Chapter 3
Making the Digital Transformation Work

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ABSTRACT In this chapter, we highlight the on-going research of BI Norwegian Business School’s Nordic Center for Internet and Society to better understand the function, status, and meaning creation of work in the digitized economy, and the impact of digital technologies in organizations. Specifically, the chapter aims to set out an agenda for mastering the labor challenges of the digital transformation based on our studies conducted over recent years. We highlight the challenges of adapting our current notions of managerial feedback to platform organizations, and present insights on how to support the creative potential of online crowdsourcing. Further, we showcase the pitfalls of the emerging practice of virtual leadership and propose measures with which good leaders may greatly increase the effectiveness of online communities. Lastly, we conclude by outlining what might constitute attractive organizations for the future workforce and labor designs that could render the digital economy more inclusive, effective, and human-centered.

KEY WORDS: Future Workplaces | New Working Modes | Labor Designs | Crowdworking | Virtual Teams | Digital Leadership

3.1 INTRODUCTION
A bestseller published by Erik Brynjolfsson and Andrew McAfee (2014) titled The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies is one instance in a long list of recent publications exploring the effect of new information and communication technologies on labor markets. New technologies such as artificial intelligence employing self-learning algorithms and large bodies of data will alter future collaboration between humans and machines. Observers posit that such digital technologies will enable the automation of industrial as well as cognitive tasks previously reserved for human ingenu-
ity, triggering an era of accelerated innovation and significant disruption comparable to the fourth industrial revolution (Frey and Osborne, 2013).

While new information and communication technologies may facilitate the substitution of human labor, they also allow for the emergence of new forms of work. A closer look at the emerging on-demand service economy, for instance, reveals a growing workforce characterized by commodification, low costs, minimal institutionalization, and increasing anonymity. Digital platforms and ecosystems such as Upwork or Topcoder, and even sharing platforms like Airbnb and Uber, bring disruptive change to existing industries by enlisting the work of thousands of dispersed individual workers (Kneese and Rosenblat, 2014). The traditional model of labor is hence under attack from two directions simultaneously, through replacement by new technologies, and through commodification facilitated through new, technology-enabled forms of organizing. We will call the new work model that will emerge in its place “digital work.”

As technological innovations disrupt traditional forms of employment, and new forms of labor emerge, we have yet to develop a thorough understanding of how the nature and meaning of digital work will evolve in the future. Some researchers, taking an optimistic view, have pointed to the potential benefits of online micro-entrepreneurship, such as flexibility, enjoyment, and the economic empowerment of previously constrained individuals (Fish and Srinivasan, 2012; Gansky, 2010; Horten, 2011; Kelliher and Anderson, 2009; Kneese and Rosenblat, 2014; Ruggieri, Mosconi, Poponi, and Silvestri, 2015).

Conversely, digital work is, at least to date, often considered to be remote, modular, and conducted on a project-by-project basis, limiting the creation of permanent ties to employers, organizations, or co-workers (Andrejevic, 2009; Ashford et al., 2007; Connelly and Gallagher, 2004; de Peuter, 2011; Fuchs and Sevignani, 2013; Gill and Pratt, 2008; Gregg, 2011; Hollister, 2011; Horowitz and Rosati, 2014; McKercher and Mosco, 2008; Rainie and Wellman, 2012; Smith, 2016). Digital workers laboring on decontextualized projects in comparatively social isolation are still often merely viewed as outsourced “human computers.” Nevertheless, the nature and meaning of one’s work accounts for a critical part of the identity of many people (Blustein, 2011). In other words, they retain the natural human desire to feel needed, to feel valued, and to have their work appreciated by the community and larger society (Jung, 2015). In short, they want to feel that they “matter.”
3.2 THE ORIGINS AND CHALLENGES OF THE DIGITAL TRANSFORMATION FROM AN INDUSTRIAL RELATIONS PERSPECTIVE

In the past decade, much attention has been paid to the ongoing development of the fourth industrial revolution, which is set to change work, work practices, and workplaces (Colbert, Yee, and George, 2016). In regard to the transformation of work, this revolution is sought either to fundamentally alter or outright replace existing work, such as many clerical professions, or to be conducive to large-scale projects that were formerly the sole purview of more traditional forms of organizations, which are to be broken down into small work packages that can be distributed among a digitized workforce (Lehdonvirta and Ernkvist, 2011; Kittur et al., 2013). Currently, this involves more menial tasks such as usability testing, image tagging, audio transcription and/or evaluation, and text fragment categorization, but also encompasses the gig economy that provides, for instance, transportation and hospitality services. However, with improving technology and organizational design, it will also increasingly include creative and innovative tasks. Progressively greater numbers of individuals are either making a living or earning additional income through freelance contracting on the Internet. Examples of this include the completion of human-intelligence tasks on Amazon Mechanical Turk (AMT) and Clickworker, and the offering of software development or design skills via crowdsourcing platforms such as Upwork or 99designs.

The overall size of the digital gig economy was estimated at US$2 billion in 2013 and grew to US$4.8 billion in 2016 (Kuek et al., 2015). The emergence of the sector has been driven by the platforms’ combination of competitive logic and technical innovation, which they have used not only to win market share from existing IT outsourcing, but also to generate new forms of outsourcing (Huws, 2017). Growth has been further driven on the supply side by the competitive logic of clients seeking and obtaining three key benefits: lower costs (financial and time), greater flexibility, and access to a wider skills pool (i.e. higher quality workers) (Bergvall-Kareborn and Howcroft, 2014).

Many in traditional employment may also witness changes in the nature and meaning of their work as a result of the recent development of digital technologies. For instance, with digital technologies foreseeably automating many incumbent forms of employment, some may face a transition of their formal work roles (e.g., as they are replaced by or have to manage robots and artificial intelligence for manufacturing) (Wolf, 2016). Indeed, the number of jobs that largely rely on routine tasks is predicted to decrease (Hilton, 2008). New employment is predominately arising at the fringes of the traditional labor market, such as in the afore-
mentioned gig and freelance economy. As computers are still not good at abstract tasks, which often require higher skills, and manual tasks with lower skills requirement, skills and competencies required in the future are said to be increasingly polarized (Hilton, 2008). Moreover, the meaning of work is also changing for many. For example, nursing has traditionally been seen as a hand-holding profession. However, since nurses’ work is being increasingly digitized, their work identity has been suggested to be moving away from the humanized aspect toward technical skills (Kolbæk, 2015).

In recent years, a rich body of literature has emerged that tries to shed light on the nature of this digital transformation. The literature itself is divided into several scientific disciplines, discourses, and theoretical approaches. Exemplary disciplines involved in the study of such new forms of work and work practices include sociology/anthropology (Fish and Srinivasan, 2012; Pinch and Bijker, 2012), communication and media studies (Irani, 2015; Paul M Leonardi, 2015; Martin, Parry, and Flowers, 2015; Sarker, Ajuja, Sarker, and Kirkeby, 2011), psychology (Brown, Venkatesh, Kuruzovich, and Massey, 2008; Hoch and Kozlowski, 2014), organization studies (Bauer and Gegenhuber, 2015; Boons, Stam, and Barkema, 2015; Kirkman, Rosen, Tesluk, and Gibson, 2004; Spreitzer, Cameron, and Garrett, 2017), and information systems and computer science, such as computer-supported cooperative work and human–computer interaction (Kittur et al., 2013; Venkatesh and Goyal, 2010).

In the following discussion of our own research, we postulate that digital technologies have transformed labor into three distinct forms, leading to three distinct types of labor, namely aspirational, platform, and corporate labor, as illustrated in Figure 3.1. At the current point in time, corporate labor is still the form of labor that, financially, allows a career to be sustained the best; aspirational labor (as will be explained in more detail below) currently pertains more to career entry activities, particularly in the creative industries; whereas platform labor takes a middle ground encompassing increasingly more fluid freelancing agreements. We expect all three forms of labor to become increasingly more collaborative, as we have already witnessed in the preceding decades—depicted in Figure 3.1 as one of the fundamental dimensions of future work. By Collaborative Creation we in essence refer to work that is to be increasingly split up into more distinct parts to be worked on either through human or artificial intelligence. As our final dimension, depicted in the figure below as Organizational Openness, we also expect a more open organizational design, in which the boundaries between organizations become increasingly blurred.
Digitization empowers all three types of labor, which are enabled through technologies. For instance, traditional corporate labor can be performed in established settings but in novel ways, with less geographical and time constraints, in order to make a workplace more inclusive. For individuals active in freelancing on platform organizations, digital technologies enable a new type of boundaryless career, where workers and employers are matched on a case-by-case basis through a digital intermediary—the platform. Finally, there is the mostly unremunerated creative, aspirational labor that, nonetheless, may be not only critical to the value creation of companies, but also a means to pursue one’s hobby and/or passion in a rewarding career.

**FIGURE 3.1**

3.2.1 ASPIRATIONAL LABOR

Although online waged labor is a central construct within the digital economy, digital laborers can also be motivated by numerous non-monetary factors, such as social influence and hedonism, resulting in work being offered on a spectrum of paid to unpaid “free labor” (Boons, Stam, and Barkema, 2015; Manyika et al., 2014; Terranova, 2004). Increasingly, the boundaries of labor and play are blurring, with the neologism “playbor” emerging to describe work practices that,
according to Scholz (2013, p. 3), “don’t feel, look, or smell like labor at all.” In the face of a flexible and entrepreneurially driven digital economy, more and more people desiring career entry into desirable digital media professions are being driven toward unpaid online activities such as blogging, gaming, and branding. These activities are undertaken for enjoyment, but also for the development of skills and networks. For many, these activities are their creative outlets and primary method of making new friends with similar interests. More cynically, this phenomenon of “playbor” is merely work “suffused with an ideology of play, which effectively masks labor as play, and disguises the process of self-expropriation as self-expression” (Kücklich, 2009). Yet, a side effect of many of these activities may be the generation of income, variable in amount but with the potential to result in considerable sums of money. Not only has this financial gain materialized through immediate returns, such as shared advertising revenue on YouTube videos or selling handmade items on Etsy, but some people are also viewing their online activities as investments for future rewards. The development of networks, skills, and online identities tied to desirable industry sectors has enabled people to increase their employment opportunities in the future. We see this, for instance, in how an aspiring teen blogger writes daily on her food blog in the hope of becoming a professional journalist, or how a young Twitch star posts videos of increasingly higher quality in the hope of leveraging that experience for a position in a traditional media or video game company. This ostensibly “free” labor online is thus being bargained for the hope of future payoff, a phenomenon entitled “hope labor” (Kuehn and Corrigan, 2013) or “aspirational labor” (Duffy, 2016).

3.2.2 PLATFORM LABOR

This type of independent contract functions as a direct relationship involving just two parties: the worker and the client organization (s)he contracts with. From task selection to completion, the work process is controlled by the worker; an independent contractor’s only employer is him/herself, and each project has a relatively short time span (Deng and Joshi, 2016). This constitutes a new form of employment in which there is a great deal of flexibility in the employment relationship even compared with traditional freelance work (Spreitzer et al., 2017). All platform workers have some autonomy in terms of controlling their own scheduling and where the work is done. Moreover, the allocation of decision-making authority across workers, clients, and the firm varies substantially across platforms, as does the degree to which workers are compensated according to outputs or inputs.
The affordances of online platforms enable the offering of high skilled and creative labor of the type that tends to be described as both satisfying and pleasurable (Gill and Pratt, 2008). Some scholars have even characterized the digital economy as a fertile environment for democratic free production that enables individuals to express their creativity and transcend alienation (Bruns, 2008; Postigo, 2016; Jenkins, 2006; Tapscott and Williams, 2006; Howe, 2009; Florida, 2002; Prat and Gill, 2000; Hesmondhalgh and Baker, 2011). However, in the cases of highly skilled “creative labor” and “digital entrepreneurship,” the levels of digital literacy may restrict access to the online platforms. The prerequisite for participation can therefore be high for those who are already imbued with offline economic, social, and cultural capital.

Conversely, with new technologies enabling the differentiation, specification, and outsourcing of labor, low-skilled forms of labor, such as crowdwork, microwork, and digital piecework, have become increasingly common (Ashford et al., 2007; Fish and Srinivasan, 2012; Kittur et al., 2008, 2013; Kneese and Rosenblat, 2014; Lehdonvirta and Ernkvist, 2011; Postigo, 2016; Silberman et al., 2010). Criticism has been leveled at the affordances of this model to increasingly fragment and substitute previously middle-class jobs as technologically induced competitive forces lead to the overall deterioration of wages and working conditions (Scholz, 2013).

Despite the growth of the digital economy across high-skilled, low-skilled, and so-called playbor manifestations, the organizational understanding of what motivates digital workers beyond financial compensation is still largely limited (Chua, Roth, and Lemoine, 2015; Kosonen, Gan, Vanhala, and Blomqvist, 2014). Given this lack of understanding, it is easy for employers to misconstrue the digitized workforce as an amorphous crowd of exchangeable workers instead of a valuable community of individuals, each with differing motivations and experiences (Kittur et al., 2013). Moreover, as workers become increasingly dependent upon established platforms as entry points into the digital economy, the nature and affordances of such platforms dictate the type, frequency, reward system, and context of digital work (Fuchs and Sevignani, 2013; Kingsley, Gray, and Sury, 2015; Scholz, 2013; Rosenblat and Stark, 2015). Without insight into worker experiences, digital organizations may be perpetuating unfair labor conditions that ignore the human element of their workforce. On the other hand, without oversight, digital platforms retain the ability to exploit workers through unfair power dynamics while simultaneously alienating them from their own intellectual products (Arvidsson, 2008; Aytes, 2013, Brabham, 2008; 2012; Fuchs, 2010; Kalekin-Fishman and Langman, 2015; Postigo, 2016; Terranova, 2004; van Dijck and Nieborg, 2009; Zwick, Bonsu, and Darmody, 2008).
3.2.3 CORPORATE LABOR

Many organizations have introduced technologies for changing the organizational processes in traditional work settings, such as using information technology in hiring processes, enterprise social media as communication platforms, new working arrangements such as office design (e.g., flexible seating enabled by cloud technologies) and telework (e.g., flexible work locations and scheduling relying on computer-mediated communication tools) (Colbert, Yee and George, 2016). Work has become more flexible in terms of both scheduling and location (Spreitzer et al., 2017) and potentially more social (Paul M Leonard, 2015) with the use of new technologies.

Often, technology is adopted with an intention to enable better efficiency and work conditions. For instance, Enterprise Social Media (ESM) is said to provide numerous benefits for organizations by making communication less bureaucratic and more transparent and inclusive (Leftheriotis and Giannakos, 2014). Some argue that ESM, as a potential way of displaying work behaviors, attitudes, and organizational culture, may help organizational members not only acquire explicit knowledge, which refers to articulated, expressed, and recorded knowledge such as organizational visions and role descriptions, but also tacit knowledge, which refers to know-how that is more intuitive (Paul M. Leonardi and Treem, 2012). For telework and other flexible work practices enabled by computer-mediated communication tools such as instant chat, video conferencing, online forums, etc., individuals may see that these arrangements would make collaborating and knowledge sharing easier and less bureaucratic (Martins, Gilson, and Maynard, 2004; Sarker et al., 2011). Although technologies are approached as a means to appropriate organizational strategies, the success of such intentions are dependent on the social environment (Dutré, 2004; Pasmore, Francis, Haldeman, and Shani, 1982; Powell, 1987).

In particular, while flexible work arrangement are appreciated by some, others may find themselves less attached to the office and/or the organization, or the work environment may become less personal, less social, and more difficult to share knowledge in (Cheshin, Rafaeli, and Bos, 2011; Hertel, Geister, and Konradt, 2005; Mesmer-Magnus, DeChurch, Jimenez-Rodriguez, Wildman, and Shuffler, 2011). Individuals may thus see technology as constraining rather than enabling. This is particularly so when they see technology as a structural property of organizations that reduces the flexibility with which they would go about their work (Orlikowski, 1992). It is therefore not surprising that research findings on the effect of technology adoption on individual performance (Lewis, Agarwal, and Sambamurthy, 2003) and team performance (Ortiz de Guinea, Webster, and Staples, 2012) have been inconsistent.
3.3 FUTURE RESEARCH AGENDA

Clearly, understanding the conditions under which digital technologies are shaping organizational phenomena is an important current research agenda (Ashford, George, and Blatt, 2007; Colbert et al., 2016; Piezunka and Ander, 2015; Spreitzer et al., 2017). Specifically, there is an urgent need to advance our understanding of individual attitudinal and behavioral responses in digitized workplaces (Boons et al., 2015; Gibson and Gibbs, 2006; Nakatsu, Grossman, and Iacovou, 2014). Both public institutions and private organizations share responsibility in creating a fair digital economy for workers. Accordingly, by focusing on both procedural and interactional fairness, our goal is to provide evidence-based implications for policy makers and stakeholders of what factors or procedures may support positive work arrangements for digital workers. The dependence of workers on online platforms raises important questions as to organizational power dynamics. Corporate and institutional social responsibility will thus be a key component within this research question.

For instance, some of our empirical studies demonstrate that platform labor may see the instant digital feedback they receive as the result of surveillance rather than support. Considering that such instant feedback is indeed a primary social stimulus for platform laborers, as they are working through the mediation of an online platform without face-to-face or other means of interaction (Gamrat, Zimmerman, Dudek, and Peck, 2014), this has important implications not only for their performance, but also for their psychological well-being. We have also observed that platform laborers do look for meaning in their work and hope to see their work matter, not least so they can develop their careers in platform work, despite the lack of vertical career mobility and competence development. We will pay particular attention to the role of worker voice, feedback mechanisms, and the provision of development opportunities for workers. We also want to question the responsiveness of platforms to the changing needs of workers. As greater numbers of companies transition to a partly or wholly digital workforce, we question whether organizations are evolving with worker needs in mind or are even redefining what it means to be an “employee” for internal benefit. With this research question, we hope to generate cutting-edge empirical research that can help different stakeholders to identify exclusionary elements, leading to the creation of mechanisms that will foster greater inclusion and fairness.

Following this research question, we also aim to examine the role of entry into the digital economy and consider how aspiring digital workers acquire the necessary digital literacy skills to engage online. With the rise of online work, traditional jobs are increasingly being replaced by portfolio careers full of diverse
activities. With our contribution, we consider how and why people choose different jobs at different points in their lives, and how the boundaries between those might intersect or conflict. We also consider digital skill divides, which may be perpetuated by offline social and economic factors. Of these, proactive skill development and adjustment in the face of new career demands has gained greater attention, particularly regarding the rapidly evolving nature of the digital economy. Skills developed in educational settings may be misaligned to the needs of the current and future workplace. Accordingly, we will challenge the role of youth engagement and preparation for the future of work, informing stakeholders in education how to provide sensible interventions that spur effective skill development both online and offline.

Furthermore, organizations have increasingly been employing distributed teams with digital solutions as means to improve organizational efficiency and effectiveness (Colbert et al., 2016). For many workers today, their jobs are not confined to a specific location or point in time. On the contrary, teams can easily be arranged across temporal, geographical, and organizational boundaries (Hoch and Kozlowski, 2014). As new ways of working, such distributed teams are assumed to benefit employees and organizations alike, with potential benefits such as increased flexibility, work–life balance, job satisfaction, and performance (Gilson, Maynard, Young, Vartiainen, and Hakonen, 2015; Liao, 2017; Martins et al., 2004). However, despite the alleged benefits, this new team format tends to obtain less desirable individual and organizational outcomes than traditional teams do (Gibson and Gibbs, 2006; Ortiz de Guinea et al., 2012). Distributed teams have been reported to display less extra-role behaviors (Ganesh and Gupta, 2010) and experience more communication issues (Daim et al., 2012; Ortiz de Guinea et al., 2012) and increased task conflict (Ortiz de Guinea et al., 2012). Other disadvantages of distributed teams as opposed to co-located teams include lower levels of satisfaction with work and one’s team, as well as less knowledge sharing (Ortiz de Guinea et al., 2012), trust, team cohesion, cooperative behavior, and social control (Hoch and Kozlowski, 2014).

Leading in such digitized workplaces can be challenging, as leaders who are not geographically present typically have a harder time withholding an active, relationship-focused leadership style, as they do not have other means to communicate with their employees aside from computer-mediated communication tools (Dulebohn and Hoch, 2017). Supporting this notion, Huang et al. (2010) found that media richness influences the relationship between transformational leadership and cooperative climate in distributed teams. One of our empirical studies demonstrates that transformational leadership is likely to be less effective in building high-quality
leader–member relationships in teams that rely strongly on electronic communication tools, such as video conferencing, instant messages, phone calls, and emails, to go about their daily work. The weakened effect is particularly likely to occur with members in distributed teams who have high task interdependency among each other. This indicates that the role of leadership is likely to be substituted in distributed teams in which members have a high frequency of interactions among each other. While this is perhaps good news for organizations that aim for a flat structure, for most of the organizations that do have some levels of hierarchical structure, ineffective leadership can be detrimental. Based on this finding, we challenge current management theories based on traditional organizational settings, which may not necessarily apply to the more open and fluid organizational processing enabled by digital technologies, and suggest that more research is needed.

The final research question will act as the culmination of the project, drawing insights from the former research questions. Our overall aim is to integrate various theory and research streams to illuminate the manifold experiences of “mattering” within the digital economy. We want to give the individual workers in the digital economy a voice and listen to what is being said, inviting workers to tell their own stories. How do they feel in the digital workspace? Do workers perceive different experiences of mattering from creative work, unwaged hope labor, and unskilled piece work? What implications does the ability to contextualize one’s own work have for individual well-being and productivity? Our goal is to create guidelines, ideas, and hands-on organizational design principles that might provide greater meaning with digital work, improving worker experiences and promoting the acceptance of digital labor formats by potentially uncertain workers. Above all, we want to refocus ongoing debates on individual workers, including aspirational, platform, and corporate laborers, without whom there would be no digital economy.

REFERENCES


