

Entrepreneurial Work Design for Organization Agility

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Even though there has been considerable research on the topic of organization agility, these studies are not unified due to their limited views of agility dimensionality. Building upon existing literature of agility, this paper introduces a unified theoretical model of organization agility and investigates the attributes of the entrepreneurial work-design systems, which contribute to the achieving and sustaining of organization agility. We contend that these attributes allowing each participant in the word-design system to stay alert and respond to envioning trends and forces. A case study is reported as an illustration of this entrepreneurial work-design model for organization agility.

INTRODUCTION

There is an increasing recognition that agility is an imperative for business success of contemporary firms as they face intense rivalry, globalization, and time-to-market pressures (e.g. Gligor et al., 2015; Li et al., 2008; Sambamurthy et al., 2003). As the beneficial impacts of agility are increasingly acknowledged and more empirical support emerges on the link between agility and firm competitiveness (e.g. Blome et al., 2013; Giachetti et al., 2003; Gligor and Holcomb, 2012; Li et al., 2015; Sharifi and Zhang, 2001; Vickery et al., 2010), a question of great interest to both scholars and practitioners is: how can an organization can achieve and maintain agility?

Researchers and practitioners from diverse disciplines approach this issue from a variety of perspectives. For example, researchers in the field of operations and supply chain management focus on customization and postponement strategies, which allow more space to respond to demand changes in a flexible way (e.g. Braunscheidel and Suresch, 2009; Swafford et al., 2006; van Hoek et al., 2001). Scholars in the field of information systems promote information technologies as platforms that foster agility by helping achieve time reductions and quality enhancements in product design and development (e.g. Frayret et al., 2001; Sambamurthy et al., 2003), and facilitating communication necessary to coordinate work activities (e.g. Christopher et al., 2004). Scholars in knowledge management field contend that knowledge management practices can enable agility (e.g. Dove, 2005; Holsapple and Jones, 2005) by providing greater or faster awareness of changes.

Overall, what organization agility is and what factors comprise organization agility are still points of variation among scholars (Gligor et al., 2013; Li et al., 2008; Swafford et al., 2006; Sharifi and Zhang, 2001; Sherehiy et al., 2007; Yusuf et al., 1999). The lack of clarity about the nature of each term, as well

as how they are related, inhibits progress in understanding conditions needed to achieve agility. Therefore, **the first mission of this paper is to develop a relatively comprehensive and general conceptual model of organization agility and its components.** A general model of organization agility puts us in a position to better understand the nature of organization agility. To do this, we adopt a work-design view and investigate how to facilitate organizational agility through work design. In this conceptualization, which is based on the knowledge chain model (Holsapple and Singh, 2001), agility is very much concerned with alertness to changes (environmental and internal) and the capability to use resources in responding to changes in a timely and flexible manner (Li et al., 2008, 2009). We conduct this investigation at three levels: strategic, operational, and episodic. That is, an organization's agility manifests on multiple levels, and agility on each level is affected by the organization's system for designing and implementing work (i.e., its work-design system).

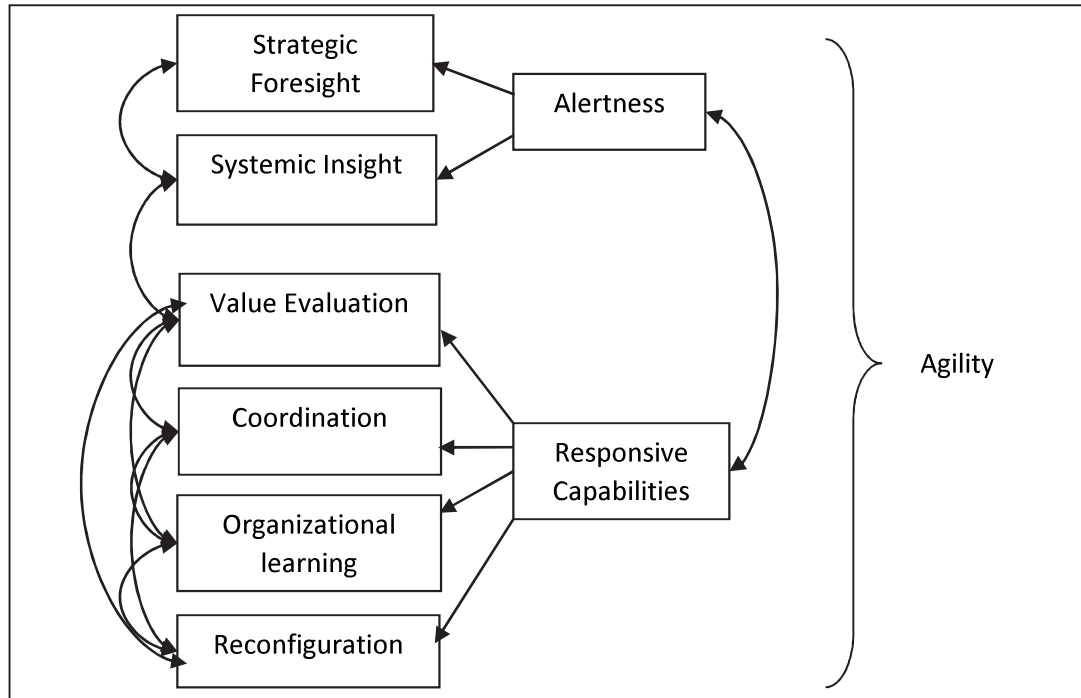
In the interest of a high degree of agility, the work-design system must be cultivated and treated with an entrepreneurial spirit. The aim is to sustain superior performance by dynamically arranging work so as to ride atop the waves of change and maintain balance in weathering the inevitable, unsettling, novel storms that can strike any organization – often with little warning (Holsapple and Jin, 2007). The **second mission of this paper is to address how to achieve and sustain organizational agility by identifying and investigating the attributes along an entrepreneurial work design path governing participant engagement, networking formation and system dynamics.** This leads us to introduce a research framework, contending there are three major governance factors that affect work design agility: participant engagement governance, network governance, and system dynamic governance.

The remainder of this paper is structured into five sections. Section 2 introduces a definition of agility that subsumes prior work, and to discuss dimensionality of the agility construct. Drawing on the conceptualization on agility, Section 3 develops a conceptual model of organizational agility from a work-design perspective. Section 4 introduces a research framework for understanding how agility can be achieved via entrepreneurial work design. Section 5 describes a case study to illustrate the entrepreneurial work design for organization agility. Section 6 concludes the paper.

AGILITY AND ITS COMPONENTS

By synthesizing facets of prior definitions in literature, Li et al. (2008, 2009) devise the following general-purpose definition of agility: *Agility is the result of integrating alertness to changes (opportunities/challenges) – both internal and environmental – with a capability to use resources in responding (proactive/reactive) to such changes, all in a timely and flexible manner.* Pushing forward from this definition by Li et al. (2008), we draw on ideas from entrepreneurship and strategic management disciplines to further develop this conception of agility. There are two primary reasons for doing so. First, opportunity discovery is at the core of entrepreneurship studies, while means for developing distinctive capabilities to respond to change is a major focus in strategic management research. Second, some scholars have shown that the understanding of the complementarity between entrepreneurship and strategic management provides promising avenues for researchers examining how organizations sustain competitive advantages in turbulent environments (Barney and Arian, 2001; Ireland et al., 2003; Meyer and Heppard, 2000). In this direction, we advocate an integration of concepts from the two disciplines into the two main dimensions of the agility construct: alertness to changes (opportunities /disturbances) and responsive capabilities to changes. Resultant components of agility are portrayed in Figure 1.

**FIGURE 1
THE COMPONENTS OF AGILITY**



The alertness dimension highlights agility as an opportunity-seeking capability from both external and internal vantage points, while the response capability dimension emphasizes agility in terms of change-enabling capabilities, which are embedded in organizational processes. Although distinct, the two dimensions of the agility construct are complementary. In the literature, some researchers have pointed out that a precursor of effective responses is timely awareness of change (e.g. Dove, 2005, Holsapple and Jones, 2005), which is alertness. Sambamurthy et al. (2003) argue that entrepreneurial alertness is essential for the activation of response capabilities. Gligor et al. (2013) and Li et al. (2008, 2009) conceptualized alertness as a distinct dimension of supply chain agility.

Two specific capabilities describe alertness: strategic foresight and systemic insight (Sambamurthy et al., 2003). Strategic foresight is the ability to anticipate discontinuities in the business environment and the marketplace, threats and opportunities in the extended enterprise chain, and impending disruptive moves by competitors. Understanding that not every opportunity is proper for action, organizations need to be alert not only to opportunity options, but also to those alternatives that can be exploited with their resources and competencies. Systemic insight refers to the capability to consider the interconnections between the organization's capabilities and emerging market opportunities. Strategic foresight is correlated with systemic insight.

Responsive capabilities to opportunities/disturbances are classified into two categories: capability to select actions and capability to enable actions. When change is detected or anticipated, an organization faces alternatives courses of action. Good response ability requires intelligent choice making, based on insightful problem definitions and sound value propositioning skills (e.g., Dove, 2005). The capability to enable actions (e.g., Goldman, 1995, Goldsby et al., 2001, Dove, 1994, 1999, 2005), includes components of coordination, learning, and reconfiguration.

The value of change varies among organizations in terms of relevance, significance, and priority (Chung, 2006). To make good decisions as to which changes deserve responses, organizations must be capable of assessing the value of undertaking a response. The value evaluation component reflects an organization's response capability in making decisions in pursuit of competitive advantages (Dove, 2005).

Systemic alertness is correlated with value evaluation, because systemic insight enables an appreciation of the feasibility of seizing opportunities and treating competitive risks (Sambamurthy et al., 2003).

According to the theory of dynamic capabilities, an organization's capabilities to enable change-responsive actions lie with their distinctive ways of coordination, learning, and reconfiguration (Teece et al., 1997). Coordination refers to the ability to manage dependencies among activities and resources (Maione and Crowston, 2001). Incentive systems, culture, routines, or trust can be used as coordination mechanisms. Learning includes the generation of new insights that have a potential to reshape behavior (Huber, 1991). Reconfiguration refers to the ability to adjust an asset structure, and to accomplish the necessary internal and external transformations (Teece et al., 1997). The responsive capabilities are determined by the interplay of value evaluation, coordination, learning, and reconfiguration as indicated in Figure 1.

ORGANIZATION AGILITY: A WORK-DESIGN PERSPECTIVE

It has been suggested that agility manifests at multiple levels in an organization. Yusuf et al. (1999) identify three such levels: elemental, referring to the agility of an individual resource (e.g., person, machine); micro, referring to the collective agility of a firm; and macro, referring to interorganizational agility. There is, however, no discussion of internal/environmental drivers for these levels, resource usage in achieving agility on these levels, how both agility dimensions are pursued on each level, measures of agility on these levels, or relationships among the levels.

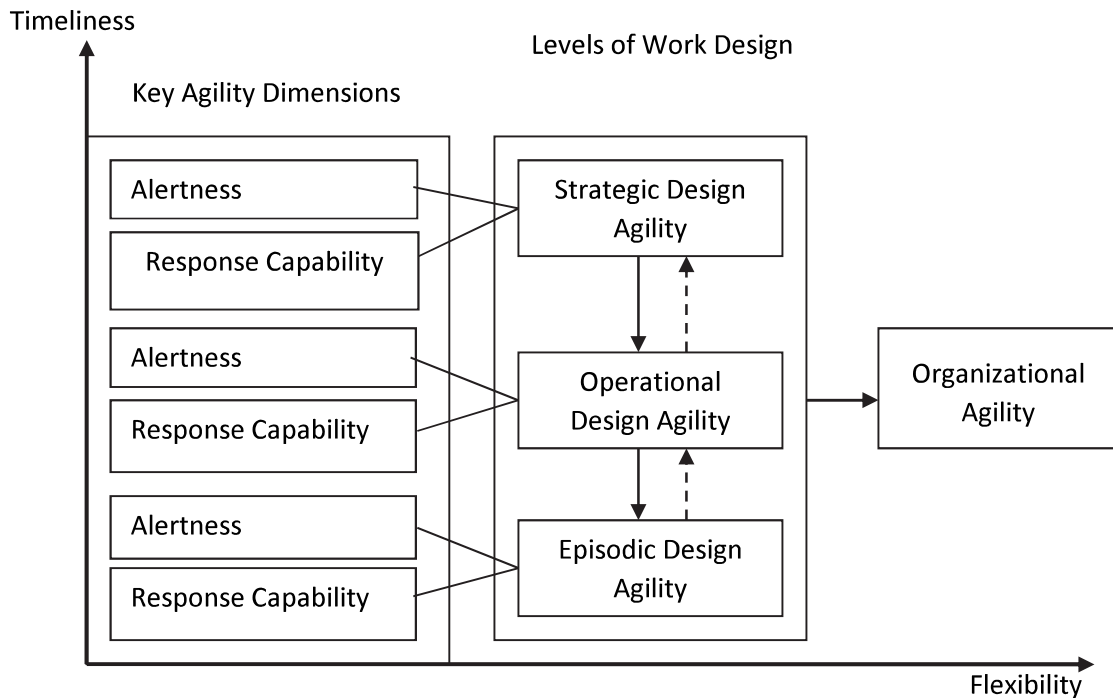
To make further progress, we need a more comprehensive model of organizational agility. Following Li et al. (2008), we adopt a work-design perspective to conceptualize organizational agility, which embraces the strengths of prior studies, but also includes elements that have heretofore not been covered in a single conceptualization of organizational agility phenomena. The work-design perspective reflects the idea that an organization's work is not random, but the outcome of a work-design system. Sinha and Van de Ven (2005) tell us that work consists of "the set of activities that are undertaken to develop, produce and deliver a product—that is, a physical and/or information good and service." (p.390). A work-design system arranges work to fulfill an organization's mission in alignment with that organization's strategy.

This work-design perspective is also in line with the theory of dynamic capabilities (Teece et al., 1997). The agility definition tells us that the key dimensions of agility are alertness and response capability. According to Teece et al. (1997), dynamic response capabilities are embedded in work routines. We extend Teece's idea to contend that dynamic alertness capabilities can also be embedded in work routines. Thus, agility is influenced by the design of work routines.

According to Drucker (1991), an organization's effectiveness (in pursuing its mission, while adhering to its strategy) stems from getting the right things accomplished in the right ways. This notion of "getting it right" suggests that work can indeed be designed in ways that allow an organization to "get it right" in the face of internal and environmental change (i.e., be effective from the standpoint of agility). How work is designed to realize agility ultimately influences an organization's effectiveness. Scholars in the field of supply chain management regard agility as one criterion for evaluating effectiveness in the case of supply-chain organizations (Li et al., 2015; Ketchen and Hult, 2007).

The work-design perspective of Li et al (2008) portrays three design levels: episodic, operational, and strategic. Integrating the two primary components of agility (alertness and response capability), the characteristics of agility (timeliness and flexibility) with the three work design levels, we advance a work-design model of organizational agility, as depicted in Figure 2.

FIGURE 2
A WORK-DESIGN MODEL OF ORGANIZATION AGILITY



An organization can concentrate on achieving agility on any one or combination of these work-design levels, and the organization's overall agility is a function of agility achieved at each of the three work-design levels. Solid arrows between levels in Figure 2 indicate top-down. Dashed arrows between levels indicate bottom-up, grass-roots influences. For instance, strategic design agility influences operational design agility, and operational design agility can influence episodic design agility. Conversely, agility in designing work episodes may lead to greater operational design agility, or agility improvement at the operational design level could enhance agility at the strategic level of work design.

As an organization works to accomplish a particular task, it engages in one or more *work episodes*. An organization's work episodes may unfold simultaneously or asynchronously, and each may span multiple geographic locations. Within an episode, work gets done through a complex web of interactions among participating knowledge workers. The knowledge workers participating in a specific work episode are alert to opportunities or challenges (due to changing environmental or internal conditions) for task adjustments. In the course of using existing or acquired resources to accomplish a task, they integrate their alertness capability with their capabilities for response (proactively/reactively) to execute the episodic task in a timely and flexible manner. Where there is episodic agility, the execution of a work episode does not demand rigid adherence to some work design that has been specified at the operational level, but rather is subject to design modification (or even substitution) in response to conditions local to that particular episode. That is, the organization tends to operate at the episodic edge – in order to reap the benefit of agility at this level.

Operational design is concerned with ways in which work episodes are initiated, performed, and terminated in reaction or pro-action to changes. Agility at this level is the result of integrating an organization's alertness to opportunities and challenges of demand/supply (environmental/internal) changes with the organization's capability to respond (proactively or reactively) to these changes by devising new templates for governing work at the episodic level, by allocating resources to work being

done at the episodic level, by guiding the timing and duration of work episodes – all in a timely and flexible manner (i.e., yielding high agility at the operational work-design level).

The strategic level of work design is concerned with structuring and governing operational work design, so that the latter is aligned with the organization's mission and its strategy for accomplishing that mission. Such alignment is important for being able to create value by exploiting business opportunities, maintaining congruence with a turbulent environment, sustaining competitiveness, and ultimately surviving. Agility at the strategic level of work design is the result of integrating an organization's alertness to opportunities and challenges – both internal and environmental, and particularly in a macro sense – with the organization's capability to respond (proactively or reactively) to these changes by designing new kinds of operational work-design systems or reshaping existing operational work-design systems – all in a timely and flexible manner (realizing high strategic design agility).

From Figure 2, observe that organizational agility is a function of agility at the three levels of work design. Thus, the model postulates that an organization's agility is influenced by (or at least predicted by) the nature of its work design at each of the three levels, in concert with how it administers the relationships among these levels. Notice that the key facets found in the general definition of agility occur at each level. Alertness and response capability are main dimensions for each level. Timeliness and flexibility for each dimension measure the degree of agility at each level. Affordability and relevance are considerations for each dimension on each level. To understand how to get the right work done in an agile way, a deep appreciation of relationships among episodic design agility, operational design agility, and strategic design agility needs to be developed.

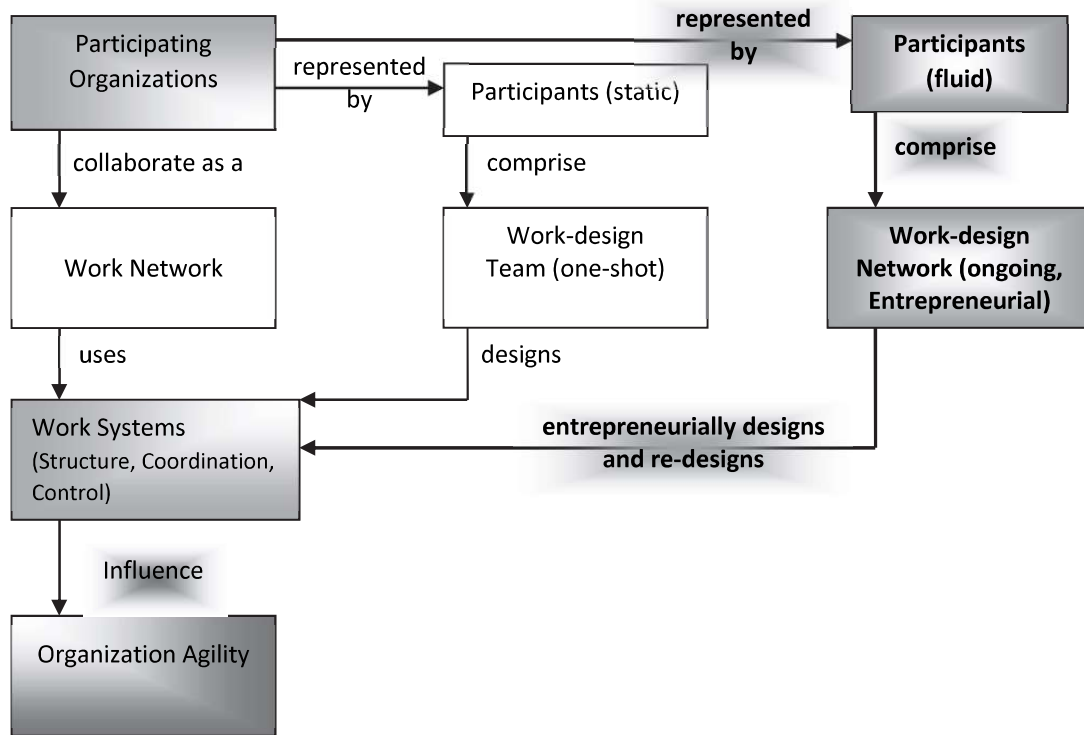
ENTREPRENEURIAL WORK DESIGN FOR ORGANIZATION AGILITY

Work design appears to be, at least in part, a social process. In their framework of agile supply chain, Christopher et al. (2004) contend that an agile supply chain is achieved through the ability to manage or orchestrate the complex network and to focus on, or make the best use of, the core competencies and strengths of network partners. In their study, Sharifi and Zhang (2001) conclude that two sources of agility are concurrent team-working and virtual organization. If work design is truly a social process, then focusing more explicitly on this social side should enhance an understanding of what it takes for an organization to be agile – in ways that allow every worker to contribute to work design.

There remain many unanswered questions about how patterns of relationships involved in work design, or work design networks, affects organization agility. For instance, we know that relationships involved in work-design networks are not homogenous: their content, intensity and depth vary widely in the work-design networks. Should an organization purposely engage certain participants so that agility-oriented alignment can be more readily achieved? Are certain types of relationships helpful for work design to be agile? Social relationships may not always facilitate agility, so when are relationships constraining?

We address these questions by identifying and investigating the attributes along an entrepreneurial path to work design, as shown by the shaded path in Figure 3. This diagram displays a continuum of work design governing system, ranging from a static/one-shot practice to an ongoing entrepreneurial process.

FIGURE 3
AN ENTREPRENEURIAL PATH FOR WORK DESIGN TO ACHIEVE ORGANIZATION
AGILITY



The governance system for an agile organization is a knowledge-intensive work-design network that takes an entrepreneurial approach. The core of this path is the work-design network, comprised of a fluid set of participants that represent the multiple organizations participating in a work network and collaborating in the interest of inventing and improving work design. The foregoing is consistent with common practice in social network research, which focuses on specific types of networks, such as "friendship network" or "advice network" (Brass, 1984; Krackhardt, 1990). Here, we focus on "work-design network." However, the concept of a "work-design network" has not been examined in social network research.

Work design networks do not emerge at random. Instead, they are collective achievements involving numerous participants from public and/or private sectors who pursue their different partisan interests in constructing an infrastructure that sustains the work-design system (Van de Ven, 1999) through continuous network change involving dissolution with old partners and reformation with new ones (Ching et al., 1992). In other words, a work-design network involves a process of *network entrepreneurship*, which represents network actors' activities to create new work design network or transform existing ones to strengthen their collective capabilities, such as organization agility, the focus of this study.

However, network changes are constrained. We sometimes cannot dismiss a partner easily. Once relationship-specific routines such as certain technology-based rules or embedded cultures become institutionalized between parties, it is less likely that firms will replace their partners with new ones based solely on economic motivations. The literature has conceptualized constraints on network change as network inertia – a persistent organizational resistance to changing interorganizational ties, or difficulties an organization faces when it attempts to dissolve old relationships and form new network ties (Kim et al., 2006). The net benefits of network entrepreneurship are a function of how network inertia is managed.

The shaded entrepreneurial path as indicated by Figure 3 amounts to a research framework that contends there are three major governance factors that affect work design agility: (1) participant engagement governance, which deals with the network fluidity level of participants; (2) network governance, which determines the formation of the work-design network in a way that allows its participants to collaborate in pursuit of work design agility; (3) system dynamic governance, which handles inertia in system design and redesign.

Participant Engagement Governance: Network Fluidity

A network has social relations varying along three dimensions: structure, affect, and cognition (Kang et al., 2007). Social structure refers to the patterns of social connections among network participants. The affective dimension is concerned with motives, expectations, and norms among related parties. The cognitive dimension involves the importance of shared representation, understanding, and systems of meaning for doing work. A change in any of the three dimensions will cause the network to change or to be fluid. For example, (Zeggelink, 1995) shows that individual preferences to establish relationships with similar friends or heterogeneous others cause networks to evolve into different networks.

Therefore, we investigate network fluidity, viewed as the characteristics of network participants from three aspects, learning, relational adapting, and relational alignment. These are parallel concepts to structure change, affect change, and cognitive change. We define network fluidity as network participants' willingness and ability to change social relations. The construct of network fluidity has three dimensions: learning fluidity, relational adapting fluidity, and relational alignment fluidity.

Learning fluidity refers to the willingness and ability of network participants to facilitate two types of knowledge flows: 1) common architecture knowledge – a shared understanding among participant organizations about the interconnections among all components in some domain of interest, or of how things fit together (Matusik and Hill, 1998); and 2) common component knowledge – knowledge of the components themselves. Learning involves overlapping, complementary knowledge that relates to a discrete aspect of an organization's processes. To be agile, a work-design network needs to be alert to changes. The capacity for alertness benefits from the availability of knowledge that is sufficient in diversity and detail. Because of the cognitive limits of any given individual, knowledge availability is greatly enhanced by knowledge sharing among participants having complementary knowledge (Hartono and Holsapple, 2004). In this sense, common architecture knowledge provides a cognitive mechanism to transfer and understand large amount of knowledge and complicated knowledge and experiences that are difficult to conceptualize adequately (Hill and Levenhagen, 1995).

Common component knowledge refers to the knowledge of parts or components. Specifically, it is overlapping knowledge that relates to a subroutine or discrete aspect of an organization's operations. Common component knowledge also can contribute to the design of agile work systems. To explore new work-design opportunities or alternative ways of design, designers must know enough about the content domain of other designers' expertise to assimilate it, interpret it, and recognize its value in work design. In other words, common component knowledge allows participant organizations to recognize, understand, and assimilate novel knowledge from a wide range of related participants.

Relational adapting fluidity refers to the willingness and the ability of network participants to reshape their network structures when necessary (i.e., entering or exiting relationships) without ties to legacy issues or the way the network has been operated previously. Facing changes, firms take actions such as outsourcing, changing partners, and creating new work ties to arrange work. Social network literature suggests that weak and non-redundant networks rich in structural holes are more agile. The "hole" argument (Burt, 1992) describes a world of change – a world of discovering and developing opportunities to add value by changing social structure with bridges across holes in the structure. In contrast, strong and dense networks are not easy to change due to the strong connections among parties (Kim et al., 2006).

Relational alignment fluidity refers to the willingness and ability of network participants to build trust, which functions as a governance mechanism to ensure consistency of interests among participants in a network. Participants in work-design networks tend to pursue their different partisan interests while

collaborating in the construction of an infrastructure that sustains the work system. As a result, incentives must be organized in such a way that all parties' interests are aligned. When designers are simultaneously dependent on, and vulnerable to, the actions and decisions of others and where hierarchical authority does not exist, trust becomes a major organizing principle (McEvily et al., 2003).

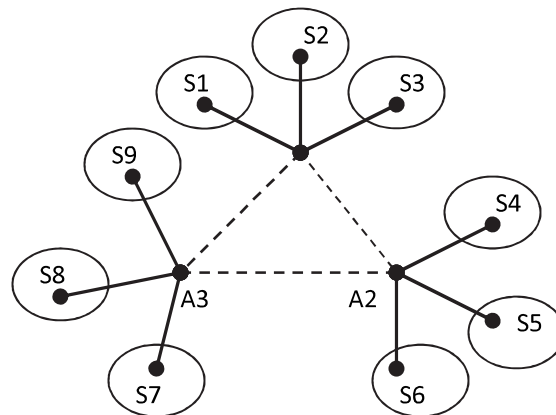
The foregoing discussion suggests that organizations should engage participants whose aptitudes and attitudes are consistent with attributes of network fluidity – who are open to work-design agility, reveals an organization's entrepreneurial attitude – aiming to discover and exploit opportunities.

Network Governance

Once participants are engaged in a work-design network, how much they can contribute to work design agility is affected by the governance mechanisms, which decides how they seek for work design help and their structural positions in the work design network.

Figure 4 shows an example of a simple work-design network. It has three participants, A1, A2, and A3, connected through weak ties as represented by dashed lines. Each participant is at the edge or periphery of the work-design network and has connections to work design supporters (e.g., S1, S2... S9) outside the boundary of the work design network. These work supporters are ancillary participants (individuals or networks themselves). We contend that procuring work-design participants at peripheral positions, with many boundary-spanning ties outside the work-design network, is likely to be associated with higher work-design agility; peripheral participants connected to each other with weak ties are better for work-design agility than if they had strong ties.

FIGURE 4
AN ENTREPRENEURIAL TYPE OF WORK-DESIGN NETWORK



We can classify ties along two dimensions: tie diversity and tie strength (Brass, 1995; Ibarra, 1993). Tie diversity refers to the range (or the number of work systems) from which a participant draws and receives support for work design as an ego node in the social network. By network relationship strength, we mean duration, reciprocity, and frequency of communication. We assert that a participant with highly diversified and strong boundary-spanning ties contributes to more agile work design.

Suppose there is a network participant whose work design ties include suppliers, customers, scientists, and lean manufacturing consultants. The range of this actor's boundary-spanning ties is relatively high compared to a network actor having ties with four participants all of whom are suppliers. The greater the range of network ties is, the more different work-related ideas are available to the work-design network participant. Ideas from other areas may spark new thoughts, resulting in a greater set of options for work-design problems. In addition, a network participant with wide ranging network ties can bridge otherwise unconnected clusters of participants (and bring the knowledge of ancillary participants

to bear on a work-design network) in a more timely and flexible manner, compared to one with less diversified ties.

Research from a variety of disciplines has shown that tie strength is associated with such factors as network structural flexibility and affect variables, such as trust (Krackhardt, 1992). These factors are closely related to the ability to respond to changes (Krackhardt and Stern, 1998). To realize the benefit of entrepreneurial opportunities that can be provided by its diverse ties, an ego participant simultaneously needs to have strong ties with its work supporters, because strong ties motivate individuals to act on behalf of a local person (Granovetter, 1982; Krackhardt, 1992). Otherwise, the value of the diverse ties cannot be realized if the work supporters (S1, S2, and S3) are not motivated to help the ego network participant (A) in its work.

Benefits of boundary-spanning ties for work-design agility will not be fully achieved if the participants are not positioned at the periphery of the work-design network. First, compared to a highly centralized position that can access other members of the network with the fewest links (Freeman, 1979), the peripheral participant is not as deeply embedded in the network. Thus, this participant should be more able to be alert and attend to new, divergent ideas sparked by outside connections to different networks, and be freer to take advantage of these ideas without the constraints of inertia (such as established network norms). Second, the participant with boundary-spanning ties will have flexibility in devising response possibilities – able to ponder solutions without considering peer pressures, thereby enhancing agility-related capabilities, such as value evaluation, learning, and reconfiguration. With participants are positioned at the edge, the work design network has low degree of density and is more agile.

Compared to strong ties, which typically exist between people who share similarities (Ibarra, 1982), weak ties are more likely to connect people with diverse perspectives, different outlooks, varying interests, and diverse approaches to problems (Granovetter, 1982). Cognitively, the access to more perspectives should facilitate agility in terms of increasing alertness and enhancing the skills to identify different alternatives and generate flexibly thinking, thus improving reconfiguration capability. Structurally, networks with weak ties have less inertia to resist design changes, as opposed to those with strong ties. It is easier to exit a weak tie, because the participant is less likely to strongly identify with one group. It is also easier to form a weak tie, because it requires less time and effort than a strong tie does. We expect that connecting participants on the periphery of a work design network with weak ties will contribute more to agility than connecting them with strong ties.

System Dynamic Governance

To achieve and maintain agility, organizations must renew or redesign its work systems constantly. We expect the existence of governance mechanisms for dynamic changes in work systems affects agility. Work-design systems can emerge at every level of work design (strategic, operational, and episodic). Organizations vary in ways combining work-design-system governance factors contributing to agility, work design levels and agility mode (proactive or reactive). This is how organizations differentiate from each other in achieving and sustaining desired level of performance through agility.

AN ILLUSTRATIVE CASE

In this section, we use a case study to illustrate the entrepreneurial work design for organization agility. This case describes how a global company (a Top-100 fortune company) uses work design system as governance mechanisms to achieve and sustain agility in its supply chain networks. We choose a global company because the success of global companies is heavily dependent on their ability to manage their collaborative relationships with their supply chain partners so that they can be agile in arranging work to respond to changes (opportunities/challenges). We focus our investigation on supply chain network for two reasons. First, a supply chain network is a network organization without formal hierarchical structure. It is an appropriate research subject for the Edge form, because the focal company must empower its partners to arrange work. Second, in today's business environment, the ultimate success

of an individual organization depends on its management’s ability to design and manage the company’s intricate network of work relationships (Christopher, 1997; Drucker, 1988).

Our informant for this case is the director of supply network design of this Top-100 fortune company. We refer the company as Firm A. Appendix 1 shows Firm A’s practices in relating work design system factors to supply chain network agility.

At strategic level, to achieve work design agility in its supply network, Firm A engages participants into work design, who have or had some type of partnering relationship with itself (relational alignment fluidity), who are known for their skill sets of agility (learning fluidity), who have culture for change, meaning that they take change in organization structure as agility efforts (adapting fluidity). As we expect, the degree of participants network fluidity affects work design agility.

To leverage the knowledge and expertise of identified work design partners, Firm A establish strong ties with them by involving them into its supply system, “making alertness the responsibility of the supply system”, said our informant. To establish diversified ties, Firm A forms different industry groups, for example packaging group, chemical group. Each industry group involves many companies associated with that industry. However, cross-industry group is formed occasionally, just when there is a need. Therefore, the density in Firm A’ work design network is low. To make sure its supply network behaves in a timely and flexible manner in the face of macro environmental changes, Firm A renew its supply system every year with a 5-year horizon.

Firm A’s strategic work design regulates its operational work design governance mechanism. For each critical work system, Firm A assigns a global process owner (GPO), who is supported (alignment fluidity) by a horizontal process network (HPN) composed of participants. These participants are that work system’s experts (learning fluidity), across each business unit/region for that work system (adapting fluidity). The GPO has strong tie with his diversified supporters. To handle inertia in designing and redesigning work to respond to change, Firm A make the GPO and supporting HPN accountable for the ongoing renewal of the work system based on the company’s strategic objectives (role specification). They work monthly against this task and that of the continual qualification of the skills of the individuals executing the work (performance metrics). In anticipation for task changes, contingency plans are drawn for every function based on task and scenario and practiced every year (contingency plan).

Although Appendix 1 displays Firm A’s strategic work design system and operational work design system separately, two levels design are not happening sequentially but concurrently. In addition, Firm A always plays the driver/proactive role in changing its work design system. According to our informant, Firm A does not have to consider work design at the episodic level, because its operational work design is a design for exception which already incorporates the change elements at episodic level. Based on reports in industry publications (e.g., *Supply Chain Management Review*), by reputable research agencies (e.g., Gartner Research) and financial data, Firm A is known for its ability to achieve and sustain agility in its supply chain network. Therefore, Firm A’s governance pattern to achieve and sustain agility can be summarized in Table 1.

TABLE 1
FIRM A’S WORK DESIGN GOVERNANCE PATTERN FOR SUPPLY NETWORK AGILITY

	Strategic Work Design			Operational Work Design			Episodic Work Design		
	PEG	NG	SDG	PEG	NG	SDG	PEG	NG	SDG
Proactive	Yes	Yes	Yes	Yes	Yes	Yes	N/S	N/S	N/S
Reactive									
Simultaneity of work design at three levels									Yes
Supply Chain Network Agility									High

Note: PEG=participant engagement governance
 NG=network governance
 SDG= system dynamic governance

CONCLUSION

This study first advances a relatively comprehensive model for organization agility from a work-design perspective. Then, this paper investigates those attributes of an entrepreneurial work design system, which contribute to organization agility. In an entrepreneurial work design system, its governance mechanisms (participant engagement governance, network governance and system dynamic governance) involve three work-design levels: strategic, operational, and episodic. These entrepreneurial governance mechanisms provide agility-building attributes, whereby the impetus for its work-design efforts stem not from hierarchical authority structure, but rather are distributed among participants and through their networking dynamics. These attributes allow each participant positioned at the edge of the system to stay alert and respond to enviroing trends and forces, on behalf of the system and in concert with the system. The results of a case study confirm that the governance mechanisms in the entrepreneurial work design system have positive effects on organization agility. This work-design model for agility offers a new theoretical platform for researchers and practitioners to understand organization agility and guidance for agility development.

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APPEDIX 1
RELATIONSHIPS BETWEEN AGILITY AND CONTRIBUTING FACTORS (FIRM A)

