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## **Disruptive Effects of the Coronavirus – Errors of Commission and of Omission?**

John Pourdehnad<sup>1</sup>, Larry M. Starr<sup>2</sup>, Venard Scott Koerwer<sup>3</sup>, and Harry McCloskey<sup>4</sup>

It is increasingly evident that the coronavirus disease, COVID-19, is more than a health problem; it is and will continue to adversely affect work and workplaces, education, families and social engagements, political and environmental dimensions, and financial indicators. Apart from its health ramifications, the crisis is revealing serious challenges in the global supply chain. Those difficulties are, at least in part, consequences of unwise, short-sighted business decisions made over the course of decades to outsource and downsize.

The late professor Russell Ackoff of the Wharton school used to say, “An economy is about generating and distributing wealth. Capitalism is great for generating wealth and socialism is good for distributing wealth. The problem with socialism is that very little is available to distribute and the problem with capitalism is the inequitable distribution of wealth.” He also said, “The Industrial Age model of progress harvesting social and natural capital to produce financial capital is not sustainable.”

The outsourcing and globalization mindset fundamentally changed the way businesses are run today. Moving manufacturing to developing countries as part of globalization strategy started in earnest in the 1970s with the consumer electronics industry. Outsourcing’s popularity increased because of lower labor costs and because companies are judged by their profit which increases when labor costs decrease. This is reflected in desirable stock prices which invite more investment capital. This is important to think about. Labor is so much cheaper outside the U.S. that we can afford to have products such as electronics made on the other side of the planet then shipped back to the U.S., and still realize greater profits.

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As noted by Congressional Quarterly, Inc., most Fortune 500 companies no longer produce their own products in-house. New international trade rules combined with technological breakthroughs such as robotics, cloud computing and software, have created intricately connected worldwide supply chains. These have cut costs, boosted profits, and made China the world's second largest economy, and paradoxically both a global competitor and America's biggest trading partner.

Two strategies drive profit: Generating additional revenue and cutting costs. Many organizations operate from the premise that it is much easier to cut costs than generate additional revenue streams. Cost cutting devolves into a tactic for short-term financial benefit. Yet, the strategy of cutting costs is often preferred by Wall Street, a fact evidenced by stock price increases for companies that outsource or downsize.

The Dow Jones Industrial Index can be used to better understand a capitalistic economy which increasingly promotes what some call "short-termism." Unfortunately, the current uncertainty, unpredictability, and massive fluctuations in the Dow Jones Index do not measure or reflect the disruption and complexity of our current global economic system. While President Trump's approach to trade policy — using import tariffs and other punitive measures as leverage when negotiating international agreements — led many US companies to restructure global supply chains, the necessary renegotiation and implementation will take time, particularly in the midst of a global pandemic.

### **What Kind of Problem is This?**

If this is more than a health problem, what kind is it? An economic problem? A transportation problem? A political problem? It resembles a supply chain problem because we cannot get the pharmaceutical products, the hospital masks or the other goods we import from China and other countries. About 20% of the retail supply chain is exposed to China, according to Cowen analyst Oliver Chen during an interview with CNBC on Feb 26, 2020. Outsourced companies cannot get the parts they need to run their businesses which is, in turn, having significant impact on the stock market.

We think the COVID-19 has coproduced these problems and more. Moreover, COVID-19 is a global, social problem. While epidemics and pandemics are not new phenomena, one of this magnitude in our complex global economic context is a new challenge for which there is no collective expertise. Thinking of this as merely a health problem that can be solved by health experts is insufficient. Such an unwise approach will likely produce more unintended consequences due to the interactions among health, financial, education, and social systems, to name a few. This kind of problem has too many unknowns to deal with using a mechanistic or single industry mindset.

We have without question a "wicked problem." This label came about in 1973 to help describe a special class of problems that are emergent, dynamically complex and may not have readily available solutions. Wicked problems are volatile, uncertain, complex and ambiguous, often difficult to recognize, and difficult or impossible to solve using past solutions because of

incomplete, contradictory, and changing requirements. There is no clear problem definition with a wicked problem due to interdependencies and difficulty with discerning cause and effect relationships. Thus, the solution cannot be fully developed until after the formulation of the complex problem.

We think the best label for the COVID-19 is **a complex adaptive systems problem**. Because the health system is interconnected with many other complex systems, we cannot approach this problem with the same thinking that enabled it. Solutions for this are not right or wrong or true-or-false, but better or worse. Solutions are emergent; there are no experts who can solve this type of problem on their own. Every complex, wicked or messy problem is essentially novel and unique. Every solution is a “one shot operation.” No two wicked problems are alike. Though they may share elements of symptoms confounding those who attempt to solve them, wicked problems have no given alternative solutions.

To better comprehend the present situation, an iceberg metaphor could help. We see the iceberg’s tip – the increasing spread of the virus which is presently disrupting health systems and financial systems. But below the surface are emerging and interacting patterns of disruption in the education system, labor and work systems, social and communication systems, and more. This is because we have been operating for more than 50 years in a context of complexity, unparalleled interconnectivity, interdependence, radical innovation and transformation, and unanticipated new structures with unexpected new properties enabled by the technology, all of which are emergent across the planet.

### **Toward a Solution**

This complex systems problem demands a complex systems mindset, and teams of complex systems thinking leaders who apply a process for collaboration that enables emergence of response through self-organization. It is crucial to identify leaders in the health field, but no less important to identify academic leaders, business leaders, and community leaders all of whom must be part of the solutions. Then, a process for collaboration and decision-making is needed. We must develop a set of simple rules or protocols that allow us to move from a state of chaos to a process for mobilization and design. Talking and exchanging information is important. But, a problem as massive as a global pandemic requires purposeful information-sharing geared toward designing desired responses. The point is to move rapidly to implementation, a goal that demands perspectives and solutions not available from talking. What is needed is a new version of fusion centers to enable vertical and horizontal information sharing between stakeholders.

A systems collaboration process moves from the interaction of multiple systems (which is beginning to occur in some countries with the virus) to the coordinated gathering of information, followed by a shared understanding and diagnosis of what is going on across communities, nations and continents. Understanding leads to the development of a shared consciousness about a wicked problem, including a capacity for judgment to envision and create controls for interdependencies and for being vigilant for unintended consequences. These are often long-term, like outsourcing decisions. Complex systems thinking also includes an ethical dimension to include understanding the moral consequences of actions. Leaders sensitive to applied ethics are

certainly needed here because wicked problems challenge not only our endurance and integrity but also our morality and our belief systems.

We have come across complex adaptive systems problems before. The twentieth century's two biggest wars are excellent examples. Lessons were supposed to be learned, for instance, about how nations should think and act when faced with a threat to their national existence by an external aggressor. This time the invading army is a virus, highly contagious, and associated with debilitating illness. We have developed ways to collaborate among and within our communities, and we have re-examined our unanticipated and undesirable outcomes when we tried to control large groups by quarantine.

We must assemble leaders with the proficiencies to think and enable creative outcomes for this wicked problem. This must include those with the ability to appreciate the inter-connectedness and interdependency of the whole system, at all levels – local and global - because all are involved – and to recognize how changes to parts of the system(s), local and global, affect the whole system. This is easier said than done and often takes longer than we think we have to work on a problem. We need to assemble leaders now who can and do actively seek new knowledge and diverse opinions, question received information, and invite and encourage challenges to their own opinions. We must envision and use strategic, long-term thinking and planning, thereby seeing the whole, while not discounting the future.

Where are these people? While they are not the *usual suspects* gathered by politicians or single systems methods of problems solving, they are available, embedded throughout our American communities. They are leading organizations of every size and type, and recognized for their leading thinking, professional competencies, positive social relationships, and complex systems proficiencies. They are leaders comfortable working on the unknown manifested by the COVID-19. While pharmaceutical companies are working aggressively to develop individual, patentable solutions that will focus on human health – and also drive up their stock prices - we need a convening set of leaders comfortable with emergent design for solutions and willing to set personal, single system agendas or benefits aside. Let's identify these people and bring them together in every community across the country so we can navigate ourselves through this mess.

No doubt that the vulnerabilities we are experiencing today were co-produced by errors of commission, doing things that we should not have done. Blind outsourcing of supply chains, manufacturing, and research and development, downsizing the workforce and strategic globalization, optimizing profit - only one element of a complex system - are examples of unwise decisions that are now having disruptive consequences in our daily lives. But worse now would be errors of omission: Not doing the things that we ought to be doing.

We need to change our worldview from a reductionist thinking to a holistic thinking. Our decision makers should be people who understand that we live in a world of increasingly complex and wicked problems. The Industrial Age model of decision making relying on the help from so-called experts is no longer valid or helpful to cope with daunting challenges. Seeing the relevance and inter-connectedness of health systems with political governance, physical sciences, technology, business, higher education, and other disciplines requires a type of collaborative and participative mindset that is open to an inclusivity of different world views and belief systems,

both within communities and across geographic, cultural and political divides. This participation and collaboration must be sustained throughout economic, social and ecological system pressures and across diverse and sometimes competing political ideologies if we hope to get a handle on this crisis before it does lasting damage to the global systems upon which all people, to a greater or lesser degree, whether consciously or unconsciously, are now dependent.