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Commentary: Opportunities and challenges of technology in relationship marketing

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1. Introduction

The concept of relationship marketing in the academic marketing literature is almost 40 years old. Since its inaugural mentioning (Berry, 1983), a rich body of conceptual and empirical research papers as well as popular business books has evolved, establishing the consensus view among academics and managers that strong customer relationships are key to company prosperity and performance (e.g., Morgan and Hunt, 1994; Palmatier et al., 2006). With the digital age, rather than entering its maturity stage, relationship marketing is experiencing its next upsurge, such that nourishing customer relationships is "more critical than ever before" (Palmatier and Steinhoff, 2019, p. 21).

Specifically, the exponential advancements in technology revolutionize the way in which customers and companies interact (Steinhoff et al., 2019). Relationships in which relational interactions are mediated partially or even fully by technological means are ubiquitous. Today already, customers are estimated to maintain about 85% of their relationships with firms without any human intervention (Gartner, 2011). Relationship marketers dispose of a rich and ever-evolving technology toolbox to build, grow, and retain strong relationships with their customers (Steinhoff et al., 2019). However, beyond the opportunities for enhancing relationships, each tool also entails challenges. Managers seem eager to learn about these new technology tools and benefit from their potential advantages; accordingly, growth rates of managers' relationship marketing spending continuously outpace those of brand spending (eMarketer, 2016).

Over the past last months, the developments surrounding the COVID-19 global pandemic have been strongly catalysing the shift towards online relationships. Likewise, the rapid and in part ad-hoc move of customer–company relationships to the online sphere has unearthed both the rich opportunities as well as the unresolved challenges, pointing relationship marketers to the strengths and shortcomings of their relational strategies.

In this commentary, we discuss four major technological trends (e-commerce and m-commerce channels, social networks, anthropomorphized agents, big data) that shape current and future relationship marketing business practice—jointly referred to as the relationship marketing technology toolbox—and outline the potentials and pitfalls pertaining to each. Beyond, we shed light on the implications that the COVID-19 pandemic has on the current state and future of customer relationships. We conclude with a plea for the power of strong customer relationships in these challenging times and a brief outlook into the research avenues that relationship marketers may want to navigate in the future to generate actionable guidance for managers.

2. Relationship marketing technology toolbox: opportunities and challenges

Relationship marketers have access to an ever-increasing toolbox of technologies to manage their customer relationships (Steinhoff et al., 2019), encompassing e-commerce and m-commerce channels, social networks, anthropomorphized agents, and big data (see Fig. 1). If effectively used, seamless, communal, parasocial, and personalized customer relationships may result, creating mutually beneficial outcomes for firms and customers. Simply employing these promising tools is not sufficient though because each of these tools not only features unique opportunities, but also substantial challenges; hence, managers have to do it

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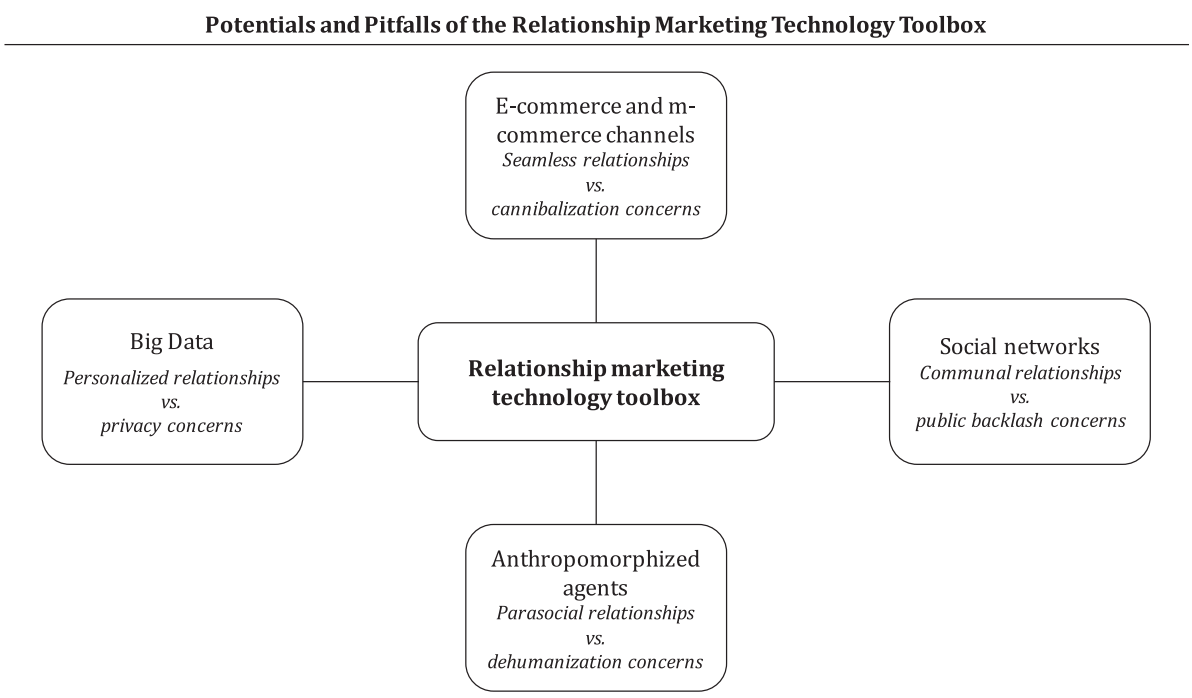

Fig. 1. Potentials and pitfalls of the relationship marketing technology toolbox.

right to succeed. In the following, we provide a balanced view of the potentials and pitfalls and advocate for a dedicated management approach to excavate the bright sides while attenuating the dark sides.

2.1. E-commerce and m-commerce channels

The proliferation of the Internet and its dissemination into the commercial domain since the 1990s has revolutionized companies' way of doing business. As one major development, we have seen a multiplication of channels accessible to firms to distribute their products and services to customers. Today, customers can make purchases through electronic (e-commerce) and mobile (m-commerce) channels, with many firms not even offering any additional offline sales channel (i.e., stores). For example, apart from a couple of recently opened offline bookstores and Amazon Go supermarkets in select U.S. locations, Amazon has been doing business with customers around the world online exclusively through their website and app. Through its intuitive user interface, the majority of Amazon's customer interactions takes place without requiring any human communication between customers and service employees. E- and m-commerce have globalized numerous industries, such that customers can benefit from wide choice and low switching costs.

On the one hand, e-commerce and m-commerce channels enable *seamless relationships*. For customers, the opportunity of buying online rather than going to a physical store or ordering via mail from a catalog was revolutionary. Buying through their fixed (laptop, desktop computers) or mobile (smartphone, tablet) devices made customers autonomous from time- and location-based constraints (e.g., store hours, geographical distance to store), providing them with enhanced convenience. Online channels enabled customers to shop on their demand, anytime and anywhere, while offline, they had to rely on store or office hours during which service employees are available. Research offers support for performance-enhancing effects of e- and m-commerce channels. Migrating customers from offline to online channels facilitates additional revenues while reducing their cost to serve, thereby augmenting customer profitability (Gensler et al., 2012; Kumar and Venkatesan, 2005). Multi-channel (i.e., offline and online) customers, as compared to single-channel customers, exhibit enhanced loyalty and profitability (Ansari et al., 2008; Thomas and Sullivan, 2005; Venkatesan et al., 2007). Specifically, the additional online touchpoints between firms and customers promote deeper relationships, more cross-selling opportunities, and access to extended customer services (Wallace et al., 2004). Mobile channel adoption in turn can enhance customers' order frequency and promote habitual buying (Wang et al., 2015). Companies can also benefit from synergies between e-commerce and m-commerce channels. Mobile channels can effectively support customers' information search, such that customers switching from mobile (e.g., smartphones) to less mobile (i.e., desktop computers) devices on their path to purchase feature higher conversion rates than customers starting out on less mobile devices (de Haan et al., 2018).

On the other hand, multiplying sales channels raises *cannibalization concerns* for any given firm. Beyond the substantial external competitive threat to traditional in-store retail given the rise of global online players (i.e., the "Amazon effect;" Miller, 2019), previously offline companies introducing online channels also face internal competition for customers' business across channels. As a consequence, store sales agents may consider their jobs endangered if the firm's online business grows too strong (Porter, 2001). Research gives reason to careful attention to the issue of channel cannibalization, but also to optimism such that cannibalization effects can be effectively mitigated if purposefully managed. Indeed, sales agents' cannibalization perceptions towards their company's online sales channel reduce their effort, job satisfaction, and job performance (Sharma et al., 2010). Studies investigating the performance ramifications of a company's new channel addition, however, show a differentiated and encouraging picture overall. Adding an online channel increases a firm's stock market return (Geyskens et al., 2002). If the new channel too closely mimics the existing channels' capabilities, cannibalization of customers and sales likely results; however, if a new distribution channel effectively complements

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the capabilities of pre-existing channels, firms benefit from long-term positive sales effects (Avery et al., 2012; Deleersnyder et al., 2002). Hence, managers need to ensure that their new channel contributes unique capabilities that augment the overall channel package customers can access.

2.2. Social networks

In the digital age, customer–company relationships do not happen in isolation, but occur in a wider network where individual customers maintain a variety of close and distant social ties not only with firms but also with fellow customers. Online social networks have uniquely facilitated both customer-to-firm and customer-to-customer interactions and have thus become omnipresent tools for nurturing relationships with customers; all but one of *Fortune* 500 companies share contents and seek to engage customers through their own social media sites (Barnes et al., 2020). While communication with customers has traditionally been unidirectional and firm-initiated in nature (e.g., TV advertising), social media fosters bidirectional communication between companies and customers. A plethora of opportunities exists for firms to initiate dialogues with customers, provide information, gather feedback from customers, and establish a sense of community. For example, the MyStarbucksIdea crowdsourced innovation contest sparked 190,000 new product ideas from customers that resulted in 300 innovative implementations (e.g., Skinny Mocha, K-Cups, cake pops, continuation of the key chain card) (Geisel, 2015; Tolido, 2016).

Social networks leverage the social effects of relationship marketing, both positive and negative. Managers must acknowledge the scope and scale these social effects can take in online social networks and purposefully manage them to their company's advantage. On the one hand, social networks emphasize beneficial group-related mechanisms (e.g., identification, solidarity, reciprocity) and thus promote *communal relationships*. Social media engagement enhances customers' shopping behavior (Kumar et al., 2016; Naylor et al., 2012; Zhang et al., 2017), repeat usage behavior (Toker-Yildiz et al., 2017), interactive participation (Viglia et al., 2018), group influence (Harmeling et al., 2017), happiness (Duan and Dholakia, 2017), feelings of support (Zhu et al., 2012), and overall relationship quality (Achen, 2016). Online social networks stimulate customer reciprocal behaviours too, capturing voluntary, discretionary behaviours to return previously received help and also support other members of a virtual community who are in need of assistance (Chan and Li, 2010; Yoon et al., 2008). Online communities spark the belief in consumers that other community members will provide reciprocal support should they need it in the future (Chan and Li, 2010; Zhu et al., 2012). Hence, online communities foster communal, rather than merely exchange-oriented, relationships (Mathwick, 2002). A major contribution generated by customers in social networks is word-of-mouth communication. Many prospects considering the purchase of a certain product rely on customers' word-of-mouth about their experience as a relevant source of information (Babíc Rosario et al., 2016). Word-of-mouth effectively supports new product adoption through social contagion (Iyengar et al., 2011). For companies, it is thus crucial to systematically identify, target, and encourage opinion leaders and influencers (e.g., bloggers) to experience their products and then spread the word online (Kozinets et al., 2010; Liu et al., 2015; Phan and Godes, 2018).

On the other hand, social networks also facilitate a battery of group-related mechanisms (e.g., unfairness, envy, discomfort) that can be detrimental to relationship performance due to *public backlash concerns*. Companies need to carefully consider the harmful effects of customers expressing their dissatisfaction or complaining through social media (Grégoire et al., 2009; Riquelme et al., 2016). At worst, large groups of customers may ally and punish the firm with a social media firestorm if they judge firm actions as unfair, for example (Hansen et al., 2018). Moreover, on an individual level, social networks can make differential customer treatment more visible to customers, such that adverse bystander reactions towards target customers' preferential treatment in loyalty programs (Steinhoff and Palmatier, 2016) or through targeted promotions (Feinberg et al., 2002) get aggravated. Negative effects may even exist for target customers who may fear bystanders' backlash and hence experience social discomfort upon being visibly exposed as a prioritized customer (Jiang et al., 2013). Relationship marketers hence must carefully consider the social network implications of their relational strategies and pay attention to monitoring target as well as bystander customers' reactions in order to mitigate detrimental and promote favourable social effects.

2.3. Anthropomorphized agents

The lack of human interaction in online contexts can be disadvantageous. To augment online customer experiences, companies increasingly invest in new instruments focusing on "humanizing" artificial intelligence technologies, such as chatbots, avatars, virtual assistants, embodied virtual agents, or service robots that interact with customers (Saad and Abida, 2016; Wood et al., 2005). Beyond their human resemblance and naturalistic language processing to engage in realistic, real-time conversations, such artificial intelligence-based anthropomorphized agents can mimic the cognitive functions typically associated with human minds, such as learning and problem solving using a net of semantic linkages (Keeling et al., 2010). For firms, artificial intelligence technologies promise to elevate their service delivery methods and reduce or even cease the need for human service representatives. For example, Toshiba's Yoko is capable of processing 50,000 after-sales service inquiries per day across 17 countries, thereby diminishing human-to-customer contacts and support emails by about 40% and 50%, respectively (Living Actor, 2016).

On the bright side, anthropomorphized agents should represent a powerful instrument for companies to introduce a "human touch" to otherwise digital customer–firm relationships and thereby establish *parasocial relationships*. Humans appear to more readily interact, engage, and connect with virtual agents that look and behave like humans (Reeves and Nass, 1996; Waytz et al., 2010). Hence, to encourage customers to bond with their virtual service personnel, firms often emphasize their humanoid traits, equipping them with humanlike looks, voices, or names (van Doorn et al., 2017). Anthropomorphized agents can stimulate engagement (Nass et al., 1995), intelligence perceptions (Koda and Maes, 1996), cooperation (Burgoon et al., 2000), and social interactions (Cassell et al., 2000; Reeves and Nass, 1996), thereby promoting personal, emotional bonds with customers (Keeling et al., 2010). Companies also employ chatbots, avatars, virtual assistants, or embodied virtual agents on their websites, in an effort to make online interactions with customer appear more interpersonal, real-time, and tangible (Liu et al., 2009; Mimoun et al., 2012).

However, anthropomorphized agents may involve a dark side due to *dehumanization concerns*. Today, despite continuous advancements in robotics, robots still fall short of perfectly imitating humanness, leading people to perceive a mismatch between their expectations and their actual experiences of interacting with anthorpomorphized agents (DiSalvo and Gemperle, 2003; Mori et al., 2012). Humanoid agents failing to mimic human behaviours realistically trigger customer frustration and disappointment, due to nonoptimal informational and service outcomes (Mimoun et al., 2012). Notably, customers still perceive even perfectly human-like embodied virtual agents as worse than human agents (Castelo et al., 2018). Research in social robotics puts forth

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the notion that people experience feelings of threat, discomfort, or eeriness toward highly human-like, virtual creatures (Gray and Wegner, 2012; MacDorman, 2005), described as the "uncanny valley" phenomenon (Mori et al., 2012). In this vein, relative to human service employees, humanoid service robots negatively affect customers' attitudes toward the company (Castelo et al., 2018; Mende et al., 2019). Beyond, dealing with fully autonomous anthropomorphized agents reduces customers' perceived behavioural control and outcome responsibility in service settings (Jörling et al., 2019). Relationship marketers need to gently introduce their customers to these new anthropomorphized agents and first make sure the new employees fulfill their tasks competently, as customers' excitement about artificial intelligence-based applications is still accompanied by substantial scepticism too.

2.4. Big data

In the digital age, the continuous advances in technology entail the generation of staggering amounts of digital data on a daily basis. Customer data has been promoted as the most important currency of our time—the "new oil" (Barratt, 2019)—and academic evidence promotes their purposeful management and analysis as essential to company success (Bradlow et al., 2017; Grewal et al., 2017). Users of Internet-based technologies leave digital footprints, such that firms can track, aggregate, and analyze their online behaviours and thereby acquire detailed information about each user. Companies can make use of the vast information available about their customers to serve them better and develop more relevant relationships. A firm's capabilities in effectively learning from customer data may yield productivity gains and profit enhancements of 5%–6% over competitors that fail to utilize such information (Biesdorf et al., 2013). Firms such as Adobe, Google, IBM, Microsoft, Oracle, Salesforce, and SAP have developed software-based solutions to help companies benefit from big data in their customer relationship management efforts.

On the bright side, big data holds the potential of myriad advantages for customers. Specifically, the richness of digital data more than ever enables *personalized relationships*, involving customized services, individualized content, and personally valuable messages and offers (e.g., coupons, discounts) (Martin and Murphy, 2017). Customers appreciate personalized experiences (Aguirre et al., 2015), especially when they are granted control over their privacy settings (Tucker, 2014). They have come to expect companies to effectively employ big data to produce augmented customer insights that lead to individually relevant, highly personalized, and real-time (e.g., location-based) treatment for customers (Burke, 2002; Fruend, 2017). Benefits from such customization enhance customers' willingness to disclose data (Mothersbaugh et al., 2012). Schumann et al. (2014) show that customers view disclosing their data through a reciprocity lens, where their data serves as a currency in exchange for free services.

There is a dark side to big data though, such that it can spur substantial *privacy concerns* among customers. Privacy concerns may act as important barriers to relationship formation and development (Eastlick et al., 2006; Phelps et al., 2000), especially if firms neglect to offer transparent data privacy policies or incur data breaches (Martin et al., 2017). As famous examples, data breaches at Yahoo, Citibank, and Wells Fargo have sparked tremendous media attention (Purdue University Global, 2019; Swinhoe, 2020), leading to heightened privacy concerns and reduced willingness of customers to provide personal information (Shah et al., 2015). Companies should emphasize transparency and control in their approaches to data privacy, to alleviate the potential detrimental consequences of customer-perceived data vulnerability, which can be substantial (Martin et al., 2017). Specifically, a company experiencing a data breach also incurs an average plunge in stock performance of −.27%, or a loss in shareholder value of $130 million on the day when the data breach is announced (Martin et al., 2017). Negative customer reactions can evolve from the fear of privacy losses, such that they might provide false or only fragmentary information, opt out from company communications, or spread adverse word-of-mouth (Krafft et al., 2017; Son and Kim, 2008). Any lack of transparency in a firm's handling of customer data will foster vulnerability feelings among customers, which can severely jeopardize the quality of the relationship (Mothersbaugh et al., 2012). Specifically, when companies' personalization efforts are based on covert rather than overt collection of information (Aguirre et al., 2015) or when customers exhibit low levels of trust toward the firm (Bleier and Eisenbeiss, 2015), data-based personalization practices will ignite customer reactance. Permission-based marketing may enable firms to account for individual customer preferences and hence mitigate some of these concerns (Martin et al., 2017). Effective relationship marketing in the digital age requires companies to engage in proactive and ethical management of customer data that goes above and beyond legal data protection prerequisites (Martin and Murphy, 2017).

3. Relationship marketing implications of the COVID-19 global pandemic

The COVID-19 global pandemic seemingly has magnified under a burning glass both the rich opportunities as well as the unresolved challenges of relationship marketing in the digital age. Over the past months, digitalization has gained traction at an unprecedented pace. Or, as McKinsey leaders took note in May 2020, after the pandemic globally had led to major lockdowns of economic and social life, "we have vaulted five years forward in consumer and business digital adoption in a matter of around eight weeks" (Baig et al., 2020).

3.1. COVID-19 as a catalyser of relationship marketing opportunities

From a relationship marketing perspective, COVID-19 has unleashed the power of technology in fostering uniquely seamless, communal, parasocial, and personalized relationships. Specifically, while the coronavirus pandemic has put many industries and companies into an existential economic crisis, it has, on the positive side, also enabled technology-ready providers to thrive during these economically tough times. Companies that were all set to provide customers with a seamless online experience independent from selling through in-store retail outlets have seen tremendous growth during lockdowns. Retailers such as Amazon with advanced e- and m-commerce channels in place have experienced surging demand, spread across an increased range of product categories and requiring the firm to hire large numbers of additional warehouse workers (Wakabayashi et al., 2020). Likewise, remote services are booming: While gyms were unavailable to their members, Peloton as a provider of in-home workout products (e.g., bikes and treadmills) and app-based live and on-demand courses reported 66% growth in quarter revenue and 30% growth in membership subscriptions (Valinsky, 2020).

Many firms have used the opportunities of social networks to foster a sense of community and solidarity bonds with their customers. To join the global corona-related conversation, companies shared examples of their own responsible behaviours (e.g., taking care of their customers and employees, donating to coronavirus funds) and appealed to people's solidarity, using popular hashtags such as #weareinthistogether, #staysafestayhome, or #flattenthecurve. With #playinside and #playfortheworld, Nike twittered on the importance of team spirit during these challenging times and motivated their followers to contribute their part to the global

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team fighting the spread of the coronavirus. Some industries in particular were hit hard by the pandemic, such as the tourism industry. To enhance the emotional connection with their customers, German cruise shipping company AIDA continuously posts under #welovetoseeyouagain on their Facebook site, sharing impressions of their ships that ran ashore in harbours around the world or introducing customers to a variety of on-board crew members and their jobs.

The COVID-19 pandemic has also strongly accelerated the relevance of anthropomorphized agents as parasocial service employees. Service robots have been tremendously helpful in clinical care where they helped health care workers remotely take temperatures, deliver meals or prescriptions to quarantined patients, or transporting infectious samples to laboratories. In public safety applications, robots were employed for social distancing enforcement, disinfection of public spaces, or broadcasting of public service announcements (Murphy et al., 2020). Many other applications have shown to be effective, and customers indicate growing comfort toward dealing with anthropomorphized agents (Demaitre, 2020).

Finally, as put forth by Shah and Shah (2020), the COVID-19 pandemic represents "our most meaningful Big Data and analytics challenge so far." Contact tracing through mobile technologies can potentially play a game-changing role in pandemic spreading prevention. If developed and implemented effectively, coronavirus tracing apps can enable precise forecasts of infection risks, down to a hyper-local, neighbourhood level, thereby avoiding across-the-board lockdowns of public life and improving the lives of the individual and the community.

3.2. COVID-19 as a catalyser of relationship marketing challenges

However, COVID-19 and the necessary ad-hoc movement of customer relationships to the online sphere has also laid bare the existing flaws in increased technology usage in relationship marketing. Technology, in the form of e- and m-commerce channels, has been indispensable to keep businesses alive and available during store lockdowns and enable customers to shop remotely and safely. Yet, the abrupt switch to almost online-only shopping will likely have a lasting impact on the retail landscape, such that the pandemic panders to and expedites the cannibalization of in-store retail. Layoffs in U.S. retail have reached historic levels due to COVID-19, with retailers cutting more than 114,000 jobs in the first four months of 2020 (Picchi, 2020). And, customers' shopping behaviours are expected to undergo permanent changes during the pandemic, with more people turning to online shopping for an expanded set of product categories, online grocery shopping being a prime example (Davis, 2020; Lipsman, 2020). These behavioural shifts will put in-store retail into long-term trouble, requiring companies to develop new strategies for their stores to offer value to customers in a post-pandemic new normal.

At best, companies can use their social networks during the coronavirus crisis to foster communal relationships with their customers through signs of solidarity and sharing success stories of their exemplar crisis management. However, during such challenging times for everyone, customers have an especially keen sense of company actions they do not deem exemplar or ethical. Resulting social media firestorms can put an inglorious spotlight on the firm. For example, Adidas received fierce backlash from customers for holding back rent payments for their stores, ranging from calls to boycott the brand to customers posting videos of themselves burning their Adidas sports shirts (Buck and Storbeck, 2020).

Despite the steep increase in the usage of service robots and their observed effectiveness across a variety of settings, customer scepticism toward anthropomorphized agents persists. For example, 25% of consumers indicated in a survey that they would not order items online if they knew the order would be delivered by a robot (Demaitre, 2020). Beyond, experiencing robotic capabilities as well as job insecurity during the coronavirus crisis has likely increased some people's worries that artificial intelligence-based agents will at some point become a threat to human intelligence, such that service robots may displace jobs or mislead customers into thinking they are talking to an actual person. Hence, while the COVID-19 pandemic has led to a change in many customers' perceptions of and feelings toward anthropomorphized agents, companies employing such agents in their interactions with customers still need to build trust through increasing exposures and favourable experiences.

The increasing reliance on digital products and services during the COVID-19 pandemic has continuously been accompanied by data privacy concerns. With lockdowns and social distancing in place, many people were out of a sudden dependent on online communication solutions for business and private purposes, such as video conferencing applications. U.S. company Zoom Video Communications offers one of the market-leading applications. While customers have come to appreciate Zoom's functionalities and reliability, the firm has received harsh criticism for their handling of user data. Experts have identified a number of data privacy and security issues, from hacker attacks during video meetings ("Zoom bombing") to in-app surveillance measures to the selling of user data to Facebook, eventually criticizing the app as "malware" and "a privacy disaster" (Paul, 2020). In response to such reports, several well-known companies and organizations (e.g., Bank of America, Daimler AG, NASA) have banned the use of Zoom, directing their employees to competitive products such as Microsoft Teams (Wu et al., 2020). Hence, some companies have not only seen an explosion in demand for their product category, but were also confronted with drastic shortfalls in data privacy and security, requiring immediate and substantial advancement of their offering to not alienate customers in the long run.

4. Conclusion

In the digital age we live in, relationship marketing is of ever-increasing relevance for company success and prosperity (Palmatier and Steinhoff, 2019). The strong conceptual foundations of relationship marketing established over four decades of academic research encounter an increasingly elaborate and sophisticated toolbox of technologies to support companies in their efforts to engage customers in successful relational exchanges. However, simply adopting these promising digital tools does not guarantee effectiveness; firms have to do it right. In this commentary, we have presented four major technological trends (e-commerce and m-commerce channels, social networks, anthropomorphized agents, big data) and discussed the opportunities and challenges involved in each. The current COVID-19 global pandemic has acted like a magnifying lens for both these potentials and pitfalls, thereby representing a particularly fruitful and important learning experience to relationship marketers.

Findings from extant research and observations from business practice have paved the way for rich future research opportunities (see Steinhoff et al., 2019 for a research agenda). Profound insights are needed on the contingencies of the diverse technology tools, such that managers can leverage each tool's bright sides while alleviating its inherent dark sides. Beyond, we encourage work on the interplay of the different components of the toolbox and their joint contributions to overall relationship performance. In conclusion, we feel confident that especially in these times of economic turmoil coming along with a global pandemic, the value of customer relationships will mount even further (Binder and Hanssens, 2015), such that those companies with strong customer relationships find themselves in a promising position to overcome the crisis and thrive in the long run.

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