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How Digital Transformation Impacts Consumer Behaviour

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This chapter discusses digital transformation from a consumer perspective. The digitalization affects consumers since the ways of communicating, gathering, and exchanging information about products and/or services, and obtaining and consuming them, drastically changed. Think of buying online, easily searching online and comparing product offerings from different suppliers, writing, and reading online reviews to be informed. Also, consumers are empowered by the new media to promote and distribute their own offers. Hence, this also affected firms, as they had to change their business models to adapt to these changing needs. This led to multi-channel and finally omni-channel management.

Digitalisation and new media have made it possible for consumers to not only be passive recipients of firm communication, but also to actively communicate with firms and with each other. So, from unidirectional firm to consumer communication, communication becomes multi-directional. However, traditional marketing communication tools have not disappeared and remain relevant. Different studies have shown that also in this new digitalized world, traditional media remains an effective medium to influence consumers, next to new media.

The chapter further discusses some examples from practice. For example, At DVJ we developed a new KPI that represents contacts that brands have with consumers. This so-called RPS enables us to compare different media directly with each other. The chapter concludes with different success stories of firms that succeed in utilizing digitalisation to their advantage and surprise consumers every day.



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Idea in brief

Table 1. The chapters key points

	Issue	Response	Bottom Line
1.	What is digital transformation from a consumer perspective and how does the digital transformation impact consumer behaviour?	Digital transformation has far-reaching impact on consumers as well as business and marketing. The digitalization affects consumers since the ways of communicating, gathering, and exchanging information about products and/or services, and obtaining and consuming them, drastically changed.	Digital transformation highly impacted consumer behaviour. As an example, the communication becomes multi-directional empowering consumers to write online reviews or distribute their own offers. This also affected firms, as they had to change their business models to adapt to these changing needs. Finally, this chapter highlights some examples of firms that do considerably well on this.

Introduction

“Clearly, the thing that’s transforming is not the technology — it’s the technology that is transforming you.” — Jeanne W. Ross of MIT Sloan’s Center for Information Systems Research

We are living in a digital era in which we cannot imagine a world without technology anymore. Think of a regular day: The alarm of my smartphone wakes me. After taking a shower, I have breakfast while updating myself with news in the world as well as checking updates on social media and my personal e-mail. After a short walk and coffee, I open my work laptop from my home office, check my e-mail, have some video calls, and work remotely through the VPN connection. My calendar tells me I have a client meeting. Happy to be able to meet physically, I put on Google maps to navigate me. While driving, I make some other calls. Being at home again I finish work and start cooking. I realise I forgot something and quickly order it from one of the online grocers that deliver at home within 10 minutes. I also notice that the fridge is almost empty anyway and order the weekly groceries online at my preferred supermarket. In the evening, I watch Netflix while at the same time chatting with a friend over WhatsApp and checking social media. I also see a nice offer for new shoes and directly order them as well. In bed I either read a book on my e-reader or listen to a podcast. Then I turn on my alarm on my smartphone, waiting for what tomorrow will bring.

Imagine your daily life without digital technology. So, not being able to communicate digitally, search for information online, check the social networks. We can hardly imagine living without these technologies anymore, and as the quote of Jeanne W. Ross indicates, the digital transformation affected and is still affecting all of us (as consumers).

This chapter focuses on digital transformation from a consumer perspective. Therefore, it is first important to know how we define digital transformation. Subsequently, we review how digital transformation has impacted and still impacts consumer behaviour. This chapter would not be complete without including the firm perspective, as digital transformation also impacts the way consumers interact and communicate with firms. Then, we talk about challenges in digital transformation and consumer behaviour. We finish with success stories in which firms very well understand digital transformation and consumers' needs.

What is digital transformation from a consumer perspective?

The short story of a 'regular day in my life' from the introduction shows that every day is filled with technology, digital tools, and being always connected and online. Furthermore, being connected also means it is much easier to buy online or be in contact with firms via e-mail or social media. And, of course, the corona pandemic caused many more developments digitally at a rapid pace. It showed us that many companies and consumers *had* to use new technologies and shift to online. Not only to buy products, but also to be able to work or attend school or university. Of course, this offers enormous opportunities for some companies, but also challenges for others.

Overall, the digital era allowed us to move online (even further) and continue working and interacting with one another. This was hard to imagine compared to a quarter of a century ago when it was nearly impossible to imagine living *with* these digital technologies. The ongoing digitalization started with the advent of digital technologies. The entrance of these technologies interrupted a lot of our existing systems, forcing business and marketing to transform drastically. Offset by the introduction and worldwide adoption of the Internet and World Wide Web in the late 90's of the last century in addition to the entrance of an increasing number of accompanying technologies (e.g., smartphones, online payment systems), the development of e-commerce reinforced. The term digital marketing also developed and evolved over time. Starting as a specific term describing the use of digital channels for the marketing of products and/or services, it evolved into an umbrella term as defined by Kannan and Li (2017, p. 3): "an adaptive, technology-enabled process by which firms collaborate with customers and partners to jointly create, communicate, deliver, and sustain value for all stakeholders." The fast growth of digital marketing attracted much attention from marketing researchers with a main interest into exploring how the expansion of new channels influences consumers' purchase behaviour and strategies (for a review, see Kannan and Li, 2017).

Overall, the digital transformation has far-reaching impact on consumers on the one hand, and business and marketing on the other hand. It provides both firms and consumers with several opportunities, but also complexity and new challenges, for example of channel management. What do we currently know about the impact of digital transformation on consumer behaviour? And how does digital transformation impact the way firms and consumers communicate? What are challenges related to digital transformation and what do we not know (yet)? What are success stories of firms that are able to utilise the digitalisation to their and consumers' advantage?

How does digital transformation affect consumer behaviour?

The digitalization affects consumers since the ways of communicating, gathering, and exchanging information about products and/or services, and obtaining and consuming them, drastically changed (e.g., Hennig-Thurau et al., 2010). Of course, one can think of buying online, easily searching online and comparing product offerings from different suppliers, writing, and reading online reviews to be informed, or engaging in showrooming, which is gathering information offline about certain products and finally buying online (Gensler et al., 2017). Also, consumers are empowered by the new media to promote and distribute their own offers. You can think of consumers as retailers on eBay or the Dutch Marktplaats, or consumers set up their little ‘shops’ on Facebook or Instagram. So, this makes it possible to buy practically everywhere, from everyone, at any time. The recent corona pandemic and lockdowns increased the amount people buy online even more. DVJ Insights conducted several studies during the corona pandemic and lockdowns, and we could show that consumers started to buy more online (DVJ Insights, covid updates 2021; emerge.nl 2020). People also started to buy certain things more and other things less. Think about chewing gum and deodorant that is bought less, whereas chocolate and liquorice is bought more. People also bought more games, sports equipment, bicycles, or other sporting equipment for outside, home office supplies and hardware, hair dye products, and post cards (RTL, 2021).

After the introduction of digital technologies, a plethora of new media have made their entrance, which gives consumers many opportunities to become more active, connected, empowered, and informed (e.g., Lamberton & Stephen, 2016; Verhoef et al., 2017). In addition to that, consumers are provided with wide-ranging options to provide information to others and make it quite easy and convenient to talk to each other online (Hennig-Thurau et al., 2010). For example, digital technologies enable consumers to help other consumers by sharing product reviews or to co-create value by designing and/or customizing products (e.g., Beckers, Van Doorn, and Verhoef, 2018).

Besides influencing consumers, the digitalization also affected business and marketing – also (partly) due to its effect on consumers bringing about the need for change in business and marketing (e.g., consumer centric perspective). The (new) digital technologies change all aspects within firms, from their activities to the processes, systems, and structures. Consequently, business models have also changed, and continue to change, based on the digital developments. A new type of business model was introduced: the digital business model. Verhoef and Bijmolt (2019) define the digital business model as “situations where digital technologies have fundamentally affected the way a firm structures and carries out its business and thereby creates value for customers, the firm itself, and its partners”. This applies to how and where businesses sell their products or services to consumers, but also how they communicate with their consumers. With the entrance of new distribution or communications channels – which allows consumers to buy practically everywhere, from everyone, at any time – businesses are faced with opportunities and challenges as well. Before the digital transformation, the channels available for firms and consumers to purchase products and/or services were limited and geographically bound. The online channels, which made their entrance, co-existed with the offline channels. With all changes due to the digital transformation, retailers initiated multichannel strategies. At first, these multichannel strategies mainly dealt with whether the existing channel mix should be expanded with new channels (e.g., Deleersnyder et al., 2002). This decision applies not only to the traditional brick-and-mortar firms, but also to new online-only firms (Avery et al., 2012). Over time, the scope of multichannel retailing extended to, for example, the management of customers across multiple channels (e.g., Neslin et al., 2006). A great influence in the development of research on multichannel retailing has been the article of Neslin et al. (2006, p. 96), defining multichannel customer management as “the design, deployment, coordination, and evaluation of channels to enhance customer value through effective customer acquisition, retention, and development.” Important to note is that channels are now considered as a

medium for consumers and firms to interact – focusing on channels providing two-way interaction instead of the former one-way interaction of traditional marketing.

Multichannel strategies have mostly been developed and managed separately within firms (Verhoef, 2012), with only limited integration of the different channels. The entrance of new online and even mobile channels resulted in another disruptive change to retailing (Rigby, 2011). Not only could more channels be studied, but also the natural boundaries between them started to disappear and the different channels became blurred. “Channels are interchangeably and seamlessly used during the search and purchase process, and it is difficult or virtually impossible for firms to control this usage” (Verhoef, Kannan, and Inman, 2015, p. 175). This is termed omni-channel management, which is defined as “the synergetic management of the numerous available channels and customer touchpoints, in such a way that the customer experience across channels and the performance over channels is optimized” (Verhoef, Kannan, and Inman, 2015, p. 176). Verhoef, Kannan and Inman (2015) suggest that omni-channel management is put in place for multichannel management.

How does digital transformation affect consumer-firm interaction?

One of the things that has changed consumer-firm communication tremendously is the fact that new media has come up in recent years. The characteristics of these media are that they are digital, proactive, visible for others, real-time and memorized, ubiquitous, they can be reached anywhere at any time through mobile devices and can be used to participate in networks (Hennig-Thurau et al., 2010).

These new media have made it possible for consumers to not only be passive recipients of firm communication, but also to actively communicate with firms and with each other. Hennig-Thurau et al. (2010) nicely visualize this in their ‘pinball framework’. On one side we have the company, which reaches consumers via their marketing communications. Customers can in turn buy from the company. They can also talk to other consumers about their experiences through new media.

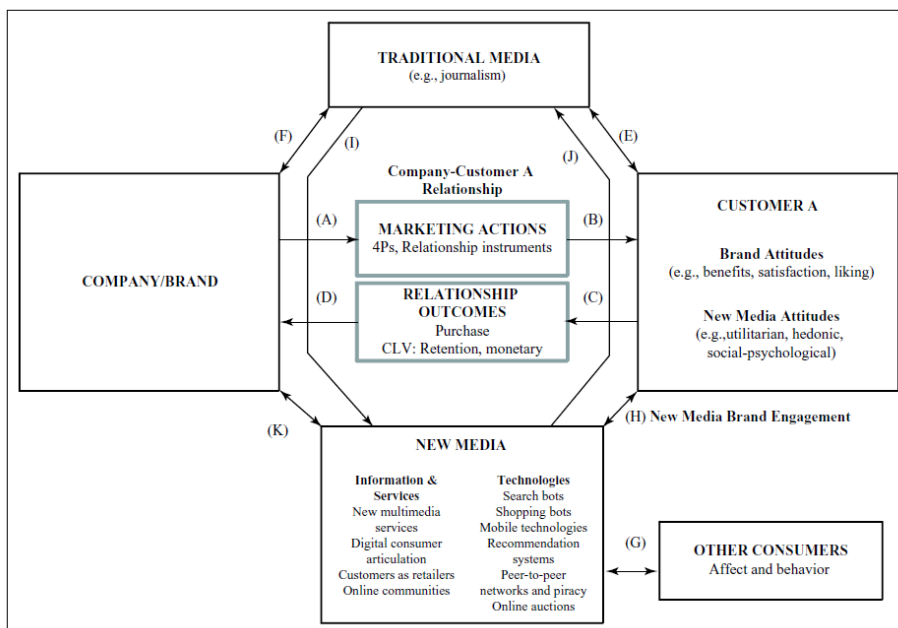


Figure 1: Pinball framework. Source: Hennig-Thurau et al. (2010)

In this new digital world, the traditional marketing communication tools have not disappeared and remain relevant (Forbes, 2017) and are still widely applied by businesses (Statistica, 2019). However, research into the effectiveness of traditional marketing communication tools, such as direct mailing, is scant in the online environment. Questions that remain unanswered entail how the offline communication affects consumer responses in the digital world and how they interact with digital marketing communication tools. Lesscher, Lobschat and Verhoef (2021) find support that direct mailing still serves as an effective marketing tool, both by itself and in combination with digital marketing. They reveal that direct mailing significantly affects online consumer responses (i.e., online search and clicking behaviour), in support of cross-channel effects of direct mailing. Furthermore, direct mailing is shown to be effective throughout the (online) purchase funnel, both directly and indirectly, with a positive net sales effect. Lastly, they show a positive synergy between the traditional and digital communication tools (i.e., direct mailing and display advertising), which implies offline and online marketing communication complement each other.

Another study of de Vries, Gensler, and Leeflang (2017) also showed that traditional advertising is still highly effective, also when considering new media. More specifically, the results indicate that traditional advertising is the most effective way to influence consumers' awareness, consideration, and customer acquisition (in a telco setting). Firm-to-consumer social messages (brand posts on social media) and the impressions generated through these messages are also effective in stimulating consideration and acquisitions beyond traditional advertising. Consumer-to-consumer social messages (for example, Tweets), instead, are effective in creating preference and acquisitions. Moreover, interrelations among traditional advertising, F2C impressions, and C2C social messages exist. Their study provides additional evidence that traditional advertising spurs volume of C2C social messages (Fossen and Schweidel, 2017). Furthermore, traditional advertising generates more favourable C2C social messages. Finally, there is evidence for feedback effects. These findings illustrate the complexity of the relations among the firm's "echoverse" and outcome variables and highlight the need for methodological approaches that can capture those relations to effectively orchestrate a firm's efforts to build a brand and business (Hewett et al., 2016).

Another substantial amount of research is devoted to the effects of the interactions among consumers on new media for business results. Because of digitalization, consumers are now able to talk to each other, for example by writing online reviews. The fact that consumers can do so, has serious consequences for firms, as they are not very well able to control what consumers will write. And it definitely affects firms. A substantial amount of research is devoted to the link between the volume, valence, and variance of eWOM (mainly online reviews) and business results, such as sales and stock prices. A meta-analysis on the effects of online product reviews on sales concludes that the mean review valence elasticity is .69 whereas the mean review volume elasticity is .35, indicating that valence is more important than volume for evoking sales (Babic Rosario et al., 2016; Floyd et al., 2014).

At DVJ Insights, we also have access to lots of information on media deployment (both traditional and new) and brand metrics as well as sales figures for different brands. For them, we also examine what their optimal media spending level would be. We do this in a very innovative way as we developed our own KPI to examine the effects of media on different outcome measures. We believe this is necessary to do, for four reasons:

1. Media differ in their impact: The unique characteristics of each medium make it likely that media channels vary in the likelihood of reaching consumers and making them remember the campaign. For example, viewing an advertisement in the cinema is likely to have a different impact than an ad on a news website.

2. Ad formats matter: Within each channel, the specific format of ads drives their effectiveness. For example, in online advertising, we know that the likelihood of seeing a homepage take-over is much higher than seeing a skyscraper banner.

3. Ads may linger in memory: Merely visually inspecting the effects of weekly investments on relevant KPIs in that same week implies that weeks without media investments should not impact consumers. However, we know that advertising effects show a gradual decrease of impact. The size of the decay is dependent on the history and awareness of a brand.

4. Creative execution is pivotal: The creative execution plays a massive role in the effectiveness of advertising. In addition to influencing consumers' overall feelings in response to an ad, we also know that the ad itself impacts whether consumers are attentive to an ad. Ads that are not noticed will not have an effect.

Therefore, at DVJ Insights we work with a KPI that represents all contacts better than spendings, the Reality Performance Score (RPS). RPS represents the real number of contacts that brands have with consumers. RPS compares each media to another and evaluates them. It weighs each media differently based on the opportunity people must engage with that medium and notice the ad. It differs if you are for instance watching a video online, or at the cinema. On top of that, RPS looks at the decay effect because of advertising memory. RPS looks back at the number of contacts from last week and adds a part of that to this week. It is an intelligent algorithm. Finally, we have integrated the possibility to use the strength of the creative as well. As a result, RPS is the first real KPI that represents the total sum of all media. We conducted a validation study and found that RPS is a better predictor of effect than expenditures or GRPs. What is unique about this measure is that it can consider all different types of media, online, digital, or offline and traditional, and subsequently link this to different outcome measures. What we for example do for our clients, is determine whether their spending levels can have an effect or if they are spending too much (see for an illustration Figure 2). Are you able to stay within your bandwidth?

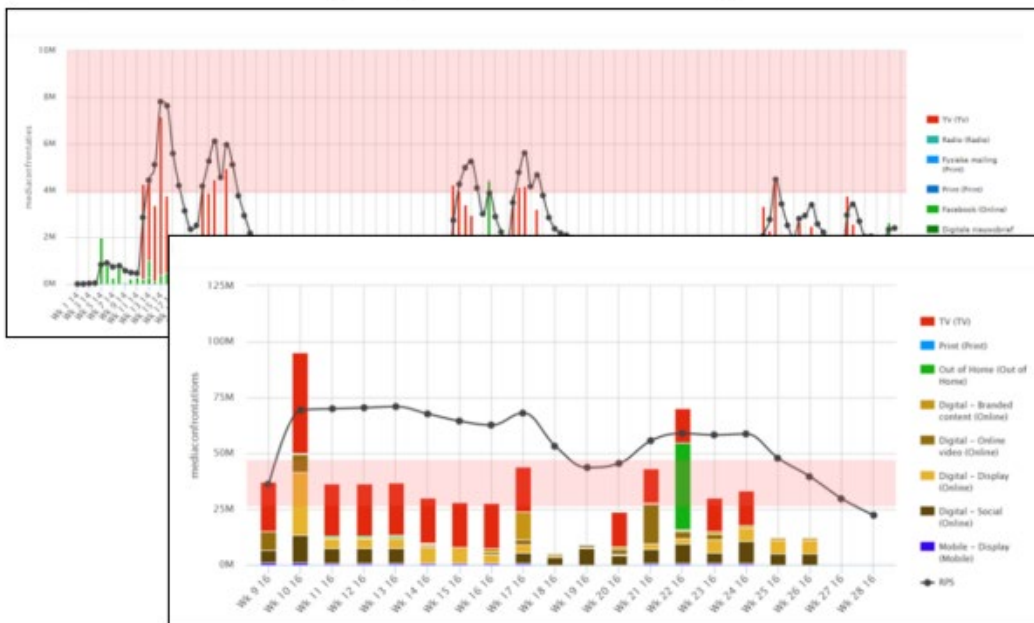


Figure 2: Example of bandwidth analysis

Challenges related to digital transformation for consumers

In this paragraph we will discuss some challenges related to digital transformation. Challenges related to digital transformation surround new media and channels, analytics/big data, and business models (Leeflang et al., 2014).

New media and channels

A challenge for firms is what happens to their traditional media and channels in the new digital world. Research starts to look into this matter, but there remains much to uncover. How can you best combine or even integrate online and offline marketing communication channels? Traditional marketing communication tools, such as direct mailing, can also be integrated with digital marketing activities. Think about direct mailing (as studied by Lesscher et al., 2021), a personal link or QR code can be included allowing firms to track the response to the direct mailing more accurately. This use of channels interchangeably and seamlessly (e.g., omni-channel management, as discussed in section 2) offers firms opportunities, but also challenges. It would be useful for companies to consider how they can integrate their channels in such a way that they can offer the most value to their customers and, at the same time, capture the most value. Another question that arises is which types of consumers (segments) respond in what way to which combinations of marketing communication. This will help firms to properly target the right communication to the right audience.

Analytics/big data

What is a big challenge for firms, is the enormous amount of customer data that becomes available and that is gathered within organisations. We found in our annual Brand Growth Study of 2021 that was centred around the theme data-driven decision making, that 58% of marketers and insights managers feel that organisations have too much data and don't know how to use it properly (<https://www.dvj-insights.com/brandgrowth-study-2021/>). We also asked marketers and insights managers about challenges regarding working with data for making important marketing decisions. The most important challenges do not relate to the data itself – that is something that is generally widely available – but they relate to capabilities such as having the right people, finding the right tools and software as well as prioritising and timing of data and results/insights.

Business models

A final challenge concerns the business models for firms. As shared, digitalization also affected businesses. On the one hand, this is due to the influence of digitalization on consumers bringing about the need for change in business (e.g., consumer centric perspective). On the other hand, the new digital technologies alter all aspects within firms, such as their processes, systems, structures as well as their activities. This led to the new business model termed digital business model (e.g., Verhoef and Bijmolt, 2019). With the introduction of new channels – either for distribution or communication – consumers can buy everywhere, from everyone, at any time. This provides opportunities and challenges to firms. How to best structure your firm to create value for customers, the firm itself, and its partners.

Success stories

Digital technologies have paved the way for new ways to do business or research. In this paragraph we will discuss some examples of successful cases. Some come from own experience/observations in the market, some come from our clients through conducting research on a certain topic to help them grow.

There are many disruptive incumbents that target niches in the market. Think of the Dutch online supermarket Picnic that was quite disruptive for the Dutch supermarket landscape. Picnic operates only with distribution centres and directly delivers to customers who can order via an app. They deliver with small electric cars right onto your doormat, always with a smile. In this way, they do not need physical stores anymore. At the same time, they know a lot about their customers, since all the data is in the app. Their customer service is excellent; if something is amiss with your groceries, you get it refunded or for free next time or you get an alternative product. Also, when they deliver in the evening, they knock on the door if they know that you have small kids. It are those small gestures that make such a difference. Online retailers/grocers are perfect for those who have little time to do groceries (for example, families with young children), or who do not like to do grocery shopping or who are not able to go grocery shopping (think of being in quarantine, or physically unable to go shopping). Another service Picnic is offering is the returning of packages from DHL, if they fit in their vans. Also, disruptive in retail are parties like Gorillas who can deliver within 10 minutes. These examples show that there are some firms that were able to dive into a niche that captures consumers needs in the retail sector and were able to do so very successfully.

Another nice example of using technology in another way for a traditional business, is the example of a financial services provider who wanted to introduce advice through video call (<https://www.dvj-insights.com/Cases/advice-over-a-video-call/>). Consumers do not always want to visit a company in person, nor have the time, or the opportunity these days, to get advice. To respond to this trend and deal with the changing times in an agile way, it is interesting for companies to explore new techniques for their services. During the corona crisis, this has become even more relevant. Our client already conducted a number of pilots with financial advice through video calls. Because these pilots were successful, the client developed a proposition regarding video advice, which needs to be tested among a broad Dutch target group. Therefore, we have tested new propositions and found out how it resonates among potential clients. The results show that there is indeed an interest in video advice. Positive associations are related to ease and speed, while the most common negative association is the impersonal element. The flexibility of a video call is the most appealing element of the proposition. The perception of detachment, on the other hand, is the greatest barrier. The client has introduced the proposition successfully, well before the corona crisis began. But the corona crisis has most likely made video advice a greater success and necessity.

Another success story relates to the way technology can help and improve the way we can conduct consumer research (<https://www.dvj-insights.com/Cases/leveraging-ai-to-uncover-ceps/>). For example, at DVJ Insights, we are now using artificial intelligence to learn more and better from our qualitative response. We applied this to identify Category Entry Points (CEPs) for one of our clients. Knowing what makes people think of the brands in the category forms a source of inspiration for products and messaging. We conducted a large-scale CEP Exploration study. To identify growth opportunities for the brand, we took a two-step approach. In the first stage, we sized and identified Category Entry Points based on a unique mix of qualitative and quantitative techniques and analyses: We used Storytelling to uncover the different moments the category is used. We let consumers tell us their story: where they used a product, when it happened, for what reason, in which context, for which purpose and so on. Via the DVJ Storytelling technique, we gained insight into relevant CEP consumer experiences. In the quantitative analysis, we asked respondents to classify their own responses in different ways, such as positive-negative, relevancy and willingness to share. Using AI-powered text analytics, we can extract meaning out of large volumes of unstructured text and translate this into meaningful quantitative data. This data can then be used to uncover trends, patterns, and insights. By leveraging Text analytics on the stories, we identified similarities and differences across categories and gender. In the second stage, we zoomed in further on the newly found CEPs and measured the mental market share and mental

penetration of the brand among consumers. We also measured the position of the brand's main competitors, as well as scores within each of those CEPs. This helps brands to understand where to play and how to win. By leveraging AI-based topic modelling on the collected consumer stories, we were not only able to identify the most important CEPs per category but could also pinpoint differences by gender in terms of CEP-hierarchy. The stories provided further inspiration on how to best bring each of the CEPs to life in the language of the consumer. The unique mix of qualitative and quantitative techniques with AI-powered storytelling analysis helped the brand to identify CEPs in five different categories with clear distinctions at a category and gender level.

Conclusion

Overall, the digital transformation has far-reaching impact on consumers on the one hand, and business and marketing on the other hand. Providing firms and consumers with several opportunities, it additionally also provides complexity and new challenges. This chapter discussed how digital transformation has affected consumer behaviour. Changes have been large as so many new venues have opened up for consumers to buy or sell products and services. Digital transformation also affected consumer-firm interactions to a large extent. Whereas the interaction between firms and consumers used to be one-way, nowadays it is bi- (or maybe even multi-) directional. This has impact on the effectiveness of a firm's communications to consumers via different channels. Research showed, however, that traditional media still is effective, together with new media. Challenges regarding digital transformation surround new media and channels, analytics/big data and business models. There are also firms that are able to employ digitalisation and use it as their advantage, think about newcomers in retail such as full online grocers or established firms that are able to utilize new media and technologies in their advance. Finally, in marketing research, we are also able to utilize new technologies and dive deeper into our qualitative data by using AI.

So, to conclude, digitalisation has caused many changes last years, for both firms and consumers, that can lead to challenges but also offers us many new opportunities. And as already mentioned in the introduction, we can't imagine a life without waking up to technology and all it has to offer. Everything we will ever need right at our fingertips, from the comfort of our home.

Let us close with a quote from Jeff Bezos (founder of Amazon) that illustrates the importance of technology for consumer behaviour: *"The three most important things in retail are location, location, location. The three most important things for our consumer business are technology, technology, technology."*

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