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TRANSITIONING TO A DIGITAL WORLD

Alan J. Malter and Aric Rindfleisch

We live in a world that is increasingly digital, but not yet completely digital, which makes it quite interesting. The transition from the pre-digital age, just a few short years ago, to a new digital reality provides fertile ground for scholars to study a landscape that is shifting before our eyes (Lane & Levy, 2019). We are participant-observers in this great transformation, both recording changes as they occur while contributing to new waves of change. The next generation of not-yet-imagined digital technology and software applications will further transform markets, society, and everyday life (Hofacker, 2019).

This revolution has already impacted nearly every corner of modern life. Over the past two decades, digital technologies have profoundly altered marketing and consumption, and the change will continue in both expected and unexpected directions in the decades to come. Engineers and entrepreneurs, marketers, and ordinary consumers are constantly co-creating and updating the digital world, and their innovations are shared and adopted around the globe at unprecedented speed (Ratchford, 2019). These market disruptions not only offer excitement and opportunity but are also daunting and overwhelming to a great many consumers, companies, and institutions, struggling to keep up with the magnitude and pace of change (Dholakia, 2019).

In this chapter, we explore three main features of this new digital world. First, the digitalization of modern life has progressed so far and so fast that it is easy to overlook that we are still in the very early stages of this transformation. Second, the digital innovations that currently dominate consumer and commercial life in 2019 were largely unanticipated as recently as 1999. These innovations have come in rapid succession, rendering pre-digital life largely unrecognizable to the new generation of digital natives. With the benefit of 20 years of hindsight, it is now possible to see and appreciate just how rapid and

unexpected the digital transformation has been. Third, the sudden emergence and dominance of digital technology in so many domains, from work to home, has enthralled but also overwhelmed many consumers and companies and raises serious concerns about privacy and cybersecurity. The digital divide has also created great inequities between people of all ages who are digitally savvy vs. those with lower technical aptitude, lower access to technology, and increasingly unable to keep up. This divide significantly impacts education and employment prospects, access to healthcare and political participation, and the ability to cope with the new demands of everyday digital life (Gonzales, 2016).

DIGITALIZATION IN THE BLINK OF AN EYE

Although Kotler (1970) presciently predicted the role of the computer as a transformational technology long before the advent of the digital revolution, marketing scholarship on the digital age began to appear in the mid-1990s (Alba et al., 1997; Hoffman & Novak, 1996). For example, Hoffman and Novak (1996) contemplated the future of marketing in “computer-mediated environments” and proposed that consumers enter a flow state when surfing the web, even though the reality of accessing the early Internet on a desktop computer with a dial-up modem was still far from the “optimal experience” of psychological flow (Csikszentmihalyi & Csikszentmihalyi, 1988). Likewise, Alba et al. (1997) explored the potential of interactive home shopping, which was still quite novel at the time, as very few products were available online due to cross-channel competition concerns, logistical constraints, shipping costs, and uncertainty regarding the tax status of e-commerce. These early studies marked a new but peripheral niche in the field of marketing, and the consumption activities they investigated were still a very small part of everyday consumer experience.

In the 1990s, few could have anticipated the tsunami of disruptive new technologies that would be introduced within the two decades, or the degree to which these would transform our naive analog lives with digital innovations we did not know were possible, much less essential. Since then, a rapid succession of digital innovations has taken over the marketplace. Gupta (2018) traces the key stages of digital revolution from early e-commerce (Amazon) to superior information search (Google), then social media (Facebook) and mobile (Apple iPhone), and ultimately the emerging Internet of Things (IoT), connecting smart-home devices and appliances to each other and to the Internet. All of these developments have been enabled and accelerated by a host of technologies, such as the ubiquitous spread of Wi-Fi, GPS navigation (e.g., Garmin, OnStar, Google Maps), online consumer review and recommendation platforms, miniaturization of high-quality displays, and improved battery performance for mobile devices. These advances, in turn, have set the stage for still further digital innovation, from wearable tech (Fitbit) to customized online shopping experiences, from Netflix and streaming video on demand, playing on vastly improved televisions, laptops, and mobile devices running on ever-faster wireless networks, to consumers engaging in self-manufacturing via 3D printers, and even robotic personal assistants and

service providers. Many of these innovations now work seamlessly together, offering consumers an everyday digital experience that was pure science fiction a relatively short time ago (Ratchford, 2019). This transformation has been especially rapid in developing countries, which skipped earlier stages and fast-forwarded straight to digital.

Blindsided by Digital

The extent and speed of the digital takeover was largely unanticipated by marketing thought leaders two decades ago. To show how rapid and unexpected these changes have been, it is instructive to look back at the October 1999 special “Millennium” issue of the *Journal of Marketing (JM)*, co-sponsored by the Marketing Science Institute (MSI). The goal of this special issue was to take stock of the field of marketing at the end of the twentieth century and look forward to how marketing might change in the new millennium. This special issue coincided with the beginning of the great digital transformation that would soon follow. Remarkably, only a handful of the 17 articles that appeared in this special issue examined the expected impact of digital technology, and those that did mostly discussed it in the context of connecting organizations and markets, increasing competition, and the danger of driving down prices (from a firm’s perspective). Moreover, *none* of the chapters addressed how digital devices and tools might impact everyday consumer experience.

In a reflection essay in the *JM* special issue, Deshpande (1999) compared MSI’s top five research priorities (set biannually by MSI’s corporate members) over the decade prior to 2000 and concluded, “What is remarkable and interesting is not what has changed so dramatically but rather what has stayed the same” (p. 165). For example, in the mid-to-late 1990s, MSI consistently ranked “Marketing and the Internet” as only the third or fourth highest research priority among the top five, buried between important but standard topics such as measuring marketing performance, understanding customers, relationship marketing, and managing brands. A larger concern at the time was the perceived marginalization of the discipline of marketing due to its increasing focus on mundane tactics rather than on bigger-picture strategic issues (Day & Montgomery, 1999; Lehmann, 1997).

A few of the authors in this *JM* special issue sensed that marketing was on the brink of major change, they just did not know what specific form it would take or when exactly it would happen. For example, Day and Montgomery (1999) acknowledged the “connected knowledge economy” as the number one trend or disruption shaping the future direction of marketing. Specifically, they were referring to the emergence of knowledge-based industries such as software and telecom which are characterized by large up-front R&D costs, increasing returns, locked-in customers, and “winner-take-most” market dominance. More importantly, they foresaw that in a knowledge-based world, connection is key: “The consequences of connecting everyone through networks so information can flow more freely and frequently will be profound” (Day and Montgomery 1999, p. 7). In another article in this issue, Wilkie and Moore (1999) considered

what might happen to the marketing system if the Internet shifted consumer buying toward e-commerce, and correctly predicted that this shift would pose a challenge to physical retailing. Finally, [Achrol and Kotler \(1999\)](#) emphatically proclaimed that marketing was “poised for revolutionary changes” (p. 146) in the new network economy. Although they examined the role of marketing across various forms of future networks, they were especially prescient in describing an “opportunity network” that would be “organized around customers rather than suppliers” (p. 157). In effect, they described Amazon’s current business model (which they listed as an early example of this type of network, along with e-Trade, Travelocity, AOL, and Yahoo). They further noted that the growth of opportunity markets was limited at the time by uncertainty over consumers’ willingness to switch to online shopping, and correctly concluded that:

Opportunity networks integrated with customer communities represent the most dramatic scenario of change for marketing in the next millennium. If it should work out this way, the implications for marketing theory, research and practice are revolutionary [...] marketing will become a two-way activity. (p. 161)

In the two ensuing decades, digital innovations have indeed transformed the marketplace ([Narang & Shankar, 2019](#)) and this transformation has spawned a new generation of marketing scholarship about our digital age. Over these 20 years, hundreds of marketing publications have examined the impact of digital technologies on marketing and consumer behavior. Recently, several scholars have tried to organize this fragmented literature in order to make sense of the findings to date and better guide future research. For example, [Yadav and Pavlou \(2014\)](#) proposed an overarching framework based on 124 articles on marketing in computer-mediated environments. They identified four primary research categories: studies focused on consumer-to-firm (C2B) interactions, firm-to-consumer (B2C) interactions, consumer-to-consumer (peer-to-peer) interactions, and firm-to-firm (B2B, network) interactions. More recently, [Lamberton and Stephen \(2016\)](#) adopted a thematic approach to classify the literature in this domain, with a specific focus on digital, social media, and mobile (DSMM) marketing. They selected 180 articles published in top marketing journals from 2000 to 2016 to discern the shifting focus of DSMM research and its impact over this time period. Their analysis identified several different themes across each of four suberas: 2000–2004, early studies on how digital media shapes and facilitates buyer behavior; 2005–2010, studies on how consumers shape DSMM through word-of-mouth and networks; 2011–2014, the new age of social media; and 2015–2016 and onward, the rise of DSMM culture in a “postdigital” world.

Today, marketing scholars are focusing considerable attention on the implications of the latest digital technologies, including the emergence of artificial intelligence (AI) and robotics as replacements for human workers in the customer service domain ([Huang & Rust, 2018](#)), the rise of interconnected smart products in the IoT ([Hoffman & Novak, 2018](#); [Verhoef et al., 2017](#)), and consumer self-manufacturing via 3D printing technology ([Kietzmann, Pitt, & Berthon, 2015](#); [Rindfleisch, Malter, & Fisher, 2019](#)). Technology is now emerging as a central focus of new marketing theoretical frameworks (e.g., [Kumar,](#)

2018), and many leading academic journals have dedicated special issues to this topic. Wilkie and Moore (2003) surveyed the development of marketing thought over the previous century, starting with the founding of the field around 1900. They identified four distinct eras, but ended their review just as digitalization was starting to make an impact. We believe that the past two decades of research on marketing in a digital world mark the start of a new fifth era of marketing thought development.

The interdisciplinary field of marketing is well-positioned to lead research on the digital transformation of society in all its myriad aspects, from managers to consumers; examine its implications for market systems, public policy, and society; and develop new methods of marketing research from big data analytics to consumption assemblages. However, marketing faces stiff competition from more technical disciplines such as information systems, engineering, and computer science for the lead role in studying and teaching about the digital world. At a broader level, both traditional business schools and online start-ups like Coursera are racing to shape this new educational landscape, designing new curricula and introducing certification programs to train the digital leaders and managers of the future.

Coping with Digital

In addition to seeking to understand our new digital world, we are also trying to live in it. This is a challenging task, as the digital world increasingly looks and feels different from the analog world that has served as our historic foundation as humans on the planet Earth (Sax, 2016). Many current digital technologies are beyond the comprehension of ordinary consumers and are often hidden behind the scenes. Thus, in some ways, life (at the surface level) continues to look and feel much the same as before. Yet the growing influence of digitization is unmistakable, relentless, and increasingly apparent across a broad spectrum of activities, as new devices and tools quickly transition from novel to normal. Nearly every question that comes to mind can be immediately investigated online, and simple consumption activities like watching (or playing) sports are now accompanied by a blizzard of instant statistics, analyses, and on-demand video highlights that are new and different than before. Digital traces of nearly every activity are recorded, stored, and potentially analyzed by public and private entities, with or without consumer awareness or permission. Digital cameras are everywhere, and consumers themselves record and publicly post more data than can ever possibly be viewed or appreciated. Digital technologies are transforming education, commerce, transportation, healthcare, communication, entertainment, and general interpersonal interaction, from finding a mate (or just a date) to finding a job, finding any type of information, to reorienting family life and leisure time. Many consumers find these changes provide unparalleled convenience and view them as exciting and stimulating. The technology industry and studies by marketing scholars tend to focus on the early adopters of these new technologies and assume that everyone else will eventually catch up.

However, a growing number of consumers and workers are starting to feel exhausted from the constant effort needed to keep pace with the dizzying rate of change (Lane & Levy, 2019). In addition, many lack the technical skills or financial resources to upgrade, stay current, or even catch up (Gonzales, 2016). As a result, the emergence of the digital world has overwhelmed and frightened many consumers, companies, and policy-makers, who struggle to adapt to the new environment and lifestyle, or worry about privacy and cybersecurity concerns (Palmatier & Martin, 2019). Every new appliance and device is now a computer, from telephones to cars to TVs to refrigerators, and they no longer come with a printed manual because the manual is now online. On top of this, consumers are often expected to provide their own IT self-service. Simpler, older models are being phased out and service may no longer be available if consumers do not upgrade to the latest hardware and software, which only compounds the problem. Some key public services are now available only online. Even educated and relatively tech-savvy consumers find all the new technology daunting at times, while less educated (illiterate) and less tech-savvy (digitally illiterate) consumers are falling behind or completely unable to cope without assistance. This has resulted in a huge digital divide that needs to be addressed by marketing scholars and policy-makers (Gonzales, 2016; Wallendorf, 2001).

The stark differences between consumers willing to embrace new digital technologies and those who are not are highlighted in a recent Pew Research Center survey of 4,135 US adults on “Automation in Everyday Life” (Smith & Anderson, 2017). A majority of Americans report that they are more worried than enthusiastic about pending developments in automation, including AI and robots replacing humans to do a variety of jobs, algorithms that hire or evaluate employees, and self-driving cars. The two groups (enthusiastic versus worried consumers), hold nearly opposite views and attitudes toward these technologies. This sharp dichotomy may be due to the inherent paradox of new technologies that involve inseparable costs and benefits (Mick & Fournier, 1998). To date, marketing scholars (who are highly educated, financially privileged, and often tech-savvy themselves) have largely approached digital technologies from a perspective of enthusiasm (e.g., Lamberton & Stephen, 2016; Rindfleisch, O’Hern, & Sachdev, 2017; Verhoef et al., 2017). However, in recent years, widespread consumer fears of new digital technologies, especially legitimate concerns regarding safety, privacy, and truthfulness, are receiving increased attention from marketing scholars (Dholakia, 2019; Ratchford, 2019; Roman, Riquelme, & Iacobucci, 2019).

We encourage future research about this potential dark side of our digital age, which is likely to grow in importance as technology increasingly replaces humans with machines. Indeed, despite great initial fanfare, fears of self-driving vehicles and the popular “driver assist” and “autopilot” technologies available on many current model cars are rising and likely to gain increasing attention. Recent fatal crashes in 2018 involving an Uber test vehicle in Arizona (Lee, 2018) and a Tesla on autopilot in California (Stewart, 2018) damaged public perceptions of self-driving technologies, despite a lower accident rate than human-driven cars. According to the University of Michigan’s Mcity center on connected and automated vehicles (Dominic, Chhwari, Eustice, Ma, &

Weimerskirch, 2016; Weimerskirch & Dominic, 2018), connected self-driving cars are vulnerable to the same types of cyber threats that confront any computer network. These include data theft and denial of service attacks, as well as criminal hackers who might want to steal a car or its possessions, kidnap its occupants, or break into the smart home that may be connected to an autonomous car. As noted by Weimerskirch and Dominic (2018), “Cybersecurity is an overlooked area of research in the development of automated vehicles” (p. 1). Marketing scholars are equipped to add valuable insights that can help minimize these risks and attenuate consumer concerns about the darker side of the digital world.

Sensing this rising unease, marketers and advertisers have begun to take initial steps to address consumer fears of digital technology by offering more brick-and-mortar retail options and reassuring consumers that humans, not robots, are still in charge of providing customer service. For example, despite being a mega online retailer that has put many brick-and-mortar stores out of business, Amazon’s recent move into the food business via its purchase of Whole Foods supermarket chain has led them to open a new chain of brick-and-mortar convenience stores, Amazon Go (which lack cashiers but have in-person tech support). This addition of analog retail outlets seems likely to continue, as Amazon recently announced plans to launch a new chain of affordable physical grocery stores (Fung & Haddon, 2019). Similarly, the extensive brick-and-mortar chain of Apple stores serves not only as a retail showroom but also as a platform to provide vital in-person tech support to owners of Apple devices. In addition, many US advertisers are suddenly featuring robots in video ads (Poggi, 2019), often making fun of the robot for its lack of empathy (e.g., State Farm Insurance, Turbotax, Michelob) or portraying the robot as a helpful sidekick to a human service agent (Sprint telecom). Most notably, during the 2019 Super Bowl, Amazon ran a 90-second ad that cheekily highlighted potential limitations of its Alexa smart-home device.

Growing consumer unease with emerging digital technologies places firms in a dilemma. Today’s consumers demand superior customer service, expect a rapid response to every query or complaint, and want customized offers tailored to their personal interests. But in order to effectively and efficiently satisfy these expectations, firms must naturally turn to new technologies such as AI, at least behind the scenes. Thus, part of the problem is consumer misperception of digital technologies, as many consumers already enjoy the benefits of AI but are not aware of the positive role that this technology plays.

Therefore, the potential impact (both good and bad) of increasing consumer awareness and engagement with new digital technologies such as AI is an important issue for both marketing scholars and practitioners. Some of this work has already begun. For example, in an early study of consumer acceptance of electronic commerce, Pavlou (2003) integrated trust and risk in the “Technology Acceptance Model” to better understand how to engage consumers in online transactions. More recently, Hingston and Noseworthy (2018) studied how marketers can overcome consumers’ moral opposition to genetically modified foods by positioning these products as more attractive on other dimensions. Similar

approaches could be used to increase consumer acceptance or decrease consumer resistance to new digital technologies.

Despite these concerns, the transition to a more digital world will surely continue in the coming decade, as firms further integrate digital technologies in every aspect of their products and operations, and consumers and workers gain a higher comfort level with new digital technologies and tools. Nevertheless, we expect that in the near future many aspects of the current analog world will continue to persist, and coexist with digital technology. As the digital transformation further evolves, the marketplace will likely reach some sort of digital–analog equilibrium that combines the benefits of digital technologies with reassuring vestiges of our analog past. An early example of this is an augmented reality application such as *Pokemon Go*. Over time, this balance will likely shift further toward the digital, as an increasing number of consumers gain comfort in the digital world and as their understanding and skill sets become better matched to this ever-changing environment.

Marketing in a Digital World

As we enter the 2020s, the transition to the digital age is well underway but far from complete (Rindfleisch et al., 2017). The disruption of markets and reshaping of everyday life is still very much a work in progress, and its final shape is far from clear. As marketing scholars, practitioners, and consumers, we are fortunate to be experiencing and participating in such an epochal transition from the pre-digital to digital age. It is a challenging but exciting time to be a consumer and marketer, a student and professor, or an entrepreneur and investor. Policy-makers, educators, and other stakeholders are perpetually trying to keep up with the pace of change.

Evidence of the rapid transition to the digital age is apparent to anyone interacting with millennials today, who are mostly too young to remember the pre-digital age. They tend to roll their eyes and simply cannot believe stories of the “old days” of the 1990s, before mobile phones (much less smart ones), digital cameras, email, the Internet, e-commerce, or social media. Since so many aspects of life are now online, it is hard for digital natives to imagine how the previous generation managed to do anything without today’s digital technology!

As we further transition to a digital world, the road will be bumpy and never completely finished. Soon after its launch in 1998, the new *Journal of Interactive Marketing* boldly declared, “All marketing is, or soon will be, interactive marketing” (Glazer, 1999, p. 3). That declaration was at the time, and still is, premature. Many analog technologies, and even preference for them, are still common and surprisingly resilient (Sax, 2016). This is especially true in certain consumer segments, industries, and countries. Thus, the process of transitioning to a digital world, the stubborn persistence of analog usage, and the coexistence of digital and analog technologies will continue to be important subjects to study for the foreseeable future.

Future research would be especially valuable in identifying which of our current theories and concepts of human behavior are general and enduring enough

to still be valid in the new digital age. What is truly new versus what remains the same, despite today's digital technologies and market disruptions? The same question should be asked within the discipline of marketing and our accumulated knowledge from the pre-digital age. Which core marketing principles will continue to be foundational and useful, which need to be updated for digital times and which no longer apply?

Moreover, which research methods are appropriate for studying the digital world? Many instinctively look toward "Big Data" and machine learning algorithms for data analysis solutions (Soyer, Pauwels, & Seggie, 2019; Tirunillai & Tellis, 2014; Wedel & Kannan, 2016). However, as recently suggested by Thompson (2019), the promise of Big Data may be based on a "myth" that large datasets can generate superior insights. He cautions that a growing number of academics may be unwittingly perpetuating this technocratic discourse based on faulty assumptions. Instead, Thompson proposes that a richer and more nuanced understanding of the impact of emerging digital technologies, complex transformations, and marketplace reconfigurations can be obtained by adopting an assemblage theory approach (Canniford & Bajde, 2016; DeLanda, 2016; Epp, Schau, & Price, 2014). Recently, Hoffman and Novak (2018) have applied assemblage theory to study how consumers and objects interact in the emerging IoT.

Finally, how can marketing scholars and practitioners anticipate and prepare for the further changes ahead? Change is guaranteed to come, but the specific nature, timing, and implications are yet to be determined. The next generation of marketing academics and managers will need to be trained to succeed in both the current digital world and the unknown future world they will inhabit. It will be a challenge to preserve and impart the wisdom from previous eras that younger scholars did not personally experience and find so hard to relate to, but it is worth a try. We hope that the chapters in *Marketing in a Digital World* provide a starting point for this journey.

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