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Guest Editorial: Practice-Oriented Research Contributions in the Covid-19 Forged New Normal

Richard Watson

Blake Ives

Gabriele Piccoli

Editors' Comments

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Who led the digital transformation in your company?
 a. *CEO*
 b. *CIO*
 c. *CDO*
 d. *COVID-19*

This joke has recently been circulating on social media, and while we cannot trace its origin, its message is quite clear. As Lenin said, "*There are decades where nothing happens; and there are weeks where decades happen*". In just two months, the Coronavirus has remarkably accelerated digital transformation and disruption.

Pundits suggest the pandemic's winners or losers will be those organizations that take advantage of or fall victim to those trends that, though already underway, drastically accelerated during the crisis. Here we delineate four such trends, and then reflect on implications for CIOs. We then identify areas of research that might help them pivot their organizations towards the emerging new normal. Here are the four key trends.

Mountains of debt. Most of the world's major economies will suffer a substantial increase in sovereign debt due to COVID-19. Prior to the crisis, government debt in most countries already accounted for a considerable portion of their GDP. With the pandemic, many such countries have had no choice but to borrow or print more money. Meanwhile, government revenues will drop because a recession is inevitable at this point. Managing the deficit will be an imperative for governments post-COVID-19, that will limit options and almost certainly lead to increases in taxes and a reduction in services. The detrimental effects of the disruption will persist for years.

Digital transformation and robotization. The digital intermediation of social life, which began with the commercialization of the Internet, has matured into a powerful economic force.

In the last few months, the "social distancing" imperative for consumers has tipped the scale from brick and mortar to online operations. Commerce, food delivery, healthcare, and entertainment, have virtualized where possible. The same applies for employees—particularly those working in close quarters (e.g., meat processing, restaurant staff, hairdressers, and nurses). Robots, less expensive and more capable every year, are an obvious alternative to humans. We expect many new consumer behaviors to persist and a slew of technology innovations to accelerate the digitization of work.

Social responsibility. The public is increasingly holding organizations accountable for their negative externalities on the quality of life and the environment. Examples include the increasing recognition that we are running out of time to stop global warming, heightened attention to the social implications of income inequality, and the societal risk if healthcare coverage is, as in the U.S., tied to employment. COVID-19 reminds all that while humans have an impact on the planet, mother nature can change our life very quickly.

Resilience and responsiveness. The pandemic reminds us that a dynamic world is always at risk from natural disaster, terrorism, and creeping authoritarianism. Consequently, resilience and responsiveness are more important than efficiency. The resilience imperative was slowly building momentum, for example in food supply with plant-based meat replacements and the continued automation of agriculture. However, of the four trends described here it was probably the least vigorous. This pandemic is sure to change that!

It is not lost on Information Systems (IS) academics, and on anyone who has navigated the "information revolution" sweeping the world over the last five decades, that digital technology will feature prominently in managing immediate and continued changes. So, we ask, what's a CIO to do? What will be the priorities for IS leaders in the next few years?

Do more with less. IS professionals are used to creating efficiencies. But there is no vaccine for disruption debts; businesses will face higher taxes and demand for their products and services might well be dampened by higher sales and personal taxes. Non-profit entities, such as universities, will have less revenue and many survivors will need to restructure and simplify their offerings. Simultaneously, organizations will be struggling to refashion a resilient and responsive capital creation system. CIOs will be expected to adopt a frugal information systems mindset, with open source solutions further eroding the market share of proprietary software. Servitization will continue its rise to prominence and managing projects with a "cloud first" mindset will be a given. The new frugality ethos will result in systems that can meet the prime goal of the client with the least resources.

Support the distributed workforce. On May 21st, 2020, Facebook announced that it expects half its workforce to be working remotely within five to ten years. With many other smaller companies already making the move (e.g., Twitter and Shopify), this may well be the tipping point for *"work from home"* culture. CIOs will be charged with creating the infrastructure that ensures that a remote workforce can contribute effectively, productively, and securely to the firm's mission. New startups will emerge to create the software that enables productive teamwork and legal compliance (e.g., distributed payroll across countries and jurisdictions). CIOs will be expected to integrate these new solutions into existing, often legacy, IT infrastructures, while adhering to compliance requirements.

Enable the resilient organization. CIOs will be increasingly asked why the firm has manual processes instead of automated ones. Automation can drive down costs while driving up infection protection for consumers, suppliers, and employees. Robots, increasingly being used in warehouses, will be deployed in service businesses, and CIOs in a wide array of industries will be called upon to manage this new "workforce." Automation of the food chain will be given priority because populations need to be fed. But all supply chains will need to be audited for resilience and responsiveness, with sole-sourcing, and off-shoring arrangements carefully

reconsidered. Where the cost of living and labor are high, there will be strong financial incentives for automation.

Reach the distributed customer base. As our opening joke suggests, COVID-19 forced experimentation on firms that had to quickly figure out how to continue to work with employees at home and serve customers who too were homebound. Whatever the industry, CIOs were central players in the virtualization of services and evangelizing and expediting use of previously underutilized value propositions: tele-health, tele-banking, tele-education... tele-everything. As with automation, CIOs should prepare for a near future where, if it can be done remotely, customers will expect it to be available online. This shift in customer preference has strategic, tactical, and operational implications.

Secure the organization and safeguard the employees. CIOs will have to architect security and resiliency models for a world where centralized offices and bullet proof internal networks are no longer the default. They will have to secure off-site premises, employees' homes, and other sites they have limited control over.

The mission of the *MIS Quarterly Executive* is to be the preeminent vehicle for Information Systems academics to disseminate their practice-oriented research to Information Systems executives and professionals. So, what research might an *MISQE* author be working on? The following is a list of thematic areas we believe will be highly impactful in the near future.

Transforming work. We have witnessed what is perhaps the most dramatic transformation of work in the history of modern management. Most certainly, it was the fastest and most far-flung. There is a great deal we can learn about the successes and failures of all forms of remote work and rich success stories to be told (e.g., Zoom) as businesses pivoted from face-to-face to online and, in some cases, created new products and services. But there also have been failures, misses, and close calls that we can learn from. What is the technology needed for enabling a distributed workforce? Identifying the standard kit (e.g., VPN, ergonomic chair, video conferencing lighting) necessary for sustained work at home is a new province for

human computer interaction research (HCI). What are the expanded boundaries of HCI? As socio-technically oriented scholars we know that work is embedded in a setting, but we suspect we know little about that setting when it is the kitchen table or small desk in a bedroom.

Transforming business. As those industries that had yet to be touched by digital transformation and the virtualization of value propositions join those at the forefront, we should renew our interest in the strategic, tactical, and operational implications of digitization. Whose business models are reinforced by the virtualization of services? Whose are challenged? How can a firm's value proposition be adjusted, or improved, by the switch to digital? How can organization deliver new value propositions effectively and profitably in industries that seemed immune to digitization prior to the crisis?

Creating culture. As work moves from towers to home offices, and stays there, we will see interesting opportunities to examine organizational culture. And the role that information systems can play in dampening or enhancing it. How do you establish and promulgate corporate culture in a working-from-home organizational structure? What risks do you face? How do you digitally onboard a remote employee?

Social implications. Robots will increasingly replace people because they are often safer, cheaper, and easier to keep virus free. Unfortunately, many of the tasks most amenable to robotic replacement are among our greatest sources of jobs, albeit, often poorly paid and under protected. This will be disruptive and may exacerbate income inequality. What is the impact of more automation? What are the social effects of more automation on income inequality and social advancement on family life and on work-life balance? How can organizations, and more importantly society, structure a system that more fairly shares the benefits of the inevitable increasing automation?

Staying safe and secure. The old organizational boundary was a building or campus where equipment and networks could be secured with some certainty, though many intrusions have

eviscerated that assumption. Remote working has quickly changed the security calculus. Now we can think of a few central citadels and thousands of remote forts, where each remote fort, a household, is exposed to a world of electronic infections. How does an organization move from protecting Rome to securing the Roman Empire and all the paths that lead to Rome? What security models and practices best fit the new work environment?

Transforming infrastructure. We know that when new technologies and new practices are introduced, the old ones don't just magically disappear. As CIOs deploy secure, reliable, responsive, distributed, and frugal enterprise information systems, they will need to retrofit existing systems as well as building new ones. Two critical research questions are apparent. How do you retrofit the present for the new need? How should information systems practices and tools be remolded to create information systems for the new normal?

We have identified four trends—mountains of debt, digital transformation & robotization, social responsibility, and responsiveness & resilience, that while already well underway prior to the pandemic, have been greatly accelerated by it. We propose some areas of prioritization for CIOs and offer suggestions to scholars regarding the kinds of research questions that we believe need to be rigorously addressed. Some of this work, for example, drawing lessons from successes and failures over the past two months, is time sensitive. Other research, such as the risk that increasingly complex, tightly coupled, information systems pose for civilization collapse, hopefully have a longer lead time. As information systems scholars, we have much to contribute—let's get to work!

About the Special Issue Guest Editors

Richard Watson
Richard Watson is a regents professor and the J. Rex Fuqua Distinguished Chair for Internet Strategy in the Terry College of Business at the University of Georgia. In 2011, he received the association for information systems' LEO award, which is given for exceptional lifetime achievement in Information Systems. The

University of Liechtenstein has established with government support a consortium for digital capital creation based on the ideas in his recent book, *Capital, Systems, and Objects*.

Blake Ives

Blake Ives holds the C.T. Bauer Chair in business leadership in the C.T. Bauer School of Business at the University of Houston. Blake is a past president of the association for information systems and a fellow and awardee of that association's LEO Award for life time achievement. He previously served on the board of directors for the society of information management international and was the Editor-in-Chief of *MIS Quarterly*. He is a long time contributor to the *MIS Quarterly Executive*.

Gabriele Piccoli

Gabriele Piccoli is the Edward G. Schlieder Chair of information sciences and a member of the cultural computing group at the center for Computation and Technology at Louisiana State University (USA). He is also on the faculty at the University of Pavia (Italy). Gabe is the editor in chief of the *MIS Quarterly Executive*.