assimilating information relevant to one’s own work or that of close coworkers. In this sense, information allocation as suggested in this article is also similar to Granovetter’s (1973) weak ties and the benefits of more diverse information, but with the added assumption that these ties are proactive within the organization.

Research on boundary spanning has considered several factors related to boundary spanning behaviors such as being in a higher position in the hierarchy (Manev & Stevenson, 2001), a team’s external focus, and being in the boundary spanning role (Marrone et al., 2007). However, those factors have not included the very real possibility that the person allocating the information may not benefit directly from sharing the information. Furthermore, because the focus is on weak ties, information allocation as proposed in this article is slightly different from information allocation in TMS because a key assumption in TMS is that individuals have relatively close ties with each other (Wegner, 1995). In contrast, information allocation here relies on proactive weak ties. As an example of information allocation, imagine that a corporate recruiter for a large oil corporation at a university job fair learns that a faculty member at this prominent university is writing a private 20-million-dollar grant to fund research on alternative fuels. Although allocating this information to other organizational members is not relevant to the recruiter’s job, it is relevant information for the organization and this information comes from a weak tie in terms of the individual who can actually act on the information.

Imagine that the recruiter for the oil corporation forwards the grant information and the actor receiving that information still dismisses it due to information overload (Walsh, 1995) or because the recruiter sending the information is not identified by the receiver as a source of critical information (a close tie). Information allocation is a dynamic capability because it requires both the organizational member stumbling on the information and the organizational member who benefits from that information to have a shared understanding of the relevance and potential benefits of the information (Beebe, Beebe, & Ivy, 2006).

The engagement in information allocation that is eclectic, voluntary, and potentially has no benefits to the individuals allocating the information requires facilitating conditions. Two potential facilitating conditions to increase organizational members’ engagement in information allocation are (a) increasing presence awareness (Espinosa, Slaughter, Kraut, & Herbsleb, 2007) and (b) fostering organizational identification through organizational-wide communication processes and messages such as socialization programs and mission statements.

Presence awareness refers to “up-to-the-minute knowledge of which team members are around, where and when, as relevant for the task” (Espinosa et al., 2007, p. 141). The idea of presence awareness can be broadened beyond teams

because organizational members' knowledge of how to effortlessly reach others that benefit from the information they possess may be critical in their decision to allocate information. We consider the notion of "being around" as to mean being accessible more than being physically present, which implies that information technology that facilitates those contacts and allows for electronic propinquity—"the psychological feeling of nearness that communicators experience using different communication channels" (Walther & Bazarova, 2008, p. 624)—plays a critical role in enabling information allocation to weak ties.

Facilitating the ability to allocate information through increasing electronic propinquity may not be enough for information allocation; organizational members also need to be aware of the overarching goals as well as the interdependencies among weak links within the organization and be committed to those goals. Mission statements and other organizational artifacts that foster organizational identification may be critical to achieve that commitment and understanding. For example, Williams (2008) found that higher performing *Fortune* 1000 firms used mission statements to foster employees' identification with the organization. Based on Williams, we consider that mission statements that increase employees' identification will also foster information allocation. Nevertheless, to develop the perceived interdependencies necessary for information allocation, organizational members require collective engagement in reflexive processes. Thus, organizational scholars and practitioners need to consider that for organizational members to recognize they possess information valuable to others in the organization, and to allocate this information appropriately, they need to engage in collective reflexivity, which is discussed next.

### *Collective Reflexivity*

Collective reflexivity requires that organizational members pause from their daily routines to reflect on their actions with other organizational members in order to understand the link between their actions and organizational outcomes (Barge, 2004, Huber, 2004). Collective reflexivity allows organizational members to continually adapt their work before they face a more dramatic disruption to their activities brought about by the oversight of trends and issues. We define collective reflexivity as similar to appreciative inquiry (Barge et al., 2008)—organizational workgroup members pausing from their daily activities and coming together to exchange their views of action-outcomes linkages. Given this temporal pause from day-to-day activities, available time becomes a critical resource for collective reflexivity.

When members do not appreciate reflexivity as a collective practice and instead focus their temporal resources on individual goals without regard to their interdependence, they may hinder the performance of their colleagues, their unit, and the whole organization (Rice, 2008; Thompson, 1967). In TMS, information considered memory is conceptualized as existing in the minds of individuals (Hollingshead & Brandon, 2003; Huang, 2009; Peltokorpi, 2008) or in information systems such as databases (Yuan, Fulk, & Monge, 2007). Nevertheless, as Walsh and Ungston (1991) note,

organizational memory is also contained in culture and structures. Furthermore, according to Walsh and Ungston, the memory embedded in culture and structures becomes automatic and does not require conscious retrieval, which can be problematic because it leads to a reduced engagement in the social construction of reality—enactment—by organizational members (Levinthal & March, 1993) and the maintenance of the status quo (Argyris & Schön, 1996). Collective reflexivity—collectively pausing and reflecting on organizational actions—becomes critical to counteract the tendency to maintain the status quo and engage in myopic, short-term organizational actions.

As an example myopic actions, Perlow (1997) found that a focus on short-term individual goals led some software engineers to constantly avoid meetings—sites of collective reflexivity—because they felt they had no time to get involved. Ironically, the focus on individual short-term goals was the behavior recognized and rewarded by the group's managers (Perlow, 1997). As Perlow's study illustrates, although collective reflexivity is beneficial in the long term, it may be inhibited by short-term needs because it may not lead to short-term tangible results or rewards for individual organizational members.

The description of the two communication practices identified here—information allocation and collective reflexivity—illustrates how the conditions of daily organizational action may inhibit their enactment and make them difficult to develop and even more difficult to imitate. McGrath and Kelly's (1986) three issues in collective action—uncertainty, scarcity of resources, and conflicting interests—further illustrate the organizational constraints on information allocation and collective reflexivity and are described in the next section.

## **Constraints on Information Allocation and Collective Reflexivity**

Three conditions inherent in collective action identified by McGrath and Kelly (1986)—environmental uncertainty, scarcity of resources, and conflicting interests—illustrate the centrality of everyday coordinative challenges in organizational viability. The first problem—environmental uncertainty—captures the inherently unstable relationship between the organization and its environment, as well as the role uncertainty experienced by the individual members that co-construct the organization. When facing uncertainty about their role, organizational members' orientations toward short-term and long-term outcomes influence whether they are willing to sacrifice present benefits for future “potential” outcomes (D'Alessio, Guarino, De Pascalis, & Zimbardo, 2003; Levinthal & March, 1993, March, 1991). For example, organizational members may put all their efforts into the accomplishment of quarterly performance goals because quarterly results might seem to be more controllable regardless of whether these short-term goals may compromise long-term viability.

A focus on the short term is related to uncertainty because it is based on the tendency of organizational members to recognize that the future is unpredictable (Crossan, Cunha, Vera, & Cunha, 2005; March, 1991). Because information allocation and

reflexivity take time and effort away from other activities with more immediate and certain outcomes, uncertainty leads organizational members to focus on retrieving what is known and inhibits the engagement in both information allocation and collective reflexivity. Organizational members' bias toward the certainty of the present is evident when some organizations rely on established routines and procedures that may not be the most adequate but have been successful in the past (Clampitt & Williams, 2005; Rice, 2008).

Uncertainty would not be problematic if organizational members had excess time and other resources to engage in as many organizational practices as they considered necessary (Sidhu, Commandeur, & Volberda, 2004). However, most organizations have limited temporal (i.e., person-hours, opportunity windows), material, and financial resources. Given the scarcity of time, organizational members experience a tension in allocation of temporal resources (McGrath & Kelly, 1986) that may manifest itself as a tension between engaging in retrieval of information related to short-term outcomes versus engaging in information allocation and reflexive actions critical to long-term outcomes. Furthermore, organizational members perceiving time as scarce may also regulate their interpersonal interactions (Perlow, 1997) by closing their doors or by avoiding both formal and informal meetings, thus limiting the possibility of collective reflexivity and information allocation in both formal and informal settings.

How organizational resources such as time are allocated depends on the value organizational members assign to the present and to the future (March, 1991). Because focus on present or future plays a role in individual choices and actions (Zimbardo & Boyd, 1999), organizational members' present focus will enhance or inhibit their engagement in information allocation and collective reflexivity when resources are scarce. The higher the focus on immediate and pressing issues, the more organizational members will focus on what is working well in the present—automatic retrieval of information based on prior developed structures and policies (Walsh & Ungston, 1991)—to achieve their own specific goals rather than in engaging other activities such as allocation of new information. In contrast, when organizations have surplus resources such as time, organizational members' present and future focus may coexist, as organizational members are more likely to attend to present issues and to invest time and other resources in future-oriented actions (Sidhu et al., 2004) such as sufficient communication cycles necessary for sensemaking (Weick, 1995). Thus, the availability of surplus resources allows investing in the organization's future, a practice necessary for long-term survival (Schumpeter, 1942).

The focus on future or present is different for organizational members performing different organizational functions (Ballard & Seibold, 2003; Dubinskas, 1988). The interaction of organizational actors from different functions and hence with different temporal foci reflects McGrath and Kelly's (1986) third temporal problem in organizations—*conflicting interests*. For example, organizational functions such as research and development (R&D) have different feedback cycles than other functions such as sales (Dubinskas, 1988). The longer the feedback cycle between an action and its expected outcome, such as an investment in R&D, the longer their



temporal focus will be. A long-term temporal focus will in turn foster the engagement in learning—increasing the range of future potential behaviors—through activities such as new information allocation and collective reflexivity. In contrast, short feedback cycles, such as those in sales, may lead to a bias toward the short term and inhibit the engagement in these practices.

Differences in feedback cycles and temporal focus can be regarded as deep-level diversity issues that grow stronger over time (Harrison, Price, Gavin, & Florey, 2002). Harrison and his colleagues found that deep-level diversity reduced social integration. Because social integration is necessary for members' engagement in information allocation and collective reflexivity, diversity of feedback cycles among organizational members may reduce these communication practices and lead to silos or cliques across organizational functions.

The relationship between organizational viability and information allocation and collective reflexivity is pervasive in different types of organizations, regardless of whether they are for-profit, nonprofits, or state institutions. The next section illustrates the relevance of these practices to organizational viability by identifying their recursive relationships over time.

### **Actions Over Time: Benefits and Unintended Consequences**

Three characteristics of organizational viability in the long term underscore the need for both scholars and practitioners to attend to reflexivity and information allocation. First, the tension between the present and future is pervasive in organizations. Given the pressures now imposed on organizations to perform, the increasing need to focus on immediate outcomes may inhibit the reflexive consideration of long-term consequences of organizational actions, or inaction brought about by not engaging in information allocation.

A second characteristic of organizational action and organizational viability is that organizational actions may lead to unintended consequences. Specifically, organizational actions focused on short-term benefits may quickly erode their ability to learn. For example, downsizing may be necessary in some cases to create lean and productive organizations (Kinnie, Hutchinson, & Purcell, 1997). However, because information allocation is based on informal rather than formal structure, "downsizing can have a devastating impact on innovation, as skills and contacts that have been developed over the years are destroyed at a stroke" (Cravotta & Kleiner, 2001, p. 90). Similarly, it is less costly in the short term to perform organizational practices that have become routine rather than invest in reflecting and allocating information to increase organizational learning. Given this myopic tendency toward the short term (Levinthal & March, 1993), engagement in collective reflexivity and information allocation needs to be nurtured even at the cost of short-term efficiencies.

A third characteristic of viability is that, because information allocation may not represent any short-term benefits to the organizational member allocating the

information, the costs and benefits of allocating information are unevenly distributed among organizational members. For example, organizational members who avoid engaging in collective reflexivity and do not take time to allocate information end up leveraging the knowledge of those who took time to reflect collectively. Furthermore, these organizational members retrieving information without contributing by allocating information may perform their individual job better and end up being evaluated more favorably by their supervisors, whereas those who spent their time reflecting and allocating information to others may be viewed as unproductive (Perlow, 1997).

## Conclusion and Implications

We advance two communication practices that enhance organizational viability. The first communication practice—information allocation—allows organizational members to identify opportunities and threats in their environments in a timely manner. We purposefully discuss this practice as separate from TMS because both its importance and its relationship to organizational and temporal conditions are deemphasized in discussions of TMS. Similarly, collective reflexivity allows organizational members to collectively pause and evaluate the link between their actions and desired outcomes, thus helping them develop identify potential issues before they become considerable disruptions. We consider these two communication practices as dynamic capabilities because the engagement in information allocation and collective reflexivity is influenced by the configuration of organizational characteristics that are developed over time and are difficult to imitate. Specifically, as illustrated in Figure 1, we consider a temporal component to these practices by adapting McGrath and Kelly's (1986) three issues in collective action into uncertainty about future environments, perceived scarcity of time, and conflicting interests due to differences in feedback cycles and temporal foci across diverse organizational units (Ballard & Seibold, 2003). Furthermore, we also consider that other organizational characteristics such as presence awareness (Espinosa et al., 2007), electronic propinquity (Walther & Bazarova, 2008), and organizational identification and awareness of overarching goals (Williams, 2008) can facilitate the engagement in information allocation and collective reflexivity.

Based on McGrath and Kelly's (1986) three issues in collective action, we propose that environmental uncertainty, organizational members' perceived scarcity of time, short feedback cycles, and the diversity in feedback cycles across organizational functions inhibit organizational members' engagement in information allocation and collective reflexivity. To further illustrate the relevance of information allocation and collective reflexivity for organizational viability, we conclude with the description of three temporal characteristics of these practices in organizations: (a) tensions between present and future actions are pervasive in organizations, (b) some organizational short-term practices may lead to unintended consequences, and (c) the costs and benefits of engaging in information allocation and collective reflexivity are unevenly distributed across organizational members. By emphasizing the critical relevance of information

allocation and collective reflexivity for organizational viability, we propose a framework where scholars may identify other conditions constraining the development of these communication practices that become dynamic capabilities and foster the long-term viability of organizations.

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### Note

1. Barney (1991) reframes Dierickx and Cool's (1989) resource characteristics to provide organizational advantage into the following: valuable, rare, imperfectly imitable, and non-substitutable.

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