CHAPTER 4

A Unified Adaptive Theory of Global Business Culture

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Introduction

How people respond to change and how people interact are broadly considered to be the fundamental drivers of business culture. This dynamic is aptly demonstrated amidst challenges and perturbations such as viral pandemics, resource and energy shortages due to climate change, and financial crises (Ram, 2019), to name a few. For example, in response to the COVID-19 pandemic, the generally accepted advice globally, on average, has been to "stay at home," "maintain social distancing," "work from home," among other preventative behavioral working protocol. These pandemic prevention protocols have been operational for the longest period of time in history since the industrial revolution, over the largest number of continents, and have in turn revolutionized global business culture as we know it. In keeping with the digital revolution, and the upward trend toward decentralized leadership models, the 2020 pandemic spurred the adoption and spread of virtualization, both in work and social culture thereby influencing how people respond to change and

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how people interact in the information age. This pandemic paradigm shift to virtualization has bolstered the need for aspirational or transformative leadership for integrated and adaptable global organizations, capable of withstanding potential perturbations associated with global complexities such as pandemics, climate change, global financial recessions, and energy crises. This chapter serves to provide insight toward a unified adaptive theory of global organizational culture, in alignment with theories of future leadership, thereby integrating the pillars of culture with a foundation necessary for sustainable implementation and growth.

Organizational culture has often been considered one of the most influential yet controversial aspects of management research and practice stemming from the wide array of interpretations of what it constitutes (Linnenluecke & Griffiths, 2010). In this chapter, the link between organizational culture and organizational adaptivity and sustainability is synthesized within the context of the globalization of business resulting from the four industrial revolutions. The associated anthropological activities associated with industrial revolution, such as electricity generation and animal factory farming, are fossil fuel intensive, and leading drivers of climate change and global warming. Other industrial activities such as the manufacture of textiles and industrial infrastructure contribute to natural resource scarcity, and extinction of species. Thus, understanding the link between organizational culture and organizational adaptivity and sustainability is critical to defining the role of organizational culture in positive socio-ecological change initiatives.

The purpose of this chapter is to articulate the role of organizational culture in facilitating organizational adaptivity and sustainability, as important evolutionary processes for resource and economic management of complex adaptive systems (Ram, 2017), specifically within the context of the fourth industrial revolution, the information age, or Industry 4.0, amidst perturbations resulting from global complexities such as financial and energy crises, pandemics, climate change, and global warming. As such, synthesis of how industrial revolution spawned globalization leading to the age of information and Industry 4.0, as a complex adaptive system, is discussed. Thereafter, conceptualizations of organizational culture are presented and further synthesized for applicability within the age of information. I then propose a unified adaptive theory of global business culture using the theoretical lenses of the competing values framework for culture

and complex adaptive systems theory for organizations. Key recommendations for managerial practice are provided based on my proposed unified adaptive theory of global business culture.

Globalization and Industry 4.0

The first industrial revolution began with the discovery of steam power in the late eighteenth century, which transformed industrial production, followed by electrification in the late nineteenth century, thereby revolutionizing production line manufacturing, as can be seen in Fig. 4.1. Microelectronics and information technology gave rise to the third industrial revolution in the twenty-first century, also known as the age of information. According to the United Nations Industrial Development Organization (UNIDO), the process of improving the globalization of information known as digitalization is key to enabling the fourth industrial revolution or Industry 4.0 (Yong, 2017). Increased automation, the Internet of Things (IoT), and increased machine-to-machine communication are among key innovations of Industry 4.0.
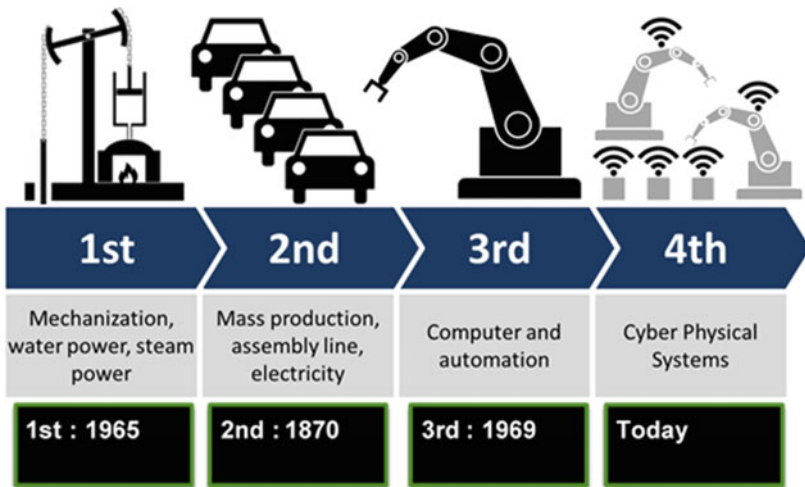

Fig. 4.1 Timeline of four industrial revolutions (Adapted from Source: Christoph Roser at AllAboutLean.com)

DIGITALIZATION

Digitalization is envisioned to improve competitiveness, productivity, energy, and resource efficiency, all while improving employability and environmental conditions (Yong, 2017). To reap the advantages of digitalization, several hurdles must be cleared, including readiness for businesses and governments requiring information technology, business process improvements such as stable connectivity, digital infrastructure such as wider access to the Internet in developing countries at the very least, closing the digital skills gap, re-engineering business models, policy and regulatory framework development such as that required for storage of big data, and a shift from centralized to decentralized methods of work. Spurred by the financial and energy crises, one of the challenges of Industry 4.0 is the need to shift from centralized to decentralized methods of work, requiring less frequent commutes to brick and mortar offices and institutions (Ram, 2017, 2018). Deductively, decentralized approaches to work, such as the virtualization of processes and other green information technologies (Green IT), are environmentally less strenuous, but also reduce the risks associated with human interactions amidst a viral pandemic such as COVID-19. Another major challenge of the claim that global digitalization is the crux of Industry 4.0 is the need to close the digital divide as half the worlds' population do not have basic access to the Internet (Yong, 2017), thus drawing attention to the economic inequalities between developing and developed countries.

VIRTUALIZATION

Virtualization is by no means novel to the digital age, as exemplified by creating and maintaining relationships with pen-pals in the 1990s; however, information technology (IT) has facilitated improved virtual experiences through technologies such as haptics, thereby catapulting virtualization as an effective type of Green IT. Green IT is defined as cost-effective and energy-efficient methods of using IT (Bose & Luo, 2011). Virtualization and other Green information technologies show promise in the areas of improved supply chain efficiency, reduction in energy requirements, and reduced environmental burden by facilitating agile workforces (Bose & Luo, 2011). Moreover, virtualization offers the benefit of increased workplace satisfaction by facilitating flexibility for

employees to work from the comfort of their own homes or other self-designated locations. Overby (2008) proposed the theory of virtualization to identify whether a given process is suitable for virtualization or not. Overby posited sensory requirements, relationship requirements, identification and control requirements, and synchronicity requirements, as the independent variables and virtualization as the dependent variable for testing the virtual amenability of processes. As technology has improved to the extent that an increase in sensory requirements may no longer be negatively related to virtualization, further research is required to test the validity of the hypotheses that underpin the theory of virtualization. In alliance with the "Resilience, Robustness, Sustainability and Adaptive-Capacity" (RRSA) management framework (Ram, 2017), virtualization as a type of Green IT contributes to the 15% reduction of emissions requirement by 2020 to mitigate further catastrophes associated with global warming and climate change (Ram, 2017, 2018).

Conceptualizations of Global Business Culture

An influential model for developing theories and frameworks of organizational culture in the literature is the competing values framework (CVF), which posits organizational culture as existing within 4 quadrants. The x-axis lies on a continuum between the demands of the organization's internal dynamics and its external environment, competing with the y-axis, which lies on a continuum between flexibility and control (Quinn & Rohrbaugh, 1983). Organizations which lie on the flexibility end of the spectrum tend to employ methods of social coordination and control to achieve the required behaviors and outcomes. Flexibility measures include socialization, internalization of beliefs, commitment, training, peer pressure, and participation. In contrast, organizations leaning toward the control end of the continuum often use formal methods for coordination and compliance with regulations, such as direct supervision, rules, policies, financial planning, and budgets. The open systems model is geared toward organizations that focus on external environmental needs, while maintaining coordination and control via flexible means such as visionary communication, adaptability and change, and flexible decision-making in order to achieve growth and resource acquisition. Individuals are thought to be motivated by the ideological significance of their work in the open systems model. The human relations model is geared

toward organizations that focus on internal dynamics and employ flexible methods of coordination and control by valuing the goal of achieving cohesion and morale via training and development, open communication, and participative decision-making. Theoretically, trust, and long-term commitment to organizational traditions fosters individual compliance with organizational regulations in the human relations model.

On the lower left quadrant of the CVF, the internal process model, also referred to as the hierarchical culture encompasses the characteristics of organizations that emphasize conformity with internal organizational dynamics, often enforcing rules and technical details, over the external environment, aiming to achieve stability and control using information management, precise communication, and data-based decision-making. On the lower right quadrant of the CVF, the rational goal model meets the needs of organizations that focus on the external environment using control mechanisms aimed at achieving efficiency and productivity via goal setting and planning, instructional communication and centralized decision-making. While the four CVF culture types appear to be in stark contrast, they can coexist within the same organization.

Ideally, managers should strive to achieve a balance between the pillars of people, adaptation, task accomplishment, and stability using the four quadrants of the CVF. Furthermore, managers are cautioned that over-reliance on a single approach, such as the internal process model, can lead to rigid hierarchical bureaucracy that is dysfunctional in the presence of changes in the external environment, such as viral pandemics, climate change, energy and financial crises. In other words, the four quadrants of the CVF appear to be in stark contrast to each other because they lie on opposing ends of the flexibility and control continuum, with competing internal and external organizational demands, but organizational balance is derived from skillfully applying all four approaches, at different stages of the organizational life cycle, to meet the demands of change and growth.

Through the lens of the CVF, it is evident that organizational culture comprises of values, beliefs, and assumptions that describe the organization, and inform employee behavior (MacIntosh & Doherty, 2007). More articulately, organizational culture can be thought to encompass three dimensions, namely (i) the observable culture comprising visible organizational structures and behaviors; (ii) espoused values manifested as philosophies, goals, and strategies; and (iii) the underlying assumptions consisting of unconscious beliefs and perceptions thereby informing organizational values and action (Schein, 2004). Synthesis of the relevant

literature on organizational culture prior to the COVID-19 pandemic revealed four widely acknowledged attributes thereof, namely culture is a shared group phenomenon; culture is enduring in the sense that organizations seek employees that embody their corporate culture and vice versa; culture is informed by evolution, therefore the way people respond as a result of their cultures is implicit; and fourthly, culture is pervasive in that it permeates behaviors, rituals, stories, symbols, environments, and mental models, among other manifestations (Groysberg, Lee, Price, & Cheng, 2018).

The integrated cultural framework is built on the CVF, consisting of 8 styles of corporate culture within the 4 quadrants of the CVF (Groysberg et al.). From the integrated cultural framework perspective, the x-dimension of the CVF represents how people interact, and the y-dimension represents how people respond to change. According to Groysberg et al., caring and purpose are culture styles in the top right quadrant of the CVF, with learning and enjoyment in the top left quadrant, results and authority in the bottom left, and safety and order in the bottom right. While the integrated framework for corporate culture (Groysberg et al.) provided useful guidelines, the attribute of culture as necessarily shared, as in not existing within an individual but rather as a shared phenomenon was contradicted by the authors' claim that the integrated framework can be used to define individuals' cultural styles as well as employees and leaders. By definition of the shared attribute, culture applies to at least two people as a shared phenomenon, thereby obfuscating the extension of their framework to the definition of individuals' styles, which might be more appropriately described as member styles.

Global Business Culture in the Information Age

Drawing on these conceptualizations of global business culture, a distinct gap existed between what Industry 4.0 global business culture called for in the information age, and the culture of business-as-usual prior to the COVID-19 pandemic. While many organizations launched greener products and initiated policies for change to address unsustainable resource use, and improve stakeholder relations, the scholarly literature supported the notion that significant cultural change and transformation are required to better respond to urgent socio-environmental challenges. Industry 4.0 in the information age calls for the use of IoT, Green IT, and decentralized models of work, requiring organizational emphasis on innovation,

change, and sustainability. If viewed through the theoretical lens of the competing values framework (CVF), the global organizational culture of Industry 4.0 in the information age aligns more closely with the open systems model. Organizational culture has the potential to derail the implementation of innovations, change and sustainability initiatives (Linnenluecke & Griffiths, 2010), thus a clear articulation of global organizational culture in the information age is critical for successful enablement of Industry 4.0.

The challenge in describing a unified adaptive theory of global business culture involves marrying the conceptualizations of global business culture with the ontology of organizations as complex adaptive systems (CASs) and their cultural requirements with lessons learned from practice in 2020 and upward trends toward virtualization and autonomy in the information age (Krzywdzinski, Jürgens, & Pfeiffer, 2016), which were otherwise negatively correlated with job insecurity (De Spiegelaere, Van Gyes, De Witte, Niesen, & Van Hootegem, 2014). Considering that employment sentiment was negatively affected by increased economic anxiety linked to the coronavirus pandemic (Fetzer, Hensel, Hermle, & Roth, 2020); that involuntary unemployment rates rose during the pandemic (Fornaro & Wolf, 2020); that job insecurity causes a host of psychological, sociological and health problems (De Spiegelaere et al.); and that the way teams work has undergone a pandemic paradigm shift from office-based workstations to home-based virtual workstations, thereby increasing autonomy within teams, aspirational or transformative leadership (Ram, 2017) should inform the development of a unified adaptive theory for global business culture.

A Unified Adaptive Theory for Global Business Culture

As I previously articulated in "Complexity: The Tipping Point for Leadership" (Ram, 2017), organizations are complex adaptive systems (CASs) exhibiting varying degrees of the properties of CAS, namely emergence, self-organization, observer-dependency, evolution, adaptivity, robustness, resilience, system nestedness, chaos, and self-similarity. As previously discussed, the property of self-similarity for CASs, as it applies to organizations, is physical and psychological. Self-similarity is physical in the sense that highly networked organizations display fractal-like self-similarity in the organization of nodes. Self-similarity is psychological in the sense

that organizational self-similarity is a self-referential process of individual identity being informed by organizational identity and vice versa (Ram), thereby informing organizational culture. Emergence is a property of complex adaptive organizational culture resulting from organizational micro-dynamics such as uncertainty, unpredictability, and nonlinearity, which also contribute to overall organizational evolutionary fitness and resilience on one end of the spectrum, and difficulty in controlling the system on the other (Ram). Interaction, as a bottom-up process of social structures, and more specifically autocatalytic interaction, is an important attribute of emergence.

Autocatalysis is the process whereby agents within social organizational units are catalyzed by tags to take action. For example, the 2020 pandemic became an influential tag in decision-making for leaders of governments, and public and private organizations globally resulting in the development of strategies specifically aimed at mitigating the negative consequences of the pandemic. In this example, organizations that used relevant information tags for the pandemic to catalyze their plans and actions increased their resilience measures and organizational evolutionary fitness, despite the high degree of uncertainty, thereby improving chances of survival. The 2020 pandemic posed a high degree of difficulty in controlling the spread of the virus, which depended on the cooperation of agents' interactions such as implementing, maintaining, and improving social distancing and sanitization measures (Harari, 2020). Autocatalytic interactions as an attribute of emergence fosters innovation, renewal, surprise, stability, order, extinction, and change.

A Unified Adaptive Framework for Global Business Culture

In order to develop a unified adaptive theory of global organizational culture, the ontological description of global organizations as CASs, discussed above, is employed in tandem with the competing values framework for business culture (CVF), as both have been empirically tested and widely cited in the literature. Overlaying the CVF with the fact that bureaucratic organizations exhibit less complexity than organic organizations, higher degrees of adaptivity, sustainability, and the other properties of complex adaptive systems are present in organizations that lie in the top 2 quadrants of the CVF. In other words, organizations that value flexibility and consider the external environment, such as represented

in the open systems model of culture and the human relations model of culture, are more likely to possess the qualities of complex adaptive systems. However, as this is a unified adaptive framework for global business culture, the hierarchical culture and rational goal model of culture cannot be dismissed by virtue of lacking complexity due to inflexibility. The advice given to managers to discerningly apply all four approaches of the CVF for business culture at different times in an organization's lifecycle, depending on varying organizational needs, implies that there are situations which do indeed call for a high degree of control. At such times, the hierarchical culture and rational goal models are appropriate, albeit for a limited time.

Reflecting on lessons learned in practice from the coronavirus pandemic, different countries responded differently to the catastrophe, some with tight bureaucratic measures to control civil behavior with strict consequences for disobedience and others adopting the opposite approach. In the corona case, stricter control measures proved to curb the spread of the virus to the extent that people adhered to the measures. Thus, the role that the lower 2 quadrant cultural models play in this unified adaptive framework is intermediary, with organizations employing transition methods from their current model of culture into either of the lower 2 quadrants and vice versa, in order to survive and then thrive amidst environmental uncertainty. The degree to which organizational processes can be virtualized plays a role in determining whether organizations should transition to the lower quadrants, as organizations with a high degree of virtualization capacity such as Industry 4.0 organizations, need not transition to the lower 2 quadrants during extreme environmental threats such as pandemics, as the cultures associated with virtualized and Industry 4.0 organizations do not lend themselves to high-risk contamination environments.

Conclusion

The unified theory of global business culture herein developed calls for the four models of business culture to be employed at various stages in the process of organizations transitioning to complex adaptive systems in the information age. Transition to Industry 4.0 using the RRSA management framework and virtualization is supported by the unified theory of global business culture. The desirable characteristics of resilience, robustness, sustainability, and adaptive capacity have been empirically derived as

traits of complex adaptive organizations capable of withstanding severe environmental perturbations such as viral pandemics, climate change, and global warming.

Recommendations

Organizations that possess the desirable qualities of resilience, robustness, sustainability, and adaptive capacity (Ram, 2017) are complex adaptive systems with processes that are amenable to virtualization in the information age. Organizational models that are energy and resource intensive, such as animal factory farming, place a burden on the carrying capacity of the planet and compromise the quality of all life involved in that system. Within the context of the coronavirus pandemic, the path of contamination occurred from animal to human in wet markets, which over and above their risk of viral infectious disease, are morally incomprehensible. I have discussed this point at greater length in "Complexity: The Tipping Point for Leadership" (Ram, 2017). The 2020 pandemic seems to be the answer to the question I posed in that publication. In other words, it is the—FA in the equation.

The unified theory of global business culture herein developed calls for a top-down transition to adaptive, sustainable, and resilient business models in the information age. Pertinent to this process is an organizational-wide emissions audit using the RRSA simulation tool (Ram, 2017), thereby revealing the processes that are negatively related to adaptive capacity, the degree of sustainability of processes, the relationship between organizational resilience and adaptive capacity as well as the degree of robustness of organizational processes. Resonating with the open systems cultural model, visionary communication should inform all stakeholders of the processes underway to facilitate adaptability and change through flexible decision-making. The outputs of the RRSA emissions audit should then inform the inputs for a virtualization feasibility assessment. After validity studies have been conducted, the theory of virtualization holds promise as a future tool to assess the feasibility of process virtualization. Thereafter, the human relations cultural model should be employed to foster training and development on virtualization processes, encouraging open communication and participative decision-making. The internal process model and rational goal model are called

upon temporarily with specific goals in mind at mature stages of the adaptive cycle after organizations have transitioned to Industry 4.0 complex adaptive systems models.

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