

Global Business Leadership Development for the Fourth Industrial Revolution

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Leadership in the Digital Age: Disruptions, New Rhythms, and the Beating
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Peter Smith, The Leadership Alliance Inc., Canada

*Tom Cockburn, Center for Dynamic Leadership Models in Global
Business, Canada*

This chapter introduces the scope and focus of the new book. The reader is briefly introduced to the definitions and debates about leadership and management boundaries, differences, and overlapping responsibilities in the digital age. Drawing on both theory and practice, current issues and topics are covered in depth, providing an introduction and overview of perceptible trends and scenarios relevant to the current post-global financial crisis (GFC) and the emergent IR4.0 leadership outlook for global business. The editors then provide an outline and overview of the chapters, topics, and themes of each chapter and a coherent rationale for this new book as developing discussions and research from our first book in the series, “Dynamic Models of Leadership for Global Business: Enhancing Digitally Connected Environments.”

Chapter 2

Reflecting Emerging Digital Technologies in Leadership Models26

*Tom Cockburn, Center for Dynamic Leadership Models in Global
Business, Canada*

Peter Smith, The Leadership Alliance Inc., Canada

In this chapter, Smith and Cockburn reaffirm their claim in a previous book that today’s global business contexts are volatile, uncertain, complex, and ambiguous

(VUCA), and leaders must focus more on complex thinking skills and mindsets than developing behavioral competencies. In so doing, leaders must be familiar with the benefits and drawbacks of emerging digital technologies and use these technologies appropriately. In the previous book, the authors defined flexible and dynamic leadership models that assure success in the above contexts and described learning related processes essential to mastering the ability to adapt at rates consistent with the business complexity leaders now face. In this chapter, they extend their previous research and review newly emerging factors contributing to global business complexity in the era of the Fourth Industrial Revolution (IR4.0) and explain how these elements may be applied by leaders, including CEOs and Boards of Directors, to augment the power of their recommended leadership models.

Chapter 3

The Impact of IR4 on Corporate Governance of Listed Companies65

Lokke Moerel, Tilburg University, The Netherlands

The digital revolution transforms business models and presents new privacy issues and ethical dilemmas. Research by MIT Sloan CISR reports that U.S. listed companies that have a digitally savvy board show substantially better financial performance. What is a digitally savvy board? What are the differences between the old and the new world? What are the new ethical dilemmas and how do you prevent making the same mistakes as big tech? Why does innovation fail so often within the existing structures of established companies? Why does the three lines of defense model for risk management have an inhibitory effect on innovation in practice? The author discusses these questions and provides suggestions for improvement of corporate governance of established companies. In the next chapter, the author provides rules of the road for how established companies can monetize their data including some pitfalls for established companies and discusses a number of ethical dilemmas that companies encounter in practice when implementing new digital technologies and services.

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How to Monetize Data: Rules of the Road and Ethical Dilemmas.....95

Lokke Moerel, Tilburg University, The Netherlands

This chapter is a continuation of the preceding chapter, where the author discussed the obstacles encountered by established companies when wishing to transform their business models and provides suggestions for improvement of their corporate governance to better navigate the digital transformation. In this chapter, the author provides practical rules of the road for how established companies can monetize their data including some pitfalls for established companies and discusses a number of ethical dilemmas that companies have encountered in practice when implementing new digital technologies and services.

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The Analytics Asset 105

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Ranjita Gupta, ICFAI Business School, Gurgaon, India

We can treat analytics as a multi-discipline profession because the body of knowledge required for analytics has become extensive, and businesspeople have started to designate teams and departments as being specialists in analytics. An ecosystem of service providers has evolved for this profession, including conferences, degrees, consulting services, certifications, etc. Analytics is best understood as an organizational asset that is used to improve decision making and execution. This chapter outlines the analytics landscape and aims to help organizations gain a shared understanding of issues that must be addressed to plan, build, and use the analytics asset.

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Big Data Analytics in the Healthcare Industry 134

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Mary Jeyanthi P., Institute of Management Technology, Nagpur, India

In the contemporary e-era, big data plays a major role across the manufacturing and production industries, service and consultancy industries, and of course, information technology, and it heightens the influence on healthcare industries too. More and bigger data is becoming accessible publicly like Google Trends, Cancer Genome Atlas data portal, etc. Hence, developing big data analytics tools and techniques is the need of the hour in healthcare and pharma. The problem of the healthcare industry generates with the lack of information that is available for decision-making. The volume of data available is no doubt too big, but the integration of data from different players becomes a very tedious task. The aim of this report is to provide a detailed comparative study of pharmaceutical industry from Indian and global perspectives and also to provide the applications of big data analytics in the healthcare industry and indicate the limitations and way forward.

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Creating the Catapult Effect for the Talent in the Era of Digital Abundance.... 155

Kalyan Kumar Banerjee, Klorofeel, India

Uma Maheshvari S., Oracle Limited, India

Leading in the era of digital abundance is a contest terrain as leaders grapple with the challenges of leading and working with the millennial generation at business and society at large. The emerging digital ecosystems emit strong signals for a transformation in leadership models and styles. Drawing on empirical and theoretical work on the movement in the generations of people, especially the workforce in the economic and social world, it is evident that new leadership models need to be

explored in alignment to the digital era. This chapter attempts to evolve a framework of leadership for the digital era. The framework has been used further as an illustration through an initiative designed and implemented for mid-level leaders. The chapter strongly recommends a revisit to leadership concepts and development in the era of digital abundance.

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Cyber Security: Cyber Risk Challenges for Future Leaders and Businesses 174

Michael A. Goedecker, Independent Researcher, Germany

New attacks and methods seen today indicate an emerging trend and dependency on reverse-engineered technology that was used in the past by espionage and intelligence agencies and their tactics as well as use of modern technology to obtain information and data that is turned into usable intelligence. One of the many disturbing consequences of this is that we are faced with attackers that are versed in stealth, deception, planting false information, and increased training in newer attack technologies that classical tools can no longer reliably find. In addition, advanced attack and deception skills now use OSINT (open source intelligence) data collection tactics that have moved entire attack chains into the espionage and surveillance realm.

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Data Privacy vs. Data Security 209

Sue Milton, SSM Governance Associates, UK

The proliferation of data exposure via social media implies privacy and security are a lost cause. Regulation counters this through personal data usage compliance. Organizations must also keep non-personal data safe from competitors, criminals, and nation states. The chapter introduces leaders to the two data governance fundamentals: data privacy and data security. The chapter argues that data security cannot be achieved until data privacy issues have been addressed. Simply put, data privacy is fundamental to any data usage policy and data security to the data access policy. The fundamentals are then discussed more broadly, covering data and information management, cyber security, governance, and innovations in IT service provisioning. The chapter clarifies the complementary fundamentals and how they reduce data abuse. The link between privacy and security also demystifies the high resource costs in implementing and maintaining security practices and explains why leaders must provide strong IT leadership to ensure IT investment is defined and implemented wisely.

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Uncover the Hidden Relationships of Work: A Visualisation Tool to Support Informed Change Decisions.....236

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This chapter aims to explore the possibilities of visualising work-integrated competence networks—here referred to as *relatonics*—and contribute to the understanding of how to support efforts of organising change. The competence-generating processes of an organisation are problematic in that they are largely hidden in the midst of everyday practice. If not receiving adequate attention, there is the risk of conducting too frequent, disruptive, and unhealthy reorganisations. This strengthens the reason why visualisations of *relatonics* are of value. The demarcation line between what is hidden, and what is not, is relocated through the use of visualisations of *relatonics*. A conclusion is that images representing *relatonics* can be utilised to support informed change decisions.

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E-Learning: Emerging Themes and Implementation Principles.....262

Matthew James Kolakowski, Valdosta State University, USA

Sherif A. Ebrahim, Tulane University, USA

The e-learning environment has changed at an unprecedented pace since 2014. As corporate and higher education learning environments continue to immerse themselves in e-learning, what themes and implementation principles will follow? E-learning instructional practices that allow learners to be engaged in instantaneous global collaboration have fundamentally changed higher education and leadership development. This chapter will discuss how the Sharable Content Object Reference Model (SCORM) delivers a positive impact on learners and enhances organizational outcomes. Furthermore, this chapter will offer updates on e-learning pedagogy, as well as how these mediums potentially interconnect with future e-learning technologies.

Chapter 12

Educating for “Buoyancy”: Professional Skills for a New Generation of Digital Natives284

Francisco José B. S. Leandro, City University of Macau, China

The future of education matters to all of us. This chapter presents a theoretical-inductive construction of the future of education, inspired by the advancements envisaged in the Fourth Industrial Revolution (also abbreviated to Industry 4.0 or IR4.0).

Recent developments in the technological field make it imperative that university syllabi foster and grow technological and non-cognitive soft skills in tandem. The latter—socio-emotional skills—are considered crucial skills that endow “buoyancy” and resilience to the workforce. Empathy, cultural sensitivity, and tolerance are the key professional skills that should be nurtured among the upcoming generation of digital natives. The chapter builds on a previous publication and aims at advancing concrete proposals for the future of university education.

Chapter 13

Aiding the Fourth Industrial Revolution in the Developing World: Socio-Cultural Leadership in ICT4D – Learnings From Telecentres in a South Asian Country299

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Carol Royal, Independent Researcher, Australia

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Academic research that examines different leadership models utilised in the digital age within ICT4D that facilitates the Fourth Industrial Revolution for the marginalised people are scarce. This study focused on the e-Sri Lanka program, initially funded by the World Bank as a unique South Asian project that established a network of 1,005 Nenasala telecentres. Sri Lanka is further focused on building an e-smart, e-inclusive society through ICT4D. In 2020, the Nenasala 2.0 initiative is to be expanded on the Nenasala network to scale up e-society innovations. This context provides an exciting research bedrock to explore. The research findings revealed that leadership at various organisational levels will be key to Nenasala 2.0 and ICT4D program sustainability. The Nenasala model that benefitted from unique community-based leadership was termed socio-cultural leadership. A replication of the study in other developing countries to identify the leadership needed in ICT4D could prove invaluable as it may identify viable complementary options to commercially orientated telecentres.

Chapter 14

Reimagining Social Innovation and Social Enterprise for Industrial Revolution 4.0: Case Study of China and UK337

Roopinder Oberoi, University of Delhi, India

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This exploratory study aims at understanding the social aspects of the Fourth Industrial Revolution by suggesting how the interface involving technological innovation and social innovation can resolve societal and socioeconomic problems with stress on

sustainable development. The authors view social innovation and social enterprise as new amalgam for solving social problems in the era of the Fourth Industrial Revolution. By applying theoretical analysis of the existing literature about the correlation between the Fourth Industrial Revolution and social innovation and social enterprise, they aim to describe the opportunities, forms, and the challenges unfolding in this new age. UK and China case studies will provide the empirical evidences that could support social innovators and social enterprises understand the implications in fields of application of the Fourth Industrial Revolution plus the interplay between them.

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*Tom Cockburn, Center for Dynamic Leadership Models in Global
Business, Canada*

Peter Smith, The Leadership Alliance Inc., Canada

This chapter presents a brief reflection on emergent themes, issues, and problematic areas chapter authors have drawn to readers’ attention to and tentatively indicates some potential future directions for research and development whilst recognizing rapidly changing social mores and culture is a deep river running through diverse channels in the Lifeworlds and Workworlds of leaders today. The heroic actions of medical personnel under severely stressed hospital and patient care systems in the current Covid-19 pandemic is noted. The authors have pointed to perceived gaps in leadership regarding the uptake and understanding of digital technologies and suggested that implications include new ways of thinking and new competences for changed ways of working in the networked world of business. Crucially, the authors reiterate that these are deeply human endeavors, and the complexity of the technology does not negate or overwhelm the interactive dynamic complexity of human relations between leaders and others who inhabit and view these conjoined worlds through many cultural windows.

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