

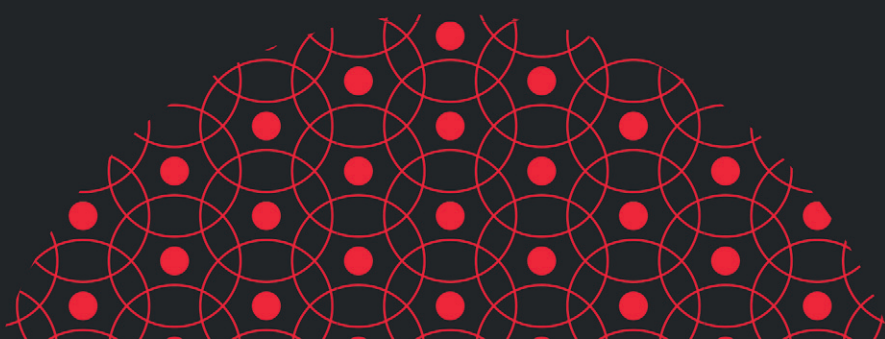


EMERALD POINTS

THE DIGITAL SHIFT IN ORGANIZATIONS

Challenges, Risks, and Opportunities

**MAGALI DUBOSSON
EMMANUEL FRAGNIÈRE**



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Opportunities

BY

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INVESTOR IN PEOPLE

CONTENTS

<i>Foreword</i>	vii
<i>Preface</i>	ix
<i>Acknowledgment</i>	xi
1. Embracing Digital Disruption	1
2. Chronicles of Work: From the Plough to the Cloud	27
3. Transforming Consumer Experiences	57
4. Citizenship Rewired: Agency, Autonomy, and Belonging in a Digital Society	87
5. Ethics in the Digital Era	111
6. Building Resilience in a Digital World	125
<i>About the Authors</i>	141
<i>Index</i>	143

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FOREWORD

The digital transformation we are experiencing is far more than a technological upgrade; it's a profound and far-reaching reconfiguration of how we work, consume, and govern. The book by Magali Dubosson and Emmanuel Fragnière meets this moment with clarity, depth, and a much-needed sense of urgency.

What sets this book apart is its integrated perspective. It traces the invisible threads connecting our screens, networks, and minds; examines the tension between consumer agency and algorithmic control; and probes the fragile balance between technological efficiency and democratic resilience. These are not isolated trends: they are interwoven forces reshaping the foundations of our organizations and societies.

In my work on business model innovation, I've learned that real transformation demands more than new tools: it requires a change of mindset. *The Digital Shift in Organizations* invites us to step back, question assumptions, and reimagine how we design not just better organizations, but more humane futures.

For leaders, educators, and changemakers, the book you hold provides orientation at a time when clarity and nuance are urgently needed.

Yves Pigneur

Co-author with Alex Osterwalder of *Business Model Generation*, *Value Proposition Design*, and *The Inevitable Company*

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PREFACE

We are living through a digital revolution that is transforming not only organizations, but also the very fabric of society. The *Digital Shift in Organizations* is a call to confront this transformation with lucidity. Adapting is not enough; we must pause, ponder, and discern what truly serves human and collective well-being. Resistance might be an option, yet grounded in a deliberate assessment of the impacts.

This book stems from the belief that digitalization is not neutral. It amplifies inequalities, erodes privacy, manipulates choices, and redefines labor, consumption, and citizenship in ways that often escape public scrutiny. Behind sleek interfaces and promises of efficiency are systems that commodify attention, automate exclusion, and undermine democratic rituals.

Through field research, interviews, a literature review, and critical analysis, we share the voices of those who live with digitalization. Employees describe pressure and algorithmic oversight. Consumers recount their struggle to navigate opaque ecosystems. Citizens voice doubts about digital infrastructures that affect their democratic participation and access to public services.

However, this is not a book of despair. It is a manifesto for reclaiming agency. We advocate for a new digital contract that prioritizes human dignity, transparency, and collective resilience. We call on organizations to incorporate ethics into their designs, on policymakers to courageously regulate, and on citizens to demand accountability.

The digital shift is not inevitable. It is a choice. It is time to choose wisely.

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EMBRACING DIGITAL DISRUPTION

*There is no time for despair, no place for self-pity, no need for silence, no room for fear. We speak, we write, we do language. That is how civilizations heal.*¹ —Toni Morrison

In March 2025, one week before we completed this book, Pope Leo XIV addressed the College of Cardinals with a striking message: “*The Church must respond to a new industrial revolution and the development of artificial intelligence*” (Merlo, 2025). In doing so, he echoed Leo XIII’s *Rerum novarum*, a call to moral responsibility in times of systemic transformation. We begin here not to make a religious argument, but to highlight something deeply human: that digitalization, like the industrial revolutions before it, is not a neutral force. It reshapes our world, our identities, our roles, and our relationships.

By “digital,” we refer to technologies that process and transmit data in binary form, enabling rapid computation, connectivity, automation, and algorithmic decision-making. “Digitalization,” in turn, refers to the widespread integration of these technologies into all spheres of human activity, whether economic, social, political, and personal. It is not merely the adoption of tools, but a reconfiguration of systems, norms, and interactions. It alters how we produce, communicate, consume, govern, and even how we think.

1 From Toni Morrison’s essay *No Place for Self-Pity, No Room for Fear*, published in *The Nation* on March 23, 2015. Morrison, T. (2015, March 23). *No place for self-pity, no room for fear*. The Nation. <https://www.thenation.com/article/archive/no-place-self-pity-no-room-fear/>

This book was written with a central conviction: that digital technologies, particularly artificial intelligence, are not merely tools, but deeply transformative forces. They reshape our behavior as workers, as consumers, and as citizens. But rather than offering a technical inventory of impacts, we chose a different path: to listen. This work is rooted in hundreds of interviews and professional field engagements, exploring how people perceive and experience the digital shift. We approach the topic not through abstraction, but through observations and interviews. Our goal was not to validate or challenge their perceptions, but to give voice to them. These perceptions, in all their ambivalence—curiosity, fatigue, fantasy, hope, resignation—are real. What emerged was a shared tension: people are not blind to the promises of digitalization, but they feel caught in its grip, pulled forward by necessity, but uncertain about the destination. These perceptions tell us where society stands today.

The chapters that follow explore the digital transition through three main lenses: human labor and the changing workplace; consumption and the rise of the “prosumer”; and the redefinition of citizenship in a digitized democracy. In each role, digitalization brings promises and pressure, empowerment and exhaustion. The goal is not to teach what digitalization is, but to provoke reflection on how it feels, how it reshapes agency, and what might still be done to preserve meaning and autonomy in the face of accelerating transformation.

Many individuals express a quiet form of resignation. They are aware of the risks but feel powerless to respond. This silent surrender is not the absence of opinion; it is the consequence of structural disempowerment. This book is therefore not only a reflection, but a call to action: to reclaim individual and collective agency in the face of systemic forces.

SCREENS, NETWORKS, AND MINDS: THE INVISIBLE TRANSFORMATION

Technological innovation is often viewed as synonymous with progress. Yet can we truly affirm that we, as consumers, beneficiaries, or employees, consistently emerge as the winners of this transformation? These technologies promise to save us time, offer remote working possibilities, allow early voting, tailor our purchases, and grant instant access to information, among other conveniences. However, they also continuously solicit and inhabit us as individuals. They solicit us not merely as users, but as co-producers of the

very content, products, and services we consume, sometimes with clear benefits. Airport kiosks, for instance, spare us long waits by turning us into our own agents of check-in and baggage handling. Likewise, when buying tickets for a show or a sporting event, we are offered a choice: pay for postal delivery or download a free e-ticket to our smartphone or print it ourselves. This is a convenience, yet another quiet shift of responsibility onto the individual.

Understanding digital transformation means stepping back and asking how accidental shifts became new norms; it calls for perspective, for a careful examination of its origins and consequences. Take the invention of the World Wide Web by Tim Berners-Lee, a British scientist working at CERN in Geneva. Initially intended as a tool for scientific communication, the Internet's global expansion was never planned. Conceived as a modest tool for facilitating communication among researchers, the Internet was set free to the world in 1991, a decisive turning point. Today, it is nearly inconceivable to book a flight or a hotel room without going online. Harder still to explain to younger generations how we once managed to find a concert or a movie schedule without smartphones glued to our hands. For them, the world offline is not just alien; it is impossible.

OUR TIMES: STILL INDUSTRY 4.0 OR THE SO-CALLED FIFTH INDUSTRIAL REVOLUTION?

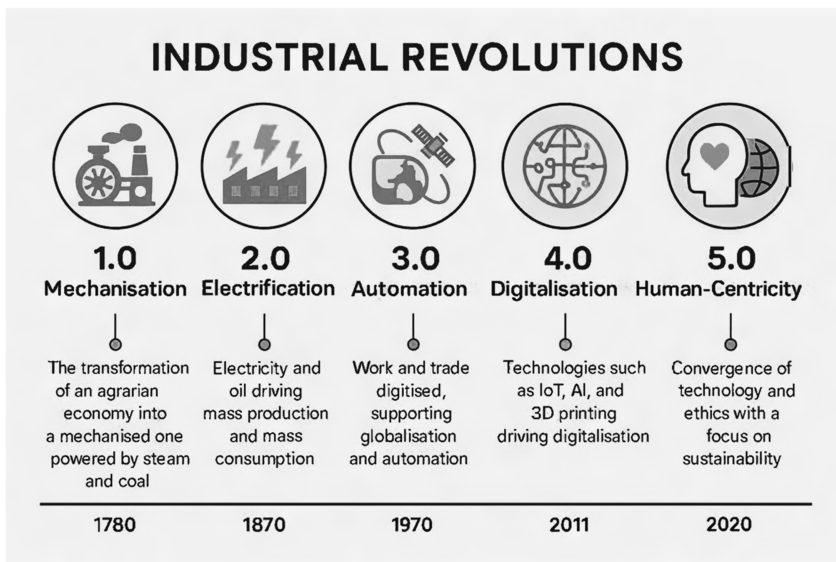
“Industry 4.0 is Germany’s response to the threat posed by the digital disruption of industrial value chains” (Kohler & Weisz, 2016, p. 51). Coined at the Hanover Fair in 2011 and later popularized through Klaus Schwab’s influential work (2016), the term describes how digitalization would support the development of “smart factories” by merging the physical and digital worlds to deliver customized products at mass-production costs. The goal was to reinvent global value chains to respond flexibly and efficiently to market demands.

In 2016, Schwab expanded the notion of the Fourth Industrial Revolution to encompass the fusion of digital, physical, and biological technologies. He warned that this convergence would fundamentally alter the ways we live, work, and relate to one another. Echoing this vision, Brynjolfsson and McAfee (2014) spoke of a *Second Machine Age* to emphasize that the world has reached a critical inflection point due to the rapid acceleration of digital technologies. This turning point will be felt through transformations in the labor market, rising income inequalities, and the emergence of new offers

and new players. They advocate new public policies to mitigate negative effects and to foster a more favorable evolution of society.

In short, Western society has been shaped by successive waves of industrial revolutions, each reshuffling the social and economic order. The first, at the end of the 18th century (see Fig. 1.1), turned an agrarian economy into a mechanized one, fueled by steam power and coal, ushering in rapid urbanization. The second, at the close of the 19th century, electricity and oil drove mass production, and mass consumption. The third, midway through the 20th century, digitalized work and trade, paving the way for globalization and automation, and even reached toward the stars. In the 21st century, the emergence of new technologies such as the Internet of Things (IoT), artificial intelligence (AI), augmented and virtual reality, and 3D printing has triggered the Fourth Industrial Revolution. These developments, and their impacts on society, will be explored in the following chapters from the perspective of the individuals they have affected.

The Fourth Industrial Revolution, driven by digitalization, undoubtedly offers major opportunities for rethinking production processes and tackling global challenges. Yet these promises come with heavy demands: companies, markets, workers, and governments must adapt quickly and strategically to avoid deepening existing inequalities. As we are still grappling with these challenges, discussions have already begun around Industry 5.0, an era



Source: Author.

Fig. 1.1. The Different Industrial Revolutions.

defined as one that “places the well-being of the workers at the center of the manufacturing process by making production respect the boundaries of our planet and the harmonious symbiosis between humans and machines, to achieve societal goals beyond jobs and economic growth, and further achieve sustainable development goal of super-smart society and ecological values, which will become a robust and resilient provider of prosperity in an Industrial Community of Shared Future” (Leng et al., 2022, p. 283). Leng et al. (2022) call for a profound convergence of technologies, knowledge, and sectors, imagining a society where technological advancement is no longer an end in itself, but a means to serve humanity and sustainability.

While Industry 5.0 champions human well-being, the real discourse today speaks more often of organizational resilience than human resilience. Businesses are called upon voluntarily to adopt ESG policies, while governments are urged to set safeguards. Since the second Trump’s election, however, corporate America and multinational giants have retreated from progressive stances under anti-woke pressures. Meanwhile, technological acceleration is relentless: since this book began, we’ve raced from ChatGPT 2.0 to 4.5, along with other versions like 0.3 and 0.4-mini-high. Artificial intelligence has become omnipresent in public discourse. So how can we place human society and sustainable development back at the center, as envisioned by Industry 5.0? These two objectives seem to be retreating, giving way to a technocratic oligarchy.

This fusion of political, technological, and economic elites is a new phenomenon and represents a profound challenge to the traditional functioning of our societies. *“Throughout history, monarchies and empires have been shaped by clans of oligarchs holding both political and financial power. Even under the Romans, an oligarchy of wealthy citizens, the senators, ruled. But today, the money in power is no longer that of traditional capitalists producing goods. It is not the wealth of a few major American industrialists, but that of tech giants. And these companies do not produce goods, they produce technologies (social networks, artificial intelligence. . .) that commodify our very minds. Their power includes the manipulation of freedom of thought. It is this that gives them unprecedented, unparalleled power. And ironically, they claim to do so in the name of ‘freedom of expression’. In truth, a new form of totalitarianism may already be on the horizon,”* observes historian Nicole Gnesotto (Rossignol, 2025). The idea of commodifying thought itself raises critical questions about governance in the network society, as outlined by Castells.

BEYOND THE RISE: THE ACCELERATION OF NETWORK SOCIETY

In *The Rise of the Network Society* (2011), Manuel Castells presents an in-depth analysis of digital transformation and its impact on economic, social, and cultural structures. He argues that we are no longer merely adapting technologies to existing structures; rather, we are witnessing the birth of a new organizational logic, the Network Society, where information and the flows of data are the lifeblood of our era. In this new reality, information has shifted from being a mere instrument of economic activity to becoming its vital core. As Castells wrote (2011), “*Networks constitute the new social morphology of our societies, and the diffusion of networking logic substantially modifies the operation and outcomes in processes of production, experience, power, and culture.*” (p. 452)

The digital transformation has profoundly reshaped the very nature of work. While the industrial era was characterized by rigid structures and hierarchical organization, the digital economy fosters new forms of flexibility. Automation and robotics are transforming professions, polarizing the labor market into two dominant clusters: high-skilled, data-driven professions are booming, while mid-level and repetitive roles are steadily disappearing into machines (“*high-technology manufacturing presents an occupational composition very different from traditional manufacturing: it is organized in a bipolar structure around two predominant groups of roughly similar size; a highly skilled, science- and technology-based labor force, on the one hand; and a mass of unskilled workers engaged in routine assembly and auxiliary operations, on the other hand.*” p. 382). This shift carries with it a paradox: even as digitalization boosts efficiency, it also deepens divides, leaving behind those unable to master the codes of this evolving paradigm.

One of the pivotal arguments in Castells’ work concerns the impact of digital globalization on the architecture of economic exchange. It has both deepened the interdependence of national economies and concentrated economic power in the hands of a few dominant players. In the field of communication, the transition toward a networked culture marks a rupture from traditional models of information dissemination. Once centralized through the press and broadcast television, communication channels have become increasingly interactive and participatory. The rise of social media and digital platforms has blurred the lines between producers and consumers of content, reshaping the very nature of public discourse. Yet this democratization of access comes at a cost, raising critical questions about the reliability of information and the alarming spread of disinformation. Castells’ foresight has been realized with unprecedented force, with the collapse of

traditional media in favor of social networks where anyone can express themselves and broadcast their own version of reality.

Castells also highlights the widening digital divides brought about by this transformation. Unequal access to technology generates profound disparities in opportunity, both between nations and within societies themselves. Even at the local level, entire social groups remain excluded from the promises of digitalization due to a lack of skills or access. A further foundational insight of his book is the redefinition of time and space in the digital era. As digital ties replace physical ones, the traditional boundaries between work and personal life erode, creating new forms of pressure and instability.

Finally, Castells warns about the challenges emerging from this transformation. While the network society offers unprecedented opportunities for innovation and productivity, it also raises fundamental questions regarding regulation and governance. Who controls these global networks? How do we ensure that the benefits of digital progress are shared equitably? What safeguards can prevent a handful of tech giants from concentrating unprecedented levels of power?

These concerns over equitable access and digital governance raised by Castells have proven remarkably prescient, in light of persistent global inequalities in internet connectivity. As reported by the International Telecommunication Union (ITU, 2024), 5.5 billion people were online in 2024, representing approximately 68% of the global population. Yet this figure masks enduring inequalities. Internet usage reached 93% in high-income countries but remained at a mere 27% in low-income nations. (ITU, 2024). Beyond access, the divide extends to digital capabilities, with individuals in high-income economies displaying significantly higher levels of digital competence than those in less resourced contexts (Joshi et al., 2025). Furthermore, rural populations are the most excluded, comprising the majority of the remaining 1.8 billion offline individuals (ITU, 2024). As ITU Director Zavazava observes, “The world is inching towards universal access at a time that it should be sprinting” (ITU, 2024, para. 8). The structural inequalities Castells once warned about continue to shape the contours of our digital society, as power and participation remain unevenly distributed.

Written in 2011, nearly 15 years before this volume, Castells’ work is striking not just for its observations but for its visionary nature. The issues he raised have not faded; they have intensified. The questions he posed remain unanswered and with the rapid rise of AI, they have become even more critical and immediate.

SOME IMPACTS ON SOCIETY

Digitalization has profoundly reshaped the architecture of our economies, the patterns of our social interactions, and the underlying dynamics of our democracies. Royakkers et al. (2018) identified six recurring themes in scientific literature, i.e. privacy, autonomy, security, human dignity, justice, and balance of power, where digitalization poses growing threats. In the pages that follow, we will briefly sketch some of the critical impacts before returning to them more deeply, viewed through the essential lenses of the individual as worker, consumer, and citizen; all of which are central to our human participation in society.

- The stability of modern democracies has long rested on fiscal systems anchored in the equitable taxation of labor-derived income and the redistribution of wealth, fostering social cohesion and tempering inequalities. Yet this foundation is eroding. As automation and artificial intelligence advance, value creation no longer depends on human work. Jobs will inevitably be eliminated, reducing tax revenues and social contributions just as demands for unemployment support are set to rise. In this context, the idea of a “robot tax” has surfaced as a possible remedy (Interview of Xavier Oberson, 2013). Furthermore, digital-era business models, operating without a physical presence, have decoupled the locations of production and consumption, making offshore domiciliation dangerously tempting (Dale, 2018). According to Reuters, “Tax optimization, though legally permissible, proves particularly harmful when conducted on a massive scale, with the European Union estimated to have lost €5.4 billion in tax revenues from Google and Facebook between 2013 and 2015” (Guarascio, 2017).
- In 2017, Frey and Osborne forecast that 47% of American jobs faced a high risk of automation within the next 10–20 years. The World Economic Forum’s 2025 report echoes this alarm, predicting that 92 million jobs globally could shift from humans to machines by 2030 (WEF, 2025). Accenture (Daugherty et al., 2023) further estimated that 40% of working hours are now exposed to disruption by large language models (LLMs) such as GPT-4, with 62% of labor time tied to language-based tasks. Those most vulnerable? Lower-skilled workers and those lacking strong digital literacy.

The labor market is under strain, with growing fears of a significant rise in unemployment rates (see below for the historical link between automation