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An Overview and Framework for a Marketing Viewpoint on Digital Business Models

Candraningrat[1]
candra@dinamika.ac.id
Department of Management, Faculty of Economics and Business, University of Dinamika, Surabaya, Indonesia.
Niken Savitri Primasari[2]
niken@unusa.ac.id
Accounting Department, Faculty of Business Economics and Digital Technology, University of Nahdhatul Ulama, Surabaya, Indonesia.
Zainul Wasik[3]
zainul.wasik-2022@feb.unair.ac.id
Department of Management, Faculty of Economics and Business, Airlangga University, Surabaya, Indonesia.

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Abstract

The market is being transformed by strong digital developments. To deal with these changes, businesses can use digital business models. The focus of this special issue is digital business models. We discuss their relevance, propose a conceptual framework, and discuss how digital business models affect markets, businesses, and their performance. In this issue, we introduce various papers and show how each fits into the conceptual framework. We discuss four important future research topics.

Gambaran Umum dan Kerangka Kerja untuk Sudut Pandang Pemasaran pada Model Bisnis Digital

Abstrak

Pasar diubah oleh perkembangan digital yang kuat. Untuk menghadapi perubahan ini, bisnis dapat menggunakan model bisnis digital. Fokus penelitian ini adalah model bisnis digital. Kami membahas relevansinya, mengusulkan kerangka kerja konseptual, dan membahas bagaimana model bisnis digital memengaruhi pasar, bisnis, dan kinerja mereka. Dalam edisi ini, kami memperkenalkan berbagai makalah dan menunjukkan bagaimana masing-masing sesuai dengan kerangka kerja konseptual. Kami membahas empat topik penelitian masa depan yang penting.

JEL Classification: ... (sesuai dengan topik riset penulis)

INTRODUCTION

Amazon is one of the most valuable companies in the entire world. Amazon is not the only digital company that has grown rapidly. In fact, according to the Companies Market Cap data for 2023, it was found that Alphabet/Google is the number one ranked digital company in the world today. Google's parent company has a market capitalisation of US$1.63 trillion. Amazon follows in second place, followed by Meta Platforms/Facebook, Tencent and Alibaba.

Digitalisation is not just happening in Europe or the United States, it is happening all over the world. Digital businesses such as Alibaba and JD have emerged in the Chinese and European markets. According to eMarketer (2018), e-commerce sales worldwide are projected to increase by about 18-20 per cent per year and account for about 18 per cent of total retail sales. All this information shows that digital development has massively changed business and impacted many traditional companies, both in retail and in other fields, such as media. Digital seems to be the new standard for customer service.

Successful digital companies were usually founded in the last few decades. Some of these businesses impacted existing markets. This mainly happens as new technologies take over old ones. For example, Spotify has significantly changed the music industry by combining digital technology with easier-to-use features and lower prices, enabling the replacement of CDs with digital music (e.g., Wlömert & Papies, 2016). In addition, digital companies usually use different business models from conventional businesses in the market.

Lastly, platforms (such as Perren & Kozinets, 2018) strive to provide more value to customers (such as better quality and greater convenience) at a lower cost without technologically changing the actual product. For example, UBER has changed the taxi industry by offering an app that offers rides at a lower price, but UBER has not changed the technology of taxi travel as taxis are still cars with drivers that transport people from one place to another.

Businesses like Booking.com have offered digital platforms to their customers to replace conventional travel agents in the travel industry. Information on apartment and hotel rooms. They have gained a strong position in the hotel market, which has a significant impact on hotel margins. Since most hotel bookings are made through these digital intermediaries, some of which dominate this market, hotels have to pay about 25% of the revenue of these digital intermediaries. Traditional retailers have also been impacted by rising e-commerce sales and the market power of companies such as Amazon.

Large retail businesses such as Toys 'R' Us, RadioShack (both from the United States), and Vroom & Dreesman (the Netherlands) experienced operating failures. While Marks & Spencer in the UK closed its stores to reduce costs (Independent, 2018). Readers can find many other examples. It is clear that existing players, markets, and

customers are significantly affected by digital advancements.

Marketing studies have conceptually addressed the influence of the Internet and electronic commerce on markets in the late 1990s (e.g., Alba et al., 1997; Peterson, Balasubramanian, & Bronnenberg, 1997). Marketing science still has little to say about how digital players are changing markets, despite these early contributions. The management media has famously discussed the impact of digital technologies on businesses and the need to digitally transform existing firms. This is not surprising (e.g., Brynjolfsson & McAfee, 2014; Hess, Benlian, Matt, & Wiesböck, 2016). Many strategic management articles focus on business model innovation and how it impacts businesses (e.g., Teece, 2010). Concepts such as digital transformation and the way information technology drives it are heavily discussed in the information technology (IT) literature (e.g., Agarwal, Gao, DesRoches, & Jha, 2010; Karimi & Walter, 2015; Li, Su, Zhang, & Mao, 2017; Lucas, Agarwal, Clemons, El Sawy, & Weber, 2013). Marketing developments related to digital transformation are still very limited. While this does not mean that marketing does not pay attention to digital developments, the focus of marketing is mainly on multi-channel or omni-channel strategies (e.g., Liu, Lobschat, Verhoef, & Zhao, 2019; Neslin et al, 2006; Neslin & Shankar, 2009; Verhoef, Kannan, & Inman, 2015). Digital marketing simply uses strategies to look at several new digital channels to advertise and attract customers (e.g., mobile promotions, search engines, and social media; Andrews, Goehring, Hui, Pancras, & Thornswood, 2016; Kannan & Li, 2017; Lamberton & Stephen, 2016; Liu, Lobschat, Verhoef, & Zhao, 2019); and understanding the digital customer journey (e.g., Lemon & Verhoef, 2016; De Haan, Kannan, Verhoef, & Wiesel To find out how much each of these channels contributes to the final purchase, has also been given much attention (e.g., Kannan, Reinartz, & Verhoef, 2016). This contribution can be assessed both overall and individually through the use of specialised models (e.g., Berman, 2016; De Haan, Wiesel, & Pauwels, 2016; Li & Kannan, 2014) and used to assign marketing resources (Danaher & van Heerde, 2018). While these topics are important, as demonstrated by the huge investments in digital marketing and the strong commitment of existing retailers to new digital channels, marketing has overlooked some important strategic impacts of new digital business models. Growing digital technologies such as the Internet of Things, artificial intelligence, machine learning, big data, and blockchain will become more relevant for these business models (e.g., Ng & Wakenshaw, 2017; Kumar, Ramachandran, & Kumar, 2019; van Doorn, Mende, Noble, Hulland, Ostrom, Grewal, & Petersen, 2017; Huang & Rust, 2018; Hoffman & Novak, 2017).

Investigating digital business models is crucial for the advancement of our industry due to their ever-changing nature (Kumar, 2018). Since digital business models involve the entire value chain and are highly driven and enabled by digital technology, we believe that we have achieved our goal of creating a special issue that addresses the multi-faceted character of digital business

models. Before talking about the content of this special issue, we talk about digital business models and believe that marketing should pay more attention to them. We created a conceptual model of how digital models are instrumental in driving change in markets, companies, and enterprises. Then, we use this model to classify the papers that appear in this special issue, and we also discuss some emerging research topics.

Digital Business Models and Digital Transformation

According to the literature on strategic management and innovation, businesses can gain competitive advantage through their business models (e.g., Casadesus-Masanell & Ricart, 2010; Markides & Charitou, 2004). Innovation in business models affects the entire firm and the way it conducts its business (Amit & Zott, 2001). This is in contrast to simple business process improvements that do not change the existing business model or sources of value creation (Mason & Leek, 2008).

Various marketing literature focuses on business models, but not much. Sorescu, Frambach, Singh, Rangaswamy, and Bridges (2011) discuss how business models play an important role in retail business. A business model is described as "a well-defined system of interdependent structures, activities, and processes, the organising logic of a firm for value creation (for customers) and value allocation (for itself and its partners)" (Sorescu et al., 2011, p. 84). In this definition, there are two main components:

1. How the company creates value for customers through, for example, offering lower prices and/or providing more convenience; and
2. How companies gain value from customers by, for example, increasing switching costs or reducing customer opportunity costs.

Sorescu et al. (2011) clearly state that business models require systems, structures, activities and processes. All these factors have an impact on the formation and allocation of value. For example, discount supermarkets such as Lidl and Aldi can lower prices because they have a smaller collection of labels and need smaller stores with cheaper prices (Steenkamp & Sloot, 2019).

Business models are changed by digital developments. By using digital technologies, systems, structures, activities and processes are changed. These changes occur specifically as businesses go digital. For example, businesses' use of new digital channels will change the way they go to market, which will then affect how they create value for their clients and how they deliver the right value to their partners and themselves. Products, product information, processes that generate customer experiences, and business platforms used for product delivery are all examples of digital transformation, all of which require optimisation to succeed (Weill & Woerner, 2013). Therefore, digital advancement brings new business models that involve the application of new business logic that

uses digital technologies to generate and collect value for stakeholders (Teece, 2010; Zott & Amit, 2008). Digital business model is a term often used to describe this new type of business. According to Verhoef et al. (2019), a digital business model is defined as when digital technologies significantly influence the way a company conducts and structures its operations, thereby generating value for customers, the company itself, and its partners (Martin-Peña, Díaz-Garrido, & Sánchez-López, 2018).

Verhoef et al. (2019) discuss the idea of digital transformation, which they consider to be the path to new digital business models. They distinguish digitisation, digitalisation and digital transformation as three stages of digital transformation, according to a review of literature from various disciplines. In the early stages, businesses mostly use digital technology to change some processes. For example, they replace printed forms with digital forms. Certain functions are affected during the digitisation phase; for example, retailers make the decision to add online channels beyond their store channels (e.g., Geyskens, Gielens, & Dekimpe, 2002; Homburg, Volmayr, & Hahn, 2014). At the digital transformation stage, companies want to change their designation and value creation by using digital technology. After that, their goal is to apply digital technology in every part of the company's operations. They mainly concentrate on enhancing digital capabilities and achieving growth through specialised digital growth strategies.

Due to a number of developments, including new digital technologies, increasing digital competition, and changing customer behaviour, digital transformation is considered essential for many industries (Verhoef et al., 2019). The World Wide Web is one of the many new digital technologies that have emerged in the last twenty years (Alba et al., 1997). Big data, social media and telephony are the focus of recent digital technologies (Andrews et al., 2016; Lamberton and Stephen, 2016; Wedel & Kannan, 2016; Verhoef et al., 2016). The internet of things (IOT), blockchain, machine learning, robotisation and artificial intelligence are some examples of emerging technologies (e.g., Hoffman & Novak, 2017; Kumar et al., 2019; Ng & Wakenshaw, 2017; van Doorn et al., 2017; Verhoef et al., 2017). Startups that are well equipped to use and embrace these new technologies and benefit from them can integrate these technologies successfully in their business. For example, companies like Amazon started to grow by adopting online channels and analysing big data, and today they are successfully adopting IOT and AI (such as Alexa). Incorporating new digital streaming services has been the key to Spotify's success. However, incumbent companies face greater problems due to their existing legacies, such as relationships with existing channels, investments in fixed assets, such as stores, and the use of legacy CRM systems (Leeflang, Verhoef, Dahlström, & Freundt, 2014). Legacy companies have to go digital due to the tremendous growth of digital companies and their strong cash position on the stock market.

Changes in customer behaviour are the third driver of digital transformation, in addition to new technologies and digital competition. Although there was some initial hesitation among customers (e.g., Verhoef & Langerak, 2001), most people are now used to purchasing goods via the internet and using multiple touch points (e.g., Herhausen, Kleinkercher, Verhoef, Emrich, & Rudolph, 2019; Lemon & Verhoef, 2016). Customers seem to prefer digital solutions over traditional ones in many markets, such as the music and travel industries. Future generations will take digital technologies for granted. Digital transformation and the application of digital business models in business are currently taking centre stage thanks to these three advancements. However, contemporary marketing literature does not pay enough attention to this. Marketing researchers mainly concentrate on digitalisation and digitalisation issues (such as the addition of new channels, use of social media, SEO, etc.) according to Verhoef et al. (2019).

CONCEPTUAL MODEL

As mentioned above, some digital developments are influencing new digital business models. However, the rise and success of these digital business models (especially by startups such as UBER, Amazon, and Zalando) affect both the market and the company. Marketing may focus more on the circuit than the digital business model due to the nature of this field. In our conceptual model depicted in Fig. 1, we start with the emergence of new digital business models. These models come in different forms (e.g., different platforms and traditional e-tailing; Perren & Kozinets, 2018; Gielens & Steenkamp, 2019). With the advent of new technologies such as blockchain and AI, it is expected that new forms will emerge. Existing digital players may also use these technologies to transform their business models. For example, Amazon has utilised cloud and big data technologies previously before implementing AI. The entry of these new players is usually an exogenous development for existing companies, but they may also acquire startups or start their own businesses. Online bank KNAB is a new business from financial services company AEGON. PEAPOD in the United States and online retailer Bol.Com in the Netherlands were bought by AHOLD.

According to our model, markets and firms will be directly affected by new digital business models. According to diffusion and disruption theory, these market-level effects may be small at first. However, as the business model develops and becomes successful, significant effects may occur (e.g., Christensen, 2006). New digital business models can affect competition, and digital giants can take over large parts of the market in some markets, resulting in monopoly markets; for example, Google's control over Europe. Customer behaviour is also changing and is more digital. In addition, digital competition easily crosses national borders and focuses less on local markets, resulting in more international sales and market globalisation. For example, customers in Europe often buy goods from Alibaba, known as Ali Express by customers in the Netherlands. This digital business model can also encourage illegal behaviour, such as piracy and purchasing counterfeit goods from

online retailers, for example in China (e.g., Wlomart & Papies, 2019).

Digital business models may have a direct or indirect impact on business performance through their effects on market outcomes. Many firm-level outcomes may be impacted by the new digital entrants. Particularly, as digital newcomers outpace incumbents in growth, there could be significant effects on sales and profitability. In the end, this might result in the firm surviving.issues, having seen this with companies such as RadioShack, Toys 'R' Us, and numerous others. A number of KPIs at the brand and customer levels may potentially be impacted by digital business strategies. Lower customer equity and CLV could result from customers growing less devoted to a company and businesses finding it harder to draw in new business (Rust,Lemon,& Zeithaml, 2004).

Figure 1 of our conceptual model recognizes that established companies have the ability to adapt and undergo digital transformation (Verhoef et al., 2019). In theory, the company as a whole should be impacted by this digital transition. However, the primary focus of our concept is the transformation of digital marketing. Consequently, we believe that established businesses had to reevaluate their general approaches or selected value-disciplines (Porter, 1980; Treacy & Wiersema, 1993). Additionally, businesses should reevaluate their growth plans and switch to more platform-based plans that take use of networks and customer interaction (e.g., Verhoef et al., 2019). The process of digital marketing transformation also entails modifying particular marketing tactics, such as relationship marketing strategies and channel strategies (i.e., adopting mobile apps; Van Heerde, Dinner, & Neslin, 2019; Liu et al., 2019). For instance, businesses may use AI and mobile technology to establish stronger ties with their clientele.

Businesses should develop specialized skills that are needed in digitally competitive marketplaces (Venkatraman, 2017). For instance, to build information-rich products and services and to customize offerings, big data combined with analytical approaches (i.e., machine learning) is essential (e.g., Verhoef et al., 2016; Wedel & Kannan, 2016). It is necessary to develop new digital competencies, particularly in the area of digital marketing (Kannan & Li, 2017). This is not an easy task. For instance, due to the poor performance of their digital marketing initiatives, Procter & Gamble cut their spending on digital ads by 10%. For instance, despite being paid for digital advertising, Procter & Gamble was faced with dishonest companies that never ran ads for the company (Joosten, 2018). Digital agility and a test-and-learn methodology of working are two possible relationships between digital capabilities and organizations (Venkatraman, 2017). Experience and engagement capabilities need to be given more consideration due to the usage of numerous touchpoints and the requirement to provide a seamless customer experience across all touchpoints (e.g., Homburg et al., 2014). Network capabilities are important in a platform where businesses collaborate with suppliers, rivals, and customers as co-creators (like AirBnB and Amazon) to produce the greatest possible experience and offer (Verhoef et al., 2019). When

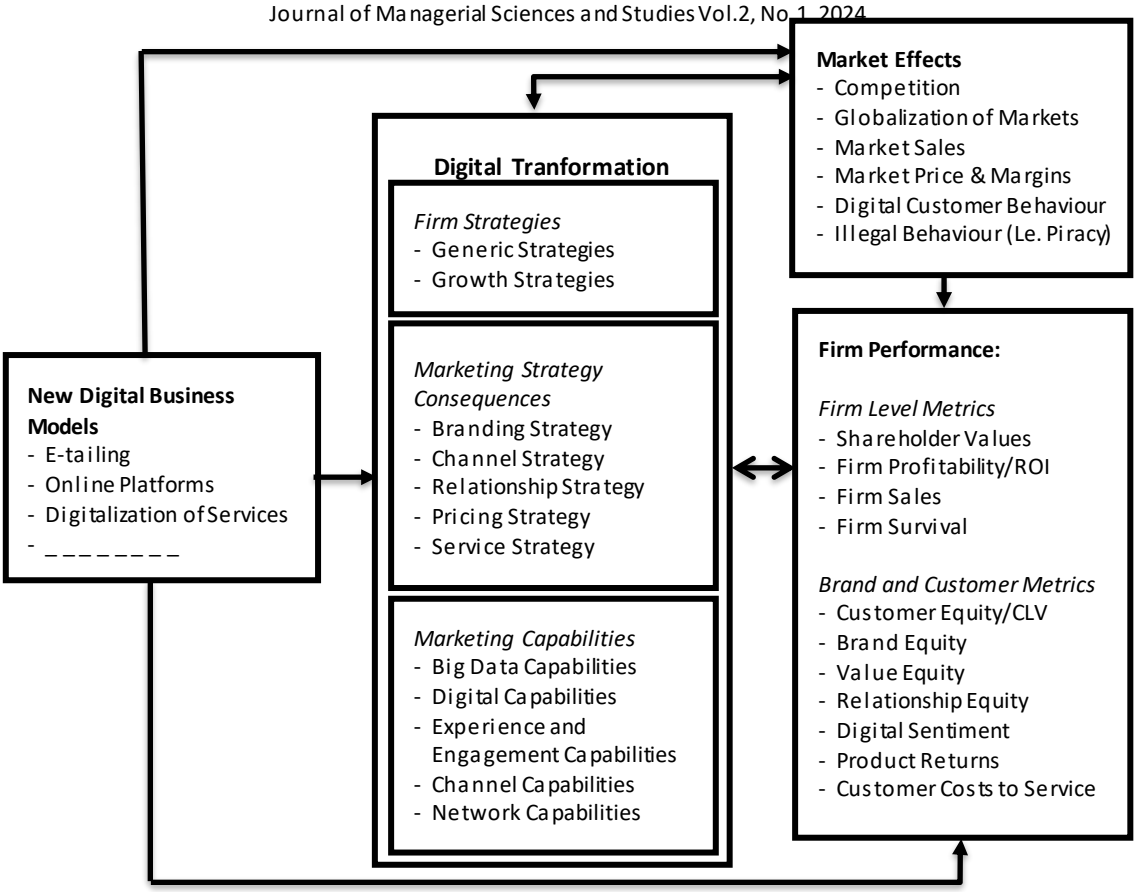

Figure 1. Conceptual model on the impact of new digital business models on markets and firms

traditional businesses use new digital channels, they should create specific new channel competencies (Verhoef, 2012).

Businesses' digital transformation may have an impact on business performance results at the corporate and brand/customer levels. It follows that one would normally think that these results are favorable. But digital revolution is not without its risk drawbacks. danger. Retail companies have made significant investments in both multi and omnichannel strategies; yet, because of the inherent complexity of multichannel strategies, these approaches are not always effective (e.g., Neslin & Shankar, 2009). Due to liquidity issues brought on by too much cash flow being spent in these ventures, these techniques may even be fatal. Additionally, incumbent businesses struggle with a shortage of funding.The stock market often values digital enterprises highly, sometimes even overvaluing them, which generates enormous funds for costly expansion tactics. Because investors are more concerned with profitability and incumbent companies have reduced growth expectations, there is less money set aside for investments in digital transformation plans.

The papers in this special issue are discussed and their respective relationships to the conceptual model are illustrated in the next section.

FOCUS OF THE SPECIAL ISSUE

This special issue aims to promote research on digital transformation and business models, as well as how they affect market and firm results. Collectively, the nine papers address a wide range of topics related to the conceptual model shown in Fig. 1.We were lucky to have papers that took a variety of methods, including conceptual papers, empirical secondary data analyses, experiments, analytical model development, and proposals and applications of novel analytical tools for large data analysis. Thus, both in terms of substance and methodology, our topic is diversified.

Two conceptual studies that examine how digital business models affect current firms and, consequently, the implications of firm performance and company strategy are included in this issue. Reinartz, Wiegand, and Imschloß (2019) talk about how the retail value chain is impacted by new retail business models and how established retailers might respond to the emergence of companies like Amazon. Their thoughtful conceptual discussion offers some fascinating predictions about the future of retail. They formulate particular hypotheses that might be investigated further in subsequent studies. Researchers studying channels and retailing as well as retail professionals should read this paper. 2019's Gielens and Steenkamp concentrate on how digital business models affect brands. They explore the ramifications for brand-focused enterprises with regard to their pricing, channel, and branding strategies, and they discuss various forms of digital business models, such as C2C marketplaces. It's interesting that they go into great detail on how brand-focused businesses may be impacted by Amazon's business strategy. They offer an encouraging study plan for this understudied issue in their conclusion.

An extensive analysis of digital business models is provided in one of the papers in this special issue. In their 2019 study, Konya-Baumbach, Schuhmacher, Kuester, and Kuharev examine novel digital business models and, in particular, how these newcomers might get over early issues with low trust. They run several tests to investigate various strategies for getting past this first trust issue. For instance, how these companies should handle data and privacy is an intriguing point in the growing discussion around big data privacy concerns. This is particularly significant as digital business models frequently depend on huge data.

The impact of digital business models on the market is the subject of another paper. The impact of new digital streaming services like Spotify on music sales and piracy is examined by Wlömert and Papies (2019). In addition to modeling the major effects, they take into account the moderating impact of national attributes like culture and economic progress. They display some intriguing major impacts, such as the reduction of piracy caused by streaming services. They also discover evidence supporting the moderating effects of national economies and cultures.

Our collection of papers on how the digital (marketing) revolution affects business performance is quite

extensive. The effect of launching a mobile app on consumer purchasing behavior for a multichannel store is investigated by Van Heerde et al. (2019). This research contributes to the body of knowledge in multichannel commerce about the effects of new channels on performance (Homburg et al., 2014; Avery, Steenburgh, Deighton, & Caravella, 2011; see Liu, Lobschat, & Verhoef, 2018 for a summary). Including mobile apps could improve client interaction and keep them as long-term clients. Positive sales benefits could result from this. Taking into consideration the self-selection of mobile app adoption, they demonstrate the app's beneficial benefits on sales. Customers who shop offline or who live far from the store will be more affected by this effect. This study unequivocally demonstrates that a multichannel store may benefit from changing their marketing channels. However, keep in mind that this shop already had an internet presence; retailers with less online presence may face more challenges.

Osinga, Zevenbergen, and van Zuijlen (2019) concentrate on mobile app advertising from a branding perspective, a topic that has gained importance recently (Andrews et al., 2016). Whether or if this advertising is effective is a crucial question. Osinga et al. (2019) assess the effect of a large-scale mobile banner advertising campaign on both online and offline sales. They show a 2% boost in offline sales by utilizing two matching techniques and a difference-in-difference strategy. They do not, nevertheless, discover an impact on internet sales. This may be explained by the fact that mobile devices are more widely distributed and have a direct impact on consumers' purchasing decisions when they shop in person.

Product returns and their consequences on sales and profit have received a lot of attention in the literature on digital retailing (Minnema, Bijmolt, Gensler, & Wiesel, 2016; seeMinnema, Bijmolt, Petersen, & Schulman, 2018 for summary). Due to their high cost and potential to ruin profitable client relationships, product returns present a significant barrier for businesses (e.g., Shah, Kumar, Qu, & Chen, 2012). Therefore, in order for online and multichannel retailers to have a successful digital business model, it is critical to reduce product returns. We have two pieces on product returns in this issue. First, Schulz, Shehu, and Clement (2019) add to the body of research by examining Blendle's returns of digital products. In the news industry, Blendle is a new digital business model that allows users to download news stories from many sources. The authors are particularly curious about how customer- and firm-initiated communication such as likes and newsletters affects sales and returns of merchandise. Research indicates that whereas likes both enhance sales and decrease returns, newsletters have the opposite effect. Wu, Teunter, and Zhu's (2019) second study on product returns concentrates on the impact of sophisticated sales techniques. Retailers who sell things in advance can give refunds to their customers. Wuet al. (2019) examine three advance-selling strategies (i.e., no, no refund, with refund) using an analytical model. According to their concept, in certain

situations, particularly for products with low margins, profitability accounting for negative losses resulting from product returns through reimbursements is the best course of action.

The growth of big data analytical capabilities is the main topic of the last paper in this special edition. Text data is now readily available for obtaining customer insights thanks to the development of online and social media (Wedel & Kannan, 2016). Sentiment analysis is typically used to assess electronic word-of-mouth (eWOM) and analyze these data. Text data analysis can also benefit from machine learning methods (e.g., Kübler, Wieringa, & Pauwels, 2017). An strategy based on supervised machine learning is proposed and tested by Vermeer, Araujo, Bernritter, and van Noort (2019) to assess this data and determine how to respond to eWOM. Their suggested approach identifies three elements of customer satisfaction after determining whether eWOM is relevant enough for the business to respond to. This is done by first classifying seven various sorts of eWOM, such as questions and complaints. Their examination of a sizable volume of Facebook messages demonstrates the effectiveness of machine learning in categorizing eWOM communications.

This study gives a summary of how each of these studies fits into the framework that is shown. First, we make a distinction between studies that examine digital transformation and those that concentrate more strategically on digital business models as a whole. Subsequently, we categorize the papers according to the primary subjects under discussion, which range from growth and generic digital strategies to company outcomes. This synopsis demonstrates that the conceptual model, as illustrated in Fig. 1, covers a wide range of subjects and relationships in this special issue.

FUTURE DIRECTIONS

The marketing discipline, where the emphasis may be more on the outcomes than the drivers of digital business models, needs to pay much more attention to digital business models. As our conceptual model shows, new business models can have a significant impact on markets and firms. As previously stated, digital business models are somewhat of a blind spot within our profession since the transformative nature of digital business models and technology is a topic that needs further investigation (Kumar, 2018). After presenting our conceptual model, we go over a few broad topics for more study. We do not aim to develop a comprehensive research agenda. Instead, we would like to draw attention to the two papers that make up this special issue (Gielens & Steenkamp, 2019; Reinartz et al., 2019), as well as various other papers, including those by Kannan and Li (2017) on digital marketing, Verhoef et al. (2017) on the social-mobile and IOT connection, Ng and Wakenshaw (2017) on IOT, Kumar et al. (2019) on new digital technologies, Liu, Lobschat, and Verhoef (2018) on omnichannel

retailing, and Verhoef et al. (2019) on digital transformation.

First, we think that in-depth talks about digital business models are crucial to expanding our knowledge of how new digital actors create value. We must comprehend their skills, resources, and methods of use. Here, in-depth case studies are desperately needed. Measurements of digital firms' capabilities and their relationship to firm performance can also be used to identify the critical competencies propelling success. It could also be helpful to conduct a historical analysis of the triumphs and failures of digital startups. Further investigation is necessary about the application and obstacles of novel digital technologies. Many theoretical articles have been written about a variety of technologies (e.g., Ng & Wakenshaw, 2017; van Doorn et al., 2017), but empirical research on uptake and effective use in businesses and customer-firm interfaces is still lacking.

Secondly, we think that additional research is needed on incumbents' digital transformation. The application of digital technologies to particular facets of marketing strategy has been the primary focus of marketing studies. Some of these research are included in this special issue (Osinga et al., 2019; Van Heerde et al., 2019). Research needs to be done on how marketing tactics are being transformed digitally, as well as the effects this will have on suppliers and other external stakeholders as well as internal organizational effects. Surveys and secondary data should be the foundation for developing measurement tools for digital transformation. The function of marketing in businesses and the skills needed for marketing in digitally transformed businesses may also be related to digital transformation. Verhoef et al. (2019) provide a more extensive study agenda on this subject, which we recommend.

Third, more thorough research is needed to determine how digital business strategies affect markets. This is particularly relevant in light of the emergence of digital behemoths and the expanding worldwide scope of the digital marketplace. Research similar to that done by Wlömert and Papies (2019) is needed to determine how digital business models affect market outcomes. One may, for instance, use empirical data to examine how Amazon's rise to prominence in the digital space has affected retail sales, margins, and prices. Studies on the possible monopolistic nature of these digital behemoths and the lock-in consequences of using IOT and AI solutions are crucial for public policy reasons (e.g., Stiglitz, 2019). more attention is needed for potential negative externalities of digital business models, such as logistical challenges of more digital sales (e.g., last mile delivery), decreasing presence of

physical stores, and the exclusion of specific customers segments due to digital literacy.

Fourth, studies can focus on the development of analysis techniques to support the digital transformation, specifically the de velopment of new machine learning techniques to analyze large amounts of structured and unstructured data. Indeed, we observe a growing number of papers on machine learning in marketing (e.g., Hartmann, Huppertz, Schamp, & Heitmann, 2019); and this special issue includes one such a paper (Vermeer et al., 2019). These techniques can be valuable to gain more market and cus tomer insights. Marketing researchers can play an important role in developing these techniques and testing their applicability in marketing.

CONCLUSION

We hope that this introduction will encourage more research on the crucial subject of digital business models, as will the papers in this special issue. As guest editors, we were extremely lucky to have a group of highly qualified and responsive reviewers who provided constructive criticism and insightful ideas that greatly influenced the structure of the special issue papers. We also received a huge number of intriguing submissions from exceptional scholars. We now thank them for their feedback. We express our gratitude to Roland Rust, the previous editor, for giving us the chance to edit this special edition.

We would also like to express our gratitude to Kees-Jan Roodbergen and Marleen Huysmans, our two designated area editors, for their assistance in reviewing entries regarding the interfaces between marketing and operations research and marketing and IS. We also thank Cecilia Nalagon, the managing editor of IJRM, for her outstanding assistance in handling all the papers, and Steve Shugan for acting as guest editor on one of the papers that had a conflict of interest.

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