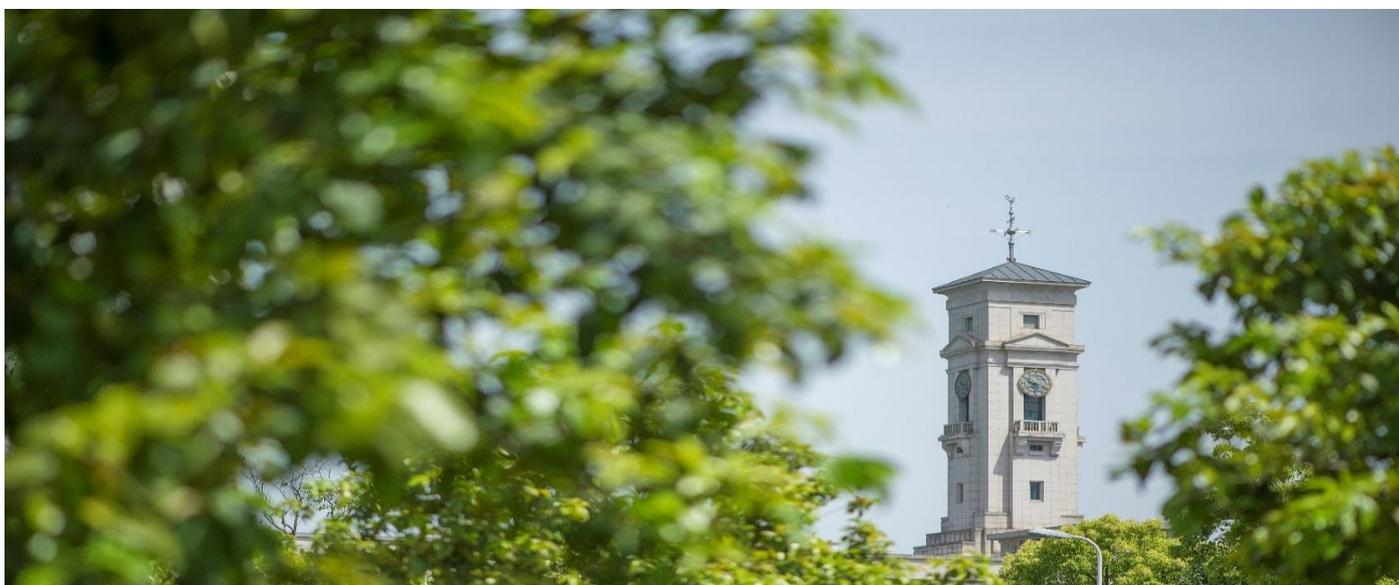


Organizational Resilience for a New Normal: Balancing the Paradox of Global Interdependence

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Organizational Resilience for a New Normal:

Balancing the Paradox of Global Interdependence¹

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There is little doubt that the ongoing event of COVID-19 pandemic has caught the world by surprise, similar to a “*black swan*” event with the characteristics of unexpected occurrence and severe consequence (Telab, 2007). The current pandemic started in a single location, but rapidly spread to the whole world on both spatial and temporal dimensions. This commentary explores two issues. First, what are the underlying causes of this “black swan” event and its consequences? Second, what can be learned from this crisis for organizations to be more resilient in the future (see Linnenluecke, 2017; Williams, Gruber, Sutcliffe, Shepherd, & Zhao, 2017, for recent reviews)?

Organizational resilience refers to a special organizational capability to prepare for, respond to, and learn from adverse events (including crisis as an unexpected but severe adverse event) so as to bounce back for survival in the short run and also bounce forward for thriving over time. This definition covers all associated notions with all adverse events as the central antecedent; preparing, responding and learning as the core mechanisms across three stages, and surviving and thriving as the primary outcomes, thus an integrative input-process-output framework of resilience at the organizational level.

This commentary is built upon two core assumptions. The first assumption is that this pandemic is just one of crises as part of an emerging “new normal” as delineated by the contextual features of volatility, uncertainty, complexity, and ambiguity (VUCA). The second assumption is that interdependence bears both positive and negative effects, and the opposite sides jointly constitute the *paradox of interdependence*, especially in the context of globalization, such as the interplay between global integration and local differentiation (Eriksen, 2014; Prahalad & Doz, 1987). From the perspective of *yin-yang balancing* (Li, 2014), paradox can be framed as partially conflicting and partially complementary between opposite elements (e.g., threat-opportunity context, and central-peripheral vision).

Major Causes of Current Crisis

Concerning the underlying causes of this “black swan” event and its consequences, this commentary focuses on two factors: tight coupling in interdependence and overconcentration of supply. The two factors are interrelated with the former as the primary and the latter as the secondary concerning the vulnerability of global interdependence. Since the positive side of global interdependence is well-known, we focus on the ignored dark side as rooted not much in the magnitude of global interdependence, but primarily in its current form or pattern.

The first underlying cause of the current crisis is the tightly coupled form of global interdependence. It is argued that the excessive tight coupling of diverse nations in the global network is to blame for the fast and wide spread of COVID-19 along the global network due to the massive cross-border travelers, and the shortage of medical supplies in the world due to

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the extremely interconnected supply chains for components across the world with “cut-to-bone” dependency on outsourcing, thus little buffer for sudden shock. Such problems vividly reflect the well-known “*butterfly effect*” in the chaos and complexity theories (Gleick, 1987). In this sense, everybody in the world is more or less equally and collectively vulnerable due to the tightly coupled global interdependence. This can be illustrated by a historical war in the era of the Warring States in the post-Han Dynasty (220-280 AD). When the Northern state tried to attack the Southern state by crossing the Yangzi River, the Northern army chained all the boats so as to stabilize them for the Northern soldiers who easily got seasick with the rocking boats. However, the tightly chained boats created the vulnerability of being attacked by fire from the Southern navy, which resulted in the major defeat of the massive Northern army by the small Southern navy. This shows the negative effect of tight coupling on resilience: when one component in the system encounters a problem, the rest are incapable of avoiding the same setback. Further, tight coupling increases system rigidity as the former is often associated with centralization, formalization, standardization, and integration, thus further hurting resilience (Orton & Weick, 1990; also see Zhou, this Forum).

Directly related to the above point, the second underlying cause of the current problem is the overconcentration of global supply in one or very few locations, which exacerbates the negative effect of tightly coupled interdependence in the global network. For example, as the so-called “factory of the world”, China has an overwhelming concentration of supply chains in most, if not all, manufacturing clusters, for the rest of the world markets. The mix of tight coupling in global interdependence and overconcentration of global supply, reflected by the lack of slack or buffer in the medical supply at home, further exacerbates the negative impact of the current pandemic. As reported by *New Yorker* (Mukherjee, 2020), the acute lack of medical supplies in US is largely the result of cost-cutting measures by many US providers, who have outsourced from China as pushed by the competitive-bidding programs, while about half of such firms have gone out of business. The similar situation is in the case of medical drugs. Under these conditions, if China fails to export, the rest of the world is bound to suffer from the shortage of essential supplies.

Further, the above two interrelated problems appear to derive from the finance-obsessed business model rooted in the “liberal market capitalism” (e.g., US and UK), in contrast to that of “coordinated market capitalism” (e.g., Germany and Japan), as discussed in the research on the varieties of capitalism (Hall & Soskis, 2001). Underlying the current problems of tight coupling in global interdependence and overconcentration of global supply due to short-term cost minimization, this finance-biased version of capitalism tends to hurt resilience at all levels. Hence, we call for a renewed debate over the diverse versions of capitalism, especially the balance between opposite features of multiple versions (Witt & Jackson, 2016; also see Redding, this Forum; Zhou, this Forum).

Potential Solutions to Future Crises

For the lessons we learn from this crisis, we offer two solutions to address the problems of tight coupling and overconcentration. First, we need to redesign the current configuration of global interdependence from a tightly coupled system to a loosely coupled one. At the organizational level, the effect of interdependence on resilience is concerned with the balance between the need for interdependence and that for autonomy in both internal and external links. Second, we also need to shift from overconcentration of global supply in one location (often rooted in tight coupling) to diversified sources, at both national and organizational levels. Take Toyota as an example, after two disruptive events in the forms of factory fire in

1997 and earthquake in 2011, which cut off its supply of crucial parts, Toyota learned the value of loose coupling in interdependence in its supply chain (Mukherjee, 2020). It modified its just-in-time system to allow for at least a month's worth of specialized components, thus building strategic slack into its operation; further, it also created a database, called RESCUE, with supplies grouped into different tiers, their risks regularly evaluated in terms of potential adversity, and finally information about almost seven thousand parts continually updated; finally, it trains its employees how to react during disasters. In short, Toyota proactively manages the risks to the entire system if any node in the supply network fails.

The most critical type of slack does not take the form of hardware or physical stock, but software in terms of mindset and soft capability. As Weick (1993: 641) pointed out, "extreme confidence and extreme caution both can destroy what organizations most need in changing times, namely, curiosity, openness, and complex sensing...It is this sense in which wisdom, which avoids extremes, improves adaptability." Specifically, four major sources of resilience can be identified (Weick, 1993), (1) improvisation and bricolage; (2) virtual role systems; (3) attitude of wisdom, and (4) norms of respectful interaction. It seems that the above sources of resilience are all related to the notion of *loose coupling* (as a *dialectical balance* between collective responsiveness and individual distinctiveness, Orton & Weick, 1990) in the sense that loose coupling can enable resilience.

Consistent with the perspective of yin-yang balancing (Li, 2014), in contrast to the view of structural ambidexterity that paradoxical elements must be separated in different locations, loose coupling explains "the simultaneous existence of rationality and indeterminacy without specializing these two logics in distinct locations," so "loose coupling suggests that any location in an organization (top, middle, or bottom) contains interdependent elements that vary in the number and strength of their interdependencies. The fact that these elements are linked and preserve some degree of determinacy is captured by the word *coupled* in the phrase *loosely coupled*. The fact that these elements are also subject to spontaneous changes and preserve some degree of independence and indeterminacy is captured by the modifying word *loosely*. The resulting image is a system that is simultaneously open and closed, indeterminate and rational, spontaneous and deliberate" (Orton & Weick, 1990: 204-205). For example, loose coupling as a balanced approach to organizational paradoxes enables resilience by providing a structural support for self-organized improvising and bricolage. Bricoleurs remain creative under pressures, precisely because they routinely act in chaotic conditions and pull order out of chaos with the innovative mixes of available resources at hand (Baker & Nelson, 2005), often via creative improvisation, especially in the context of emerging economies with resource constraints (Li, Zhou, & Yang, 2020).

According to Weick (1976), there are several benefits of loose coupling in contrast to tight coupling (1) it allows some components of an organization to persist without the need to adjust in the face of contextual changes; (2) it provides a sensitive sensing mechanism; (3) it permits a localized adaptation with the flexibility of partial change without disrupt the whole system; (4) it preserves the identity, uniqueness, and separateness of some elements so that the system can retain a richer variety with potentially novel solutions; (5) it makes the system intact by sealing off one part of the system suffers a breakdown; (6) it allows more room for self-determination and self-organization; and (7) it reduces the cost of managing a complex system by minimizing the costly effort to coordinate diverse elements. A good example is the watertight compartment in a ship, an indigenous invention in the ancient China.

Put differently, there are three key effects of loose coupling: modularity, requisite variety, and discretion (Orton & Weick, 1990), all required in the VUCA context for organizational resilience by enhancing agility and innovation not only to survive but also to thrive. First, loose coupling enhances the modularity for persistence and buffering in a system, while tight coupling reduces it. Second, loose coupling is more capable of matching the VUCA context through requisite variety for agile and versatile adaptation. Third, loose coupling enables two forms of discretion: behavioral discretion is the capacity for agile autonomy, while cognitive discretion is the freedom to frame something from diverse perspectives. The latter is related to the notion of *peripheral vision for vigilant leadership* as sensitive to weak signals of both threats and opportunities (Day & Schoemaker, 2006). This can be reinforced by a strong sense of crisis among “paranoid” leaders (Grove, 1999), such as the founders of Huawei and Haier. This *threat-vigilant leadership* is deeply rooted in the Chinese traditional culture as reflected in the old saying, “be alert to threat in time of security” (居安思危 in Chinese), but this is clearly lost in China’s state in recent years (Zhou, this Forum). Hence, loose coupling can address both problems of tightly coupled global interdependence and overconcentration of global supply, especially via self-organized local adaptation, modularized local supply (e.g., 3D printing), and contextualized local innovation, primarily in a bottom-up process.

Applying the view of loose coupling to the current pandemic, a lower-order resilience in term of bouncing back for survival can take the format of incremental innovation upon the agility and versatility of resources in the form of improvising and bricolage, such as business swap (e.g., the shift from producing cars or auto parts to ventilators or face masks); cross-business cooperation (e.g. sharing workforce by moving oversupplied functions to undersupplied ones, such as from waiter to delivery-man initiated by Alibaba), and also crowdsourcing for new products or services (e.g., turning cargo containers into medical wards for COVID-19 patients and also virus-cleaning air-conditioners, both by Haier).

Further, the higher-order resilience in terms of bouncing forward for thriving (taking the crisis as the great moment of “unfreezing” for transformation in the following areas: (1) digital transformation; (2) greater regionalization and some localization of supply chains; (3) dual or even more sourcing; (4) balanced supply from both external and internal sources; (5) workforce cross-training; (6) redesigning organizational structure with three *distributive* ends for co-opetition in an open-ended platform-enabled ecosystem: self-organized agile front-end team; modularized robust central-end hub, and open-minded foresighted back-end HQ (*3-End Architecture*, cf. Galbraith, 2010; also see Grandori, this Forum).

Taking the case of China’s reforms in the late 1970s led by Xiaoping Deng, we can see that this reform clearly reflects the benefits of loose coupling in terms of an *implicit* federal system of governance at two levels: (1) a division of labor between the central and the local states agencies with a critical interplay between top-down strategic direction and bottom-up tactical discretion, and (2) a division of labor between diverse local state agencies to compete for resources from both the central state agencies and emerging market forces (Li, 2005). The Chinese history shows, when the central state adopts the policy of loose coupling with a good balance between centralization and decentralization, China will enjoy prosperity; whenever the balance is off, either too much centralization with little discretion at the bottom, or too much decentralization with little shared direction, China will suffer (Zhou, 2017, this Forum; also see Redding, this Forum). Further, this national pattern is reflected at the organizational level, as in the case of Haier with CEO’s broad calls and employees’ concrete responses (Lewin, Välikangas, & Chen, 2017), and also applicable to academic research as a balance between universal and indigenous perspectives (March, 2005). It is imperative to have a

balance between differentiation (often via bottom-up processes) and integration (often via top-down processes) at and cross multiple levels (Lawrence & Lorsch, 1967), including its salient implications for overcoming the middle-income trap (Lewin, Kenney, & Murmann, 2016).

In sum, we should avoid the polarized extremes of either tight coupling or decoupling in favor of loose coupling to various degrees so as to effectively manage the paradox of global interdependence, with an *asymmetrical balance* between moderately tighter coupling in some aspects at certain times (e.g., cultural values, historical legacies, shared information, shared platform/ecosystem, collective learning, joint action, and focal vision; at the stage of initial response to crisis with quick reaction and fast adjustment) and moderately looser coupling in other aspects at other times (e.g., local slack, multi-site sourcing, flexible/nimble capabilities, diversity for innovation/creativity, and peripheral vision; at the pre-crisis stage of preparation with alertness and readiness, and the stage of later bouncing back in the shortest time and bouncing forward in the greatest scope). Future research is needed to verify the salient effects of loose coupling on organizational resilience at and across different levels, including the curvilinear links between paradoxical elements.

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