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Master Thesis

Personalisation in Retail Marketing: Effects and Examples

by

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List of Abbreviations

AI	Artificial intelligence
AR	Augmented reality
ARM	Augmented reality marketing
CTOR	Click-to-open rate
CTR	Click-through rate
CX	Customer experience
EEA	European Economic Area
EU	European Union
FADP	Federal Act on Data Protection
GAFAM	*Google*, *Apple*, *Facebook*, *Amazon*, *Microsoft*
GDPR	General Data Protection Regulation
KPE-model	Know, personalise, engage and measure
ns	Non-significant
OR	Open rate
RPI	Repeat Purchase Intention
WOM	Word of mouth
yo	Years old

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1. Introduction

1.1. Issue

The rise of the internet has significantly impacted our lives, whether it be in the manner we interact with our relatives, work, or entertain ourselves. However, the internet has particularly affected the economy through the emergence of e-commerce. Over the years, this mode of purchase has increasingly gained importance. For instance, in 2019, 15% of the revenues of the German retail and wholesale sectors were generated by eCommerce, which represents an increase of 6% since 2014 (CE/BEVH 2021, p. 8). Thus, the internet has become a real Eldorado. In other words, a new has world opened up to companies, along with its promises of profits. Consequently, theses businesses have had to use technology to offer customers a unique experience, unlike their competitors. Personalisation of marketing tools is one of them. Although it has been common practices for many years in the physical retail sector, such as face-to-face counselling (Riegger et al. 2021, p. 142), personalisation has been given a new dimension by the advent of the internet and datafication, offering advanced possibilities to marketing strategies.

Thanks to new technologies, companies can now offer relevant advertisements, discounts, and communications to their customers. By leveraging personalisation tools, consumers can benefit from recommendations that perfectly match their needs or interests. They are now targeted to specific segments of its customer base. Companies hope to achieve a higher conversion rate with these than with public advertisements addressed to all their customers (Aggarwal 2016, pp. 225-226).

However, this race for innovation has happened to the detriment of customers' privacy. As a result, the digital advertising market has developed faster than the internet users' awareness of the mechanisms of data collection and processing (Deroualle 2020, p. 280). When visiting certain websites, creating personal accounts, approving terms and conditions of sale without reading them, and accepting cookies, customers are often unaware of what these marketing tools imply about their data.

Consequently, customers find themselves in a dilemma between the desire to have a personalised service that perfectly matches their needs and interests, and the will to protect their privacy (Kihn/O'Hara 2020, pp. 100-102). Companies must develop their marketing strategies within this frontier: personalise as much as possible to encourage customers' purchasing intentions while limiting the clients' feeling of intrusion into their private lives. To do this, some companies have developed numerous techniques to collect and use data while respecting the privacy of customers and keeping sales objectives as their goal.

1.2. Objectives of the thesis and research question

This thesis aims to understand the different effects of personalisation on customers. When confronted with this type of content, their reactions can differ widely depending on many factors. Based on the customers' image of the company, their relationship with technology, and the type of content offered, personalised content can positively and negatively affect the customers' purchase intentions. The purpose of the thesis is to identify the impacts a company should consider before deciding to personalise or not its newsletter, online shop, or advertisements. This leads us to the following research question: What are the positive and negative effects of the personalisation of marketing tools on a company's activities?

For instance, a retailer suggests similar products to its customers based on the collected data. Will they enjoy these recommendations? Are they relevant? Do these recommendations increase or decrease customers' trust in the company?

By consulting blogs for entrepreneurs, such as the "Influencer Marketing Hub" website (Geyser, 2020), one rapidly finds an answer to the question "Should you personalise your online shop?". Moreover, the scientific literature repeatedly addresses personalisation, but it does so in its broadest definition. Despite being perceived more or less positively, many technologies are applicable in various fields, each will have a different effect. For instance, product recommendations based on past purchases will likely not be perceived in the same way by the customer if they take place in a newsletter or a shop. Indeed, some studies have shown the positive effects of personalisation (e.g. Tyrväinen/Karjaluoto/Saarijärvi 2020; Wetzlinger et al. 2017), but can this be generalised to all technologies? In all domains? Therefore, this thesis aims to go beyond the general idea that personalisation only has positive effects, and seeks to understand with which technologies and in which contexts this is the case.

1.3. Method

In order to answer the research question, the following methodology and structure will be adopted. This thesis will focus primarily on retail companies. However, companies from other fields such as Google or Facebook will be cited. Although these companies are not active in the retail sector, they are indirectly involved in the personalisation process, either through data collection, or the offering of advertising space.

The definition of personalisation will be given first. As the scientific literature has been unable to reach a consensus as to its comprehension (Riegger et al. 2021, p. 141), a sub-chapter will aim at highlighting the diverging interpretations of the term. The purpose will be to better understand what it is, its origins and the various application.

Different types of personalisation will be presented, such as recommendations or newsletters.

Then, a broad review of the existing scientific literature will identify the positive and negative impacts of personalisation on different elements of the sales process. Through this review, the reader will be able to discern and understand the effect of these techniques on privacy concerns, satisfaction, customer loyalty and purchase intentions. A sub-chapter is devoted to other personalisation impacts cited in the scientific literature, notably those on Brand Strength or click-through rate (CTR). Throughout this chapter, the thesis draws on scientific research and practical examples of personalisation implementation. This methodology is applied to compare the different sources with each other. This allows us to provide a critical analysis of the effects of personalisation. In the five sub-chapters (dedicated to the different impacts of personalisation), the thesis presents the articles in a table so to have a complete overview of the significant research results. In addition, the tables also enable the reader to understand the contexts of the researches and their samples.

The thesis also analyses the limits of personalisation that companies face. For example, it can be useless or counterproductive if it suggests irrelevant products or is used on the wrong channels. They may also find their desires for personalisation limited by technical or legal constraints.

Even though personalisation is already well implemented in marketing, the thesis analyses its future through the potential of new technologies such as augmented reality (AR) or artificial intelligence (AI). The thesis focuses on practical examples of their application as well.

Finally, the results of scientific research are presented to *[Company A]* and *[Company B]*. Consequently, a comparison of theoretical and practical aspects will help us determine whether the research realities are identical to those in the business context. Using the articles quoted in the thesis, we will get feedback from the marketing team members, and their opinions. To do so, we have conducted interviews with companies to better understand the situation and their strategy towards this technology.

Our study shows that personalisation is often studied out of context. Indeed, it would be untrue to generalise a result to all personalisation tools. This thesis shows considerable differences between different tools, companies, types of personalisation, customers, industries and any other element that may impact the effectiveness of personalisation. A framework has been developed to consider all its crucial factors.

2. Overview of personalisation

Before analysing the impacts of personalisation, it is capital to define it. Throughout this chapter, we will see that personalisation is a vast concept encompassing various facets. First, a definition of personalisation will be given. Then the thesis will analyse its different types and implementation strategies. The chapter will conclude with an overview of data management in personalisation.

2.1. Definition

Defining personalisation is a risky exercise. Indeed, personalisation is a process, a strategy, and a tool with broad definitions. In this work, we will adopt the definition most commonly used in the scientific literature (e.g. Aguirre et al. 2015, pp. 35-36; Riegger et al. 2021, pp. 141-142). The objective of personalisation is “to offer the right products and services at the right time and in the right place to the right customers” (Sunikka/Bragge 2012, p. 10050). It also implies understanding the customer in order to offer a product or service that matches their needs (Chandra et al. 2022, p. 1534).

Although this thesis uses a single definition of personalisation, the existing scientific literature has produced a significant array of definitions. This lack of shared meaning creates a consequent issue: the actors of personalisation do not necessarily understand each other. This is problematic for research and business, e.g. if a company orders personalisation software from an IT company but has a different perception of the ordered product (Vesanen 2007, p. 410). Already in 1987, everyone agreed that personalisation was a tool with great potential, but no one knew what it meant (Surprenant/Solomon 1987, p. 86). As Table 1 illustrates, each author brings their nuance to it: some see it as a strategy, others as a capability or a decision; personalisation can come with or without customer involvement; some definitions focus on data, others on CX or customer behaviour. Furthermore, this table only includes descriptions of “personalisation”, whereas authors have also used many other terms to refer to a more or less similar process, e.g. individualisation, segmentation, one-to-one marketing, customisation, etc. (Chandra et al. 2022, p. 1531).

The latter is one of the most frequently used terms, either in opposition to or in addition to personalisation. To avoid confusion in this thesis, it becomes essential to focus on both these concepts. The vast majority of studies make the same distinction: both terms describe the process of individualising content for each user (Ho/Bodoff 2014, p. 498). However, customisation is a user-initiated process, whereas personalisation is system-initiated (Treiblmaier et al. 2004, p. 2). The terminology user-driven process for

Table 1: Definitions of personalisation

Author(s)	Definition	Dimensionality / theme	Context
Aksoy et al. 2021	The personalization concept entails presenting and using customer information to create an individualized customer experience.	Individualized customer experience; Customer information	Literature review
Arora et al. 2008	Personalization is a firm's decision on the marketing mix suitable for the individual that is based on previously collected customer data.	Firm strategy; Marketing mix; Customer data	One-to-one marketing
Chellappa/Sin 2005	Personalization refers to the tailoring of products and purchases/experiences to the tastes of individual customers based upon their personal and preference information. Therefore, personalization is critically dependent on vendors' ability to acquire and process customer information and customers' willingness to share information and use personalization services.	Tailoring product and purchase experience; Vendor ability; Customer privacy	Online
Imhoff et al. 2001	Personalization is the ability of a company to recognize and treat its customers as individuals through personal messaging, targeted banner ads, special offers on bills, or other personal transactions.	Firm capability; Promotions and transactions	Customer relationship management; Information systems
Montgomery/ Smith 2009	Personalization is the adaptation of products and services by the producer for the customer using information that has been inferred from the customer's behaviour or transactions.	Customer behaviour/transaction; Producer driven	Marketing
Peppers/Rogers 1997	Personalization is customizing some features of a product or service to enjoy more convenience, lower cost, or some other benefit. Personalization can be initiated by the customer or by the firm.	Product/service customization; User/firm initiated; Convenience; Lower cost	One-to-one marketing

Source: Adapted from Chandra et al. 2022, pp. 1532-1533.

customisation and company-driven process for personalisation is also commonly used (Sunikka/Bragge 2012, p. 10054). Instead of contrasting these two concepts, some authors (e.g. Aksoy et al. 2021, p. 1092; Peppers/Rogers 1997, as cited in Chandra et al. 2022, p. 1536) prefer to consider customisation as a sub-domain, a step of the personalisation process. In practice, personalisation allows companies to offer recommendations (e.g. *Spotify playlists*) or targeted newsletters, as addressed in sub-chapter 2.3. In contrast, customisation occurs when the customer can change the shape or colour of their product themselves (e.g. *NikeID*) or explicitly select the content they want to be displayed in ads (Clark 2022). To add further confusion to the differentiation, some authors (e.g. Ha/Janda 2014; Puzakova/Rocereto/Kwak 2013; van Doorn/Hoekstra 2013) use the term customisation to refer to personalisation in a sense adopted in this thesis. Therefore in this study, the emphasis is put on the effects of "personalisation" or "customisation" as long as the approach is company-driven. On the one hand, this accounts for the presence of the term customisation in the tables in the Appendix. On the other hand, all the studies that analyse the impacts of user-driven customisation were consequently excluded from the thesis.

Personalisation may seem a recent strategy, given its strong link to the internet. However, this tool appeared with the first trade relationships (Vesanen 2007, p. 410). The first personalised direct marketing letter dates back to the 1870s (Ross 1992, as cited in Vesanen 2007, p. 410). Traditionally, counter staff carried out in-store personalisation in contact with the customer (Riegger et al. 2021, p. 142; Shen/Ball 2009, pp. 80-81).

However, the advent of the internet and new technologies have completely changed how personalisation is used in marketing: its rapid evolution has been the subject of various studies in the last 20 years. For example, a study from 2008 shows that data for recommendations had to be updated manually (Dias et al. 2008, p. 293), whereas nowadays most of it is automated. This evolution is also illustrated in surveys of entrepreneurs: a 2014 study states that 94% of companies believe personalisation will be essential. Still, most do not know where and how to start offering a personalised online experience to customers (Thibeault/Wadsworth 2014, p. 112). Consequently, one will have to keep this rapid development in mind when analysing the studies in Chapter 3.

Personalisation owes its strong popularity to the many advantages it is supposed to offer to companies. Indeed, it makes it possible to combine the objectives of companies (to reach the predefined target), of advertisers (to make the most of their audiences), and of consumers (to be solicited by relevant advertising) (Deroualle 2020, p. 280). Chapter 3 will further analyse these effects.

2.2. Personalisation strategies

As with any new marketing tool, companies must develop a strategy for its use. However, statistics show that the vast majority do not: 76% of them in the tourism industry and 67% in the retail sector lack clear strategies (Klein/Hoffmann/Pant 2021, p. 4). Faced with this issue, some businesses might be tempted to replicate the traditional strategy. However, the traditional media approach is not appreciated by customers (Ressac/Léger 2023, p. 36). Therefore, companies must develop their strategy for personalisation. To do so, they should keep in mind their main objective: to put the customer first (Aksoy et al. 2021, p. 1092), and opt for a 100% customer-centric approach (Deroualle 2020, p. 224).

Companies will have to decide on which channels they apply their personalisation objectives: they can either focus on a single channel (e.g. offer personalisation only in the online shop) or apply it in an omnichannel way (e.g. purchases made in the online shop will be used as a basis for in-store advisors). If an omnichannel strategy is implemented, companies should keep in mind that personalisation efforts should be consistent across all touchpoints, while considering each channel's specificities (Deroualle 2020, p. 226). The Swiss online retailer *Galaxus* is a perfect example: regardless of the channel, the

company will always offer consistent personalised content[1]. However, it is important for companies to remain aware that the different channels do not imply the same needs and potential results. For instance, the success factors of recommendation systems in online shops do not apply to recommendations in other advertising media, e.g. banner ads (Schreiner/Rese/Baier 2019, p. 95).

This reflection must also take place for all offline touchpoints. The arrival of new technologies allows for increasing implementation of personalisation strategies in brick-and-mortar shops. With the help of Technology-enabled personalisation (TEP), shops can now display personalised content based on customer data within the shop (Riegger et al. 2021, p. 142). For example, the German retailer *Real* (Jansen 2017) and the Chinese *KFC* (Hawkins 2017) franchises use facial recognition to offer respectively product and menu recommendations in their stores. Personalisation technologies can also be applied in public displays. Although it is more complicated to have a 1:1 approach with each customer for obvious reasons, companies are trying to capture the customer's attention by presenting a personal element. *Galaxus*, for instance, launched a billboard campaign with panels that mentioned the shopping habits of a specific neighbourhood, city or region (Werbewoche 2020), as shown in Figure 1.

Figure 1: Galaxus public poster campaign

Source: Werbewoche 2020

However, changing names on an email (or any other basic type of personalisation) is not enough to sum up personalisation. It is about pushing the right content, tailored as much as possible, to offer a unique communication to the customer, adapted to their needs and this across all existing channels. In other words, successful personalisation is impossible without customer contact (Deroualle 2020, p. 225). Indeed, identifying the

[1] See screenshots of recommendations on the desktop website (Appendix A, Figure 7), on the mobile website (Appendix A, Figure 8) and on social networks (Appendix B, Figure 15).

customer, their needs, interests, or desires is the first step of personalisation (Peppers/Rogers 1997, as cited in Chandra et al. 2022, p. 1536). Avoiding this step could cause problems throughout the process.

To be thorough, let us mention some more essential components of personalisation. Firstly, when designing their personalisation strategy, companies need to determine the timing for their personalised service. The literature describes this as the moment when the customer will be confronted with an advertisement (or any other personalisation service), i.e. at a certain point in the purchase process or during day (Salonen/Karjaluoto 2016, p. 1094). Secondly, Bleier/Eisebeiss (2015b, pp. 393-394) identify two other notions of personalisation that are important to determine when developing the strategy: depth and breadth. Depth is considered the main dimension of personalisation. It determines the extent to which an advertisement matches the preferences and interests of the customer. For instance, a large depth is a banner with products that the customer has previously placed on his Wishlist. In contrast, a small depth is a banner containing random products from the customer's preferred category. The breadth defines the extent to which, for a given depth, an advertisement reflects the consumer's preferences. For example, if a banner features Wishlist products (high depth), it can either feature a few products (narrow personalisation breadth) or a significant number (wide personalisation breadth). The company will therefore need to determine in its strategy what timing, width and depth will best suit the customers, and achieve the resulting objectives.

A common strategy is to adopt a KPE model, that can serve as a checklist and roadmap for companies (Kihn/O'Hara 2020, pp. 107-114):

1. **Know (the right person):** companies need to capture the information they need to know about the customer, e.g. address, preferences, purchase history or the number of clicks, views or likes.
2. **Personalise (the right message):** Through the coordinated use of personalisation tools and A/B testing, companies can determine which content (e.g. for a newsletter) will achieve the set objectives such as conversion rate or open rate (OR).
3. **Engagement (the right channel):** this stage of the KPE-Model is divided into two aspects: Journey Management and Real-Time Interaction Management. First, over time, companies must manage the customer's path through various channels. The second aspect consists of managing personalisation across all channels in the short term: when a customer acts on a specific channel, all the remaining ones must be adapted accordingly.
4. **Measure (and optimise):** finally, companies must monitor the measurements and communicate the results to the various company bodies to improve accordingly.

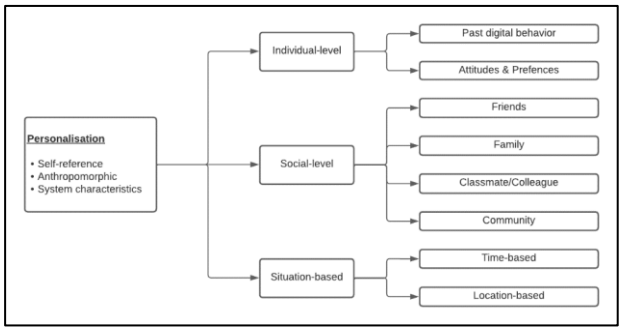
However, even if a company adopts every suggestion listed above, there is always a risk that the customer refuses to adopt the personalisation service. Indeed, the customer is likely to refuse to interact with a recommender agent or tries to block personalised ads for various reasons. Wetzlinger et al. (2017, pp.117-188) listed three prerequisites for personalisation to be adopted by customers. First, there must be a trusting relationship between the customer and the company. Second, the customer must perceive some utility in the personalisation services. Finally, personalisation must be easy to use. White et al. (2008, pp. 47-48) add that the response will depend significantly on the justification of the advertisement. An advertisement is justified when the consumers' personal information is relevant to the personalised offer (White et al. 2008, pp. 41-42). It is therefore suggested that companies segment customers according to their acceptance of new technologies (Jain/Paul/Shrivastava 2021, p. 20).

In conclusion, strategy is essential to the success of a personalised message. Although data and current technology serve as a basis, the strategic direction will make the difference (Deroualle 2020, p. 227).

2.3. Personalisation types

Personalisation can be done in a variety of ways. It is common to encompass many widely different types within this broad set. This variety of personalisation types can sometimes cause confusion or misunderstanding. As we will detail in this sub-chapter, personalisation can be applied in many different channels (e.g. mail, online shop, advertising), with varying levels of personalisation or very different objectives.

Figure 2: Classification framework for personalisation



Source: Aksoy et al. 2021, p. 1100.

In order to differentiate between the numerous types of personalisation, we will mainly use the classification methods proposed by Aksoy et al. (2021, pp. 1100-1104), which distinguish two closely related perspectives, as illustrated in Figure 2. The first is to determine the type of personalisation according to the mode of communication. The second, which will be analysed later in this sub-chapter, will focus on the types of personalisation depending on the information presented.

The authors present three major forms of personalisation according to the mode of communication. Firstly, the Self-reference method, which personalises the company's communication with the customer by making it clear that the system recognises them, e.g. by being greeted by their name when they log onto a website. Secondly, the Anthropomorphism method offers customers communication that resembles them via humanoid tools with the same language as them, e.g. the use of chatbots. Finally, the system characteristics method, which consists of the system entirely and automatically performing the personalisation, e.g. the "Customers who bought these also bought..." sections (Aksoy et al. 20). (Aksoy et al. 2021, pp. 1100-1101). As an illustration, we will review four personalisation types: recommendation tools, newsletters, advertisements (specifically banners) and chatbots.

A recommendation is the process of assessing a customer's behaviours and characteristics in order to suggest services or products that they could buy or use. This process can be automated with the help of machine learning or AI. The recommendation can be based on basic data, such as demographic information, or more advanced facts, such as customer attitudes and preferences. The more advanced the information, the higher the response rate the company can expect, provided that customers respond positively (Chaffey/Ellis-Chadwick 2022, p. 252). The primary objective of recommendation tools is to increase sales and conversion rates. However, it also allows customers to reduce search costs or facilitate quality decision-making (Schreiner/Rese/Baier 2019, p. 90). A study by Hinz/Eckert (2010, pp. 74-76) shows that the implementation of a recommendation system leads to a 10% reduction in customer search costs and a 0.15% increase in company profit. The authors also show that introducing three search technologies (i.e. search tools, a recommendation system and best-selling lists) increases consumer surplus proportionally more than company profit. This means that these tools mainly improve consumer utility, which should indirectly lead to higher customer satisfaction. Like any other type of personalisation, recommendation tools do not necessarily guarantee success. Indeed, the quality of the personalisation, the quality of the message, and the perceived benefits will determine the recommendation's effectiveness (Pappas et al. 2016, p. 795). As the examples in Appendix A show, each company chooses different types of recommendations. The online retailer *Galaxus* has a "Recommended for you" category on its homepage. *Netflix* has a similar strategy with an "Our selection for you" category. As for *Zara*, when putting a product in the basket, they suggest items that could "complete the look". Finally, *H&M* offers recommendations under each item, whether purchased or merely viewed by the customer, based on other buyers' selections.

According to a survey led on business managers (Klein/Hoffmann/Pant 2021, p. 7), recommendation services are considered the most crucial type of personalisation. Several

companies can be cited to demonstrate the rise in the use of recommendations. On *Youtube* for example, whereas the “You might be interested in” sections used to occupy a small part of the homepage, they now occupy the majority, if not the entirety, of users’ feeds. This interest in recommendation services is also reflected in investments. In 2009, *Netflix* offered a million dollars to anyone who could improve their recommendation system (Kant 2020, p. 30-31).

Another channel that can be used to include personalised information is banner advertising. These ads are present on the side of a website, mobile application or social network. They can be static, i.e. images or GIFs on the side of the page that do not interrupt the user’s browsing process, or pop-ups, i.e. advertisements that appear in separate windows as the user navigates from one website to another (Hussain/Sweeney/Mort 2010, p. 102).

Personalisation is used to increase the effectiveness of banners (Bleier/Eisenbeiss 2015a, pp. 678-679) as well as commercial and advertising revenues (Ho/Bodoff 2014, p. 498). Advertising can promote products or services that have been recently consulted by the user. They reflect the needs and interests of the consumer. Consequently, and thanks to international advertisers, companies can display their banners on numerous sites or social networks, regardless of their geographical or cultural proximity. For example, the Swiss rental company *Interhome* may advertise houses that the customer has recently viewed on the site of the German publisher *Pons*. *Nike* and *Galaxus* use banners to highlight products the customer has recently viewed, which are also advertised on Instagram. All examples are illustrated in Appendix B.

However, banners are less effective than other advertising media (Schreiner/Rese/Baier 2019, p. 96). This is partly due to banner blindness. Benway/Lane (1998, pp. 463-464) describe it as the ability of users to ignore banner advertising consciously or unconsciously. In contrast to television advertising, online advertising fails to capture the user’s attention (Abedi/Koslow 2022, pp. 202-203). Moreover, the remaining low effectiveness of banners is undermined by new EU legislation. Goldfarb/Tucker (2011, p. 57) have shown that the effectiveness of banners has decreased by 65% with the introduction of privacy laws.

Throughout this thesis, online advertising will be analysed, especially banner advertising, as it is the easiest and most accessible to personalise. However, other more traditional media are also moving towards personalisation. This is the case of television, for example, trying to implement targeted advertisement for its customers (Le Figaro 2022). Although it is not yet a 1:1 personalisation, new technologies enable targeting advertisements to specific audience segments. Optical fibre, an upcoming technology, is developing particularly rapidly in France. *TF1*, the leading French broadcaster, hopes that

just over a third of households, or 9 million television sets, will have access to this technology by the end of 2023. This targeting would allow advertisers to address their ads according to specific socio-demographic criteria, such as a car manufacturer that can particularly promote its electric offer to customers who live on the outskirts of large cities. Traditional TV channels are not the only ones to ride the wave of personalisation. *Netflix*, *Amazon Prime* and *Disney+* are also developing personalised advertising systems (Wassmer 2023). While the trend in recent years has been to offer an ad-free service in exchange for a subscription fee[2], FAST channels (Free Ad-supported TV) are gaining more and more market share. The streaming giants are therefore returning to a classic model but modernising it with personalisation to increase revenues. As these technologies are still in the testing and development phases, they will not be considered in our analysis.

The increased competitiveness to grab the user's attention in banner advertising can also be found in newsletters and email marketing. In 2021, 319 billion emails were sent worldwide (Radicati Group Inc. 2021, p. 2). Personalisation, therefore, plays a crucial role in attracting the customer's attention amid business, private and commercial emails. Despite the limited interaction between companies and customers, newsletters offer some feedback. Indeed, marketers can analyse the effectiveness of their newsletter based on many indicators, such as the OR, the CTR or the unsubscribe rate. All these indicators will allow us to determine, in chapter 3, the impact of personalisation (e.g. the use of the first name or purchase history to adapt the content of the newsletter). Appendix C shows four examples of newsletters. These can take many forms and have different purposes: *Hotel.com* addresses the customer directly by name to remind them of an offer, *Manor* uses its newsletter to wish the customer a happy birthday, *Uber Eats* highlights restaurants that are geographically close by and finally *Zalando* informs the customer that one of the products they have liked is on sale. In all cases, the newsletters are linked to a personal element of the customer, be it their preferences, their region, etc.

Newsletters are not a new marketing strategy, and they could suffer from this. Indeed, emails remain a one-way communication, while marketing tends towards more interactive strategies, e.g. mobile applications, live streams, etc. (Hartemo 2022, p. 586). However, emails remain a powerful tool: 86% of professionals still use it. Even the youngest generations have been forced to use it because of COVID. Moreover, newsletters can boast a very good ROI (Hartemo 2022, p. 587).

[2] 55% of 16–34-year-olds are willing to pay for ad-free content, compared to 32% of 55+ year olds (Ressac/Léger, p. 35).

The last type of personalisation example is chatbots, also called dialogue systems. This technology is, according to Figure 2, “anthropomorphic”. Arsenijevic/Jovic (2019, p. 20) describe them as follows: “Bot is software that performs automated tasks, and chatbots fall into the category of bots used in various messaging platforms. The goal of chatbots is to have a conversation with humans. Although based on AI and purely computer-based, chatbots try to simulate human behaviour. One of the main advantages of chatbots is that they can, unlike employees, respond instantly, seven days a week and 24 hours a day, to multiple customers simultaneously (Barış 2020, p. 33). Based on customer data, chatbots can give personalised service and advice (Kim et al. 2015, p. 78). Most web giants have already developed and marketed their chatbots: *Google*’s *Meena*, *Microsoft*’s *Tay*, *Facebook*’s *BlenderBot*, and finally, one of the best-known, *Siri* from *Apple* (Rajnerowicz 2023). This technology will only be given limited consideration in this thesis. Although many companies use chatbots in their contact forms, they are rarely personalised. This observation is also made in the scientific literature.

Now that we have analysed the different methods of communication, we can move on to the second classification perspective put forward by Aksoy et al. (2021, pp. 1102-1104), namely the type of information presented. The authors delineate three kinds, as illustrated in Figure 2: Individual-level, Social-level and Situation based personal information. These three types can then be used in the three types of communication, as seen above. Personalisation can use a wide range of information, such as the recipient’s first name, news preferences, or work-related information (Li 2016, p. 25). Although the possibilities for personalisation are almost limitless, this thesis will focus on the use of the customer’s first name. Indeed, this technique is one of the most used by marketers (Li/Liu 2017, p. 137).

The usefulness of adding the customer’s first name is linked to the fact that people are in love with it. A fact demonstrated by Nuttin (1985), who explains that people are naturally more attracted to the letters that make up their first name than to other letters, otherwise known as “The name letter effect”. Despite this popularity among companies, the scientific literature is divided on the benefits of adding names to marketing campaigns. Some studies found that personalised emails’ response rate was higher than non-personalised emails (e.g. Heerwegh et al. 2005), while others (e.g. Porter/Whitcomb 2003) found no significant effect between the two. Wattal et al. (2012, p. 680) even argue that using personalised greetings leads to negative responses from the customer. However, these responses can be mediated by the type of personalisation and the customer’s familiarity with the company.

Thus, the scientific literature does not give a clear opinion on the effects of using personalised greetings. Some authors (Li/Liu 2017, p. 138; Shen/Ball 2009, p. 89) point out that the simple use of the first name in a newsletter is insufficient to generate positive

customer responses. In addition to using it, the email content must match the customer's interests. If the content of the email is of poor quality, adding the first name will not change things (Li/Liu 2017, p. 134).

We can see that the term "personalisation" encompasses many marketing strategies. Depending on the channel chosen and the type of information used, a wide variety of potential advertising campaigns are available to companies. It is crucial to remember that "personalisation" is a catch-all term that encompasses very advanced strategies (e.g. using AI to make recommendations to customers) as well as basic mailing technologies (e.g. adding a name to an email).

2.4. Data Management

In the previous sub-chapters, we saw that many personalisation types and strategies are implemented online, and therefore rely on data. In one of her speeches, the former Vice-President of the European Commission (2010-2014), Neelie Kroes (2011, pp. 2-3), perfectly highlights the importance of data: "Just as oil was likened to black gold, data takes on a new importance and value in the digital age. [...] My message today is that data is gold". Given the growing importance of data, this sub-chapter will focus on its collection and management, in the context of personalisation.

Chaffey/Ellis-Chadwick (2022, pp. 110) describe five different types of information that companies can collect:

1. **Contact information:** collected either through forms or cookies, and informs companies about the name, address or email of customers.
2. **Profile information:** collected in the same way as contact information, this includes age, gender or social group.
3. **Access platform usage:** using Web Analytics Systems, companies can know with which device type, operating system or screen type the customer connects.
4. **Behavioural information (on a single website):** using the IP address, information, such as purchase history or process, can be collected.
5. **Behavioural information (on multiple websites):** this allows data to be linked together in order to know where the customer is coming from (e.g. whether they clicked on a Google ad).

This data comes from four different sources, depending on how it is collected (OECD 2019, pp. 30-31). On the one hand, there is Volunteered data that the customer voluntarily gives the company. On the other hand, there is Observed data, captured by the company without the individual's active participation, e.g. purchase or click history. In addition, there are two other, slightly more complex types of data: derived (or inferred) data, which is created on data analytics (e.g. a customer's credit score is calculated

based on his or her financial history) and acquired data, which is obtained from third parties. Another terminology is also common (Hartemo 2022, p. 586):

1. **First-Party Data** collected and owned by the Marketer.
2. **Second-Party Data** from another Marketer that is traded or purchased.
3. **Third-Party Data** which is First-Party Data purchased and aggregated by an IT company in order to resell it.
4. **Zero-Party Data** which is all the information that a customer proactively and deliberately shares. This is the equivalent of Volunteered Data in the OECD classification.

A study shows that 37% of companies exclusively use First-Party Data for the personalisation of the customer experience (CX). This corresponds to an increase of 6 points between 2021 and 2022 (Twilio Segment 2022, p. 19). Although this represents just over a third of companies, it is still not enough in customers' eyes. Indeed, 63% say they are fine with personal data as long as companies use First-Party Data and do not buy it elsewhere (Twilio Segment 2022, p. 25).

Customer consent is central to the issue of data collection. Study shows that if personalisation users are aware of the collection and use of their data, behavioural intentions towards advertising and the company will be higher (Aguirre et al. 2015, p. 44). The consideration of customer consent in personalisation campaigns is therefore paramount. There are two opposing approaches to obtaining customer authorisation. On the one hand, the Opt-In approach requires the explicit consent of the recipient of the advertisement, i.e. if he did not say "yes", it means "no". On the other hand, the Opt-Out approach focuses on the refusal of the customer, i.e. if he did not say "no", it means "yes" (CNIL n.d.). Regardless of the approach taken by the company, the objective is that the customer agrees to provide their data. Kihn/O'Hara (2020, pp. 102-103) describe four tactics for mastering the art of data collection. In order to obtain customer consent, the authors suggest communicating directly to customers about the presence of data collection and use, making them feel in control of their data, showing the tangible benefits of sharing their data, and finally remembering that people have different views on data privacy. Companies implement these different tactics and strategies in various ways. At the website's opening, most companies offer customers the possibility to accept or manage the collection of data, i.e. an Opt-In approach, like Tesco or Edeka. However, these two retailers do not offer the possibility of refusing to share data, as does Carrefour. Other companies offer more advanced choices, such as *Aldi Suisse* or *Spar*, which differentiates between various types of cookies. Another category goes for an Opt-Out approach, like *Hornbach*. The company relies on the implicit consent: it is up to the customers to take the step of refusing data sharing. A final category offers a more limited choice to users: either to accept cookies or to refuse them but for a fee. This

strategy is particularly used in the online news sector. Like the *Le Point* and *Le Figaro* websites, the user must either accept cookies or pay €1 to consult the website. They will be forced to leave the site if they refuse both options. All the examples cited are illustrated in Appendix D. Once consent has been obtained, companies can rely on several IT tools to harvest data, such as cookies, web bugs or click stream data collection (Goldfarb/Tucker 2011, pp. 59-60).

However, despite the precautions some marketers take to obtain customer data, some refuse to give access to it for several reasons. When customers have to share personal data, they feel it disturbing, evil, annoying or shocking. The reasons for these feelings are personal and may therefore differ from person to person (Kant 2020, p. 111-113). Some customers also point out that sharing their data would make them feel observed and invade their privacy. Others cite their fear that companies will use their data to make money, manipulate them, or diminish their freedom of choice (Riegger et al. 2021, pp. 146-147). Businesses must do everything they can to reduce this as it can have real consequences on purchase and behavioural intentions: two-thirds of customers say they will no longer do business with a company that has mismanaged their data in the past (Pallant et al. 2022, p. 1). It should also be noted that the precautions consumers take to share their data differ depending on their segment. A study on the Canadian population shows that young people are significantly more open to sharing information to have a personalised experience than older generations. Indeed, 38% of 16-34 year-olds say they are open to sharing their data, compared to only 15% of 55+ year-olds (Ressac/Léger 2023, p. 32).

As mentioned earlier, giving customers control over their data can facilitate its collection (Chaffey/Ellis-Chadwick 2022, p. 252; Kihn/O'Hara 2020, pp. 102-103). When they see a personalised advertisement without feeling that they have given consent to collect their data, they feel that they are losing control over their data and that their privacy is at risk. This feeling is present because customers are unaware of the timing and modalities of the collection (Song et al. 2016 92-93). This feeling is further amplified by companies exploiting data more and more intensively (Song et al. 2016, p. 91). Therefore, they must adopt more transparency in collecting data to avoid negative customer behaviour or attitudes (Song et al. 2016, pp. 92-93). From a practical point of view, companies should therefore ensure that they always offer a less intrusive option to give customers a choice (Riegger et al. 2021, p. 145). For example, a company that creates a mobile application that uses AR. Even if this technology offers a new dimension to the CX, the company should develop a version that does not use AR (Smink et al. 2020, p. 484).

3. Impacts of personalisation

We will now move on to the analysis of the impact of personalisation on different indicators of performance. Each following sub-chapter will analyse a specific indicator but will rely on other similar ones. All the studies analysed are summarised in tables, cf. the appendices E, G, H, I and J. It should also be noted that the same study can be included in several sub-chapters/tables, e.g. White et al. (2008) are included in three tables.

First, we will analyse the impact of personalisation on privacy concerns. Then, the effects on satisfaction and customer loyalty will be reviewed and finally, those on purchase intentions. A final sub-chapter will look at other performance indicators, e.g. the impact on CTR or brand strength.

3.1. Impact on privacy concerns

Although personalisation promises many benefits, it also comes with specific mental and psychological costs (van Doorn/Hoekstra 2013, p. 340). Indeed, customers may experience dread about their privacy, a sense of intrusion of their intimacy or distrust of the message or the company. A literature review was carried out and resulted in a table, which summarises all the studies analysed (see Appendix E). In this sub-chapter, we will sum up the results of the research on the main topics: privacy concerns, intrusiveness, trust, and finally, reactance. These four topics are intimately linked with (or generated by) privacy concerns.

In order to have a personalised experience, customers need to provide personal information to companies. However, some customers may feel they are being watched or tracked when companies own sensitive information. Privacy concerns arise when customers feel they are losing control over their privacy, making them feel vulnerable to the company (Bleier/Eisenbeiss 2015b, p. 395). Wetzlinger et al. (2017, p. 128) argue that customers will experience more significant worries in the presence of personalised messages. The authors state these concerns are higher in brick-and-mortar shops than in online shops when faced to personalised content. This is mainly because the intention to adopt personalised services is higher online as customers expect to receive such services. In general, privacy concerns will impact the intention to adopt personalisation services (Wetzlinger et al. 2017, p. 128), which will significantly impact advertising performance. Van Doorn/Hoekstra (2013, p. 349) show that customers with high privacy concerns experience stronger feelings of intrusiveness. Yet, the effect of privacy concerns on purchase intentions has only been partially explained. Of the two studies conducted by the authors, only one of them was able to prove a negative impact on purchase intentions.

Based on these findings, companies may be motivated to reduce these concerns. They can be moderated if the company allows customers to manage their data in terms of collection and use (Aguirre et al. 2015, p. 44; Song et al. 2016, pp. 96-97). However, companies must be aware that customers have heterogeneous perceptions of these concerns (Pallant et al. 2022, p. 9). While some see insane risks, others only perceive the benefits offered by personalisation. A third category, representing about 8% of customers, has a more paradoxical view. They see both the benefits and the risks of data sharing. Companies should segment their customer base accordingly to protect the most sensitive ones. It should also be noted that, although customers may know that companies collect their data, they only become aware of it when they are told so (Aguirre et al. 2015, p. 36). It is therefore crucial that, as mentioned above, companies not only offer customers the possibility to control their data, but that they also communicate this openly.

Privacy concerns are intimately linked to another important construct in the customer buying process: trust. Although they are closely knit concepts, they differ in how they will affect personalisation's success and effectiveness. Privacy is seen as a precursor to trust and intention to adopt personalisation, while trust is seen as a factor in the success of personalisation and the outcome of personalisation (Salonen/Karjaluoto 2016, p. 1093).

Providing a definition of trust is a complex task, as it differs depending on the source: economists, sociologists or psychologists stress very different aspects. Trust can thus be a form of implicit contract, the prerequisite for living in a society or the fact that an individual's promise or statement can be consistently trusted (Lewicki/Bunker 1995, p. 135). Chau et al. (2013, p. 182) delineate three dimensions of trust. The first is trust in the trustee's competence, e.g. if a salesperson offers irrelevant products, customers are likely to distrust him or her. The second is trust in the integrity of the trustee, i.e. the confidence that the commitments will be fulfilled in good faith. And finally, trust in the trustee's benevolence, i.e., the trustee cares about the customer's interests. In personalisation, this third and last dimension will be set aside: the aim is to offer the customer a service that meets his or her interests.

Trust is a critical element in the customer's buying process. It has been shown that by implementing strategies to build customer trust, it is possible to counteract the negative impact of intrusiveness (e.g. overt data collection). To do so, companies can display their advertisements on credible sites (the trust the customer has in the website is transferred to the advertisement) or by voluntarily showing that the site is trusted, e.g. labels or certifications (Aguirre et al. 2015, p. 44).

Trust also moderates many relationships in the purchasing process. Firstly, trust mediates the link between personalisation and purchase intentions. Many studies (e.g. Ha/Janda 2014, p. 509; Rose et al. 2012, p. 315) have failed to show a direct connection between these two elements but claim the link is indirect. Trust is, therefore, a crucial factor for personalisation that positively affects purchase intentions. Secondly, the same pattern is repeated for the relationship between personalisation and reactance. As we will see later in this sub-chapter, personalisation can sometimes create a sense of reactance in the customer (Smink et al. 2020, p. 484). However, it has been shown that trust can mediate and moderate this negative impact. Thirdly, trust is an essential mediator in the relationship between personalisation and CTR. Bleier/Eisenbeiss (2015b, pp. 402-403) showed that more trusted retailers had a CTR 2.5 times higher than less-trusted retailers (0.51% vs 0.20%) for the same level of personalisation.

Parallelly to trust, personalisation interacts strongly with intrusiveness. The scientific literature provides two definitions of this term: the first, as given by Li/Edwards/Lee (2002, pp. 37-38), is the degree to which a message interrupts the flow of an editorial unit, e.g. an advertisement interrupting a TV programme, which implies feelings of irritation and annoyance. The second definition is the feeling that arises when a message is perceived as too personal and could cause discomfort (van Doorn/Hoekstra 2013, p. 340). We will focus on this second definition in our work.

In general, the scientific literature agrees that personalisation will increase the feeling of intrusion, which will have a negative impact on purchase intentions (Smink et al. 2020, p. 483; van Doorn/Hoekstra 2013, pp. 347-348). This reaction depends on the degree of personalisation and if the offer fits the customer's interests and needs (van Doorn/Hoekstra 2013, pp. 347-348). However, these conclusions are nuanced by some studies. Pappas et al. (2014, p. 203) explain that personalisation simultaneously develops positive and negative emotions. They show, however, that negative emotions generated by the feeling of intrusion will not significantly affect the customer's behaviours, provided that positive emotions are also present. They, therefore, conclude that companies should focus on positive emotions. Furthermore, Smink et al. (2020, p. 483) show that the feeling of intrusiveness does not appear similarly in all industries. In a study on the impacts of a mobile application that uses AR, the feeling of intrusiveness was only felt with the application that allowed people to virtually test make-up and not with the one that modelled 3D furniture in their homes.

In order to give a complete overview of this topic, it is essential to talk about reactance, even if this aspect is less studied than privacy concerns or trust. When faced with personalised advertising, customers may feel that they are being manipulated or that their freedom of choice is being threatened. As a way to regain this freedom, customers will adopt a behaviour contrary to the intention of the advertisement. This behaviour is

called reactance, a complex psychological state (Bleier/Eisenbeiss 2015b, p. 395). In both the aforementioned cases about the AR application, the feeling of intrusion created reactance among customers (Smink et al. 2020, p. 484). It is, therefore, crucial that companies manage this issue in order to minimise the state of reactance. To do this, companies can use two levers (White et al. 2008, pp. 41-42): advertising must be justified[3] and it must have a perceived usefulness to customers. Without these two conditions, advertising might create reactance, which contradicts the company's objectives.

We have just reviewed the notions of privacy concerns, the feeling of intrusion, and trust. In order to illustrate our remarks, the article by van Doorn/Hoekstra (2013) will be analysed as it deals with the majority of these themes. The article aims to understand the trade-off companies make between personalisation and the need for personal data to do so. Two scenario-based studies conducted in different sectors were set up to determine the effects of personalisation on feelings of intrusiveness, privacy concerns and purchase intentions, see Figure 28. In the first study, 233 participants from a consumer panel were asked to put themselves in the shoes of a person looking for a mortgage. They were then confronted with a fictitious bank website on which a banner ad was displayed. Six different scenarios were used depending on the degree of personalisation and the degree of fit of the ad with the customer's needs. The results show that intrusiveness is higher when the name or transaction information is collected in addition to navigation data. Moreover, participants who claimed privacy concerns perceived a greater sense of intrusiveness, even if the ad fit was high. Finally, participants are less likely to purchase intrusive offers (see Appendix F, Table 3). The second study uses the same methodology but in the telecommunications industry. It broadly validates the first study's results (see Appendix F, Table 4). They conclude that high levels of personalisation increase the feeling of intrusiveness but can be compensated for if the advertisement reflects the customer's needs. They also suggest that the effects differ from industry to industry. Indeed, the differences in purchase intention as a function of ad fit are quite different across industries (see Appendix F, Figure 29).

Before concluding this sub-chapter, it is important to mention the Privacy Paradox that many customers face. This paradox explains the contradiction between the behaviour and attitudes of customers. On the one hand, they display strong privacy concerns and great reluctance to share their data with companies. Yet, on the other hand, these same consumers are willing to share their data for relatively low compensation (Pallant et al. 2022, p. 3). From this paradox will emerge a reflection called the "privacy calculus". Its purpose is to determine whether the customer will share his data with the company or not. To do this, the customer will estimate the expected benefits and perceived risks of

[3] The same levers increase intentions to adopt personalisation, see sub-chapter 2.2.

sharing data based on privacy concerns, risks, trust, etc. The result of this weighing of interests will determine the fate of the data sharing. Kihn/O'Hara (2020, p. 101) point out that this calculation often occurs when the customer does not have all the necessary information to conduct a complete reflection, which is why the customer acts in a way that is contradictory to his or her will. Indeed, the company's request to collect the data often occurs when the customer arrives on the website. However, at that point, he or she cannot determine whether data sharing is necessary, whether the company is trustworthy, or anything else that is essential for his or her decision-making. For this reason, the customer will be more inclined to easily "give up" his data to the company.

The analysis of this sub-chapter's different themes shows that it is difficult to have a clear statement on personalisation concerning privacy concerns. Indeed, many elements will influence the choice to personalise an advertising message. Van Doorn/Hoekstra (2013, p. 349) summarises this situation well: "our study clearly and convincingly indicates that customized[4] online advertising is a double-edged sword: It increases purchase intentions, along with feelings of intrusiveness that negatively affect purchase intentions". Studies should therefore focus on analysing these two effects to determine which one takes the ascendancy over the other.

3.2. Impact on satisfaction

After analysing the impact of personalisation on privacy concerns, we will now look at the impact on customer satisfaction and experience. We decided to analyse these two performance indicators together because customer satisfaction and CX are close aspects that reflect two facets of the same construct. Moreover, the positive impact of CX on satisfaction has been repeatedly demonstrated (e.g. Srivastava/Kaul 2014, p. 1035). It should be noted that all the studies used to produce the synthesis presented in this sub-chapter are summarised in Appendix G.

The term satisfaction suffers from the same problem as personalisation. Indeed, there is also a lack of consensus on its definition (Rogers/Peyton/Berl 1992, p. 12). In our work, we will consider it as follows: satisfaction is an affective response to a purchase. This can be seen in two different ways: a transaction-specific approach, i.e. that the response is related to the most recent experience, and the cumulative customer satisfaction approach, which is based on the general experience with a company over time (Chang/Chen 2009, p. 412).

[4] In their study, the authors analyse the impact of personalising advertisements and the layout of a website based on browsing data and the name of the customer. This shows that it is a company-driven approach. The study is therefore relevant to our thesis, even if the term "customisation" is used.

The question of the effect of personalisation on customer satisfaction creates little debate. Indeed, there is a consensual view that the impact is positive (e.g. Ha/Janda 2014, p. 509; Ha/Muthaly 2010, p. 894; Halimi/Chavosh/Choshali 2011, p. 53). However, some authors, such as Rose et al. (2012, pp. 309-310), argue that the impact of personalisation on satisfaction is only indirect, moderated by perceived control and affective state. It should also be noted that the study by Kim/Kim/Kandampully (2009) is repeatedly cited in the literature to demonstrate the absence of a link between personalisation and satisfaction. However, we have deliberately excluded this study from our research as it refers to customisation services as customer-driven and not company-driven.

As with trust in the previous sub-chapter, satisfaction often plays a mediating role. This is the case in the relationship between personalisation and loyalty. Halimi/Chavosh/Choshali (2011, p. 53) show that personalisation services positively impact customer loyalty, but this is done through satisfaction. This moderation also occurs between personalisation and purchase intentions as proven by Ha/Muthaly/Akamavi (2010, p. 894) or Rose et al. (2012, pp. 313-314).

Now that satisfaction has been analysed, the emphasis will be put on the impact of personalisation on the CX. Before focusing on the effects of personalisation on CX, it is crucial to define it. CX can be described as all customer's internal or subjective responses following direct or indirect contact with the company (Tyrväinen/Karjaluoto/Saarijärvi 2020, p. 2). This definition includes research, purchase, consumption, and other post-sales phases (Verhoef et al. 2009, p. 32). CX can be both emotional and cognitive. The emotional response to a stimulus will create an entertaining and joyful CX. The experience makes the customer feel good and enriched, influencing their memories, behaviour or recommendations. The cognitive response is a state during the purchase process where the customer feels involved and focused, leading to a positive and subjective experience (Tyrväinen/Karjaluoto/Saarijärvi 2020, p. 2).

From the literature review in Appendix G, we can state that personalisation positively impacts the CX (Rose et al. 2012, p. 315; Smink et al. 2020, p. 484; Tyrväinen/Karjaluoto/Saarijärvi 2020, p. 7). The impact of personalisation is however more consequential on cognitive CX rather than emotional (Tyrväinen/Karjaluoto/Saarijärvi 2020, p. 7). The findings of the scientific literature lead Hernandez (2018, p. 10) to consider personalisation as one of the six pillars of CX. Companies need to consider CX, given its positive impact on word-of-mouth and repurchase intentions (Tyrväinen/Karjaluoto/Saarijärvi 2020, p. 7).

To conclude this section on the CX, let us mention the four levers of personalisation of the customer journey that enables the CX to be sublimated (Deroualle 2020, p. 226).

Firstly, the company must identify and recognise the customer, e.g. give the customer an individualised welcome. Secondly, the customer's habits and preferences must be known, e.g. the company can offer them personalised benefits or, on a more practical level, communicate with them via their preferred channel. Then, the company must guide them throughout their journey by anticipating a purchase or recommending a complementary product. Finally, the company must inspire customers by sending them content on new trends or recommendations.

As in the previous sub-chapter, we will present a study that illustrates the results of our synthesis. For this purpose, the study by Ha/Muthaly/Akamavi (2010) will be analysed. This research aims to develop an online repurchase model. Five different models are analysed: four are taken from the existing scientific literature, while the last is the model proposed by the authors. In order to determine which model is closer to reality, they distributed a questionnaire to 448 South Korean and British students who claimed to use online travel agency services. Items such as "This website makes purchase recommendations that match my needs" were used. The results show that the proposed research model (see Appendix F, Figure 30) is the most realistic and is superior to the other proposed models. Furthermore, the results show that personalised information directly impacts customer satisfaction in a significant way (see Appendix F, Table 5).

It is also important to point out that it was deliberately decided to omit the link between personalisation, satisfaction and loyalty in this sub-chapter. Indeed, many studies analyse both elements in parallel. This is because they are closely related: the concepts of satisfaction and loyalty refer to a similar underlying behaviour but remain two different notions (Kwon/Kim 2012, p. 104). Even if satisfaction does not necessarily guarantee loyalty, satisfaction is considered a prerequisite for loyalty, as seen in the previous paragraph. However, dissatisfaction will undoubtedly lead to disloyalty (Yoon et al. 2013, p. 889). In another way, Salerno (2005, p. 14) describes this link as a sequence: perceived value positively affects overall satisfaction, leading to an increase in loyalty behaviour. In order to avoid repetition, this relationship will mainly be studied in the following sub-chapter.

3.3. Impact on customer loyalty

After considering personalisation's impact on satisfaction, we will analyse its impact on loyalty. This performance indicator is a crucial issue for companies. All the studies used to synthesise the field can be found in Appendix H. Before focusing on loyalty, we will review the existing scientific literature on the impacts of personalisation on repurchase intentions. We decided to include it as it is considered one of the components of loyalty (Salerno 2005, pp. 2-3). Indeed, the latter can be measured both as a behaviour, e.g.

repeat purchase probability, and as an attitude, e.g. brand preference or commitment (Ha/Muthaly/Akamavi 2010, p. 880).

Considered a component of loyalty, and more generally a behavioural outcome, repurchase intention defines the probability that a customer will buy a product again from the same retailer (Tyrväinen/Karjaluoto/Saarijärvi 2020, p. 3). All the studies considered in this thesis show that personalisation positively impacts customer repurchase intentions. Some authors claim that this relationship is direct or do not specify a mediator's existence. This is the case of Arora et al. (2021), who state that 78% of customers are more likely to repurchase from companies that offer a personalised experience. Although the relationship is not doubted, another study revises this statistic downwards: 49% of customers say they will become repeat buyers if the shopping experience is personalised (Twilio Segment 2022, p. 6). However, the vast majority of authors consider that another element mediates the impact on repurchase intentions. Various elements are cited in the scientific literature, such as satisfaction (Ha/Muthaly/Akamavi 2010, p. 894; Rose et al. 2012, p. 314), CX (Tyrväinen/Karjaluoto/ Saarijärvi 2020, p. 7) or trust (Rose et al. 2012, p. 314). As explained above, the results of the impact of personalisation on repurchase intentions can therefore be used to demonstrate its impact on loyalty.

Chang/Chen (2009, p. 412) describe loyalty, in the context of e-commerce, as: "a customer's favourable attitude toward an e-commerce website that predisposes the customer to repeat buying behaviour". As already explained earlier, loyalty goes far beyond customer retention. As the authors point out, loyalty is an attitude towards the company that leads to buying behaviour. Salerno (2005, p. 3) describes two main types of loyalty behaviour. On the one hand, the behaviour of repurchase or maintenance of the relationship, i.e. the increase or stability of commercial activity with the company, and on the other hand, favourable word of mouth, i.e. the consumer's social influence to recommend the company to his network. The notion of loyalty is crucial: since it is much cheaper to keep a customer than to find a new one (Halimi/Chavosh/Choshali 2011, p. 54), personalisation can play a central role in lowering costs. Moreover, loyalty can create a virtuous circle in the company: greater loyalty will lead to better contact with customers, thus improving the quality of personalisation services (Arora et al. 2021).

The scientific literature results mainly point to the relationship between personalisation and loyalty behaviour being generally positive. This impact is, in most cases, indirect. Indeed, it is rare to find studies that do not find mediating elements in the relationship. However, the authors cite many different factors, depending on the field of study. As explained in the previous sub-chapter, satisfaction often plays an essential role in the relationship. Indeed, many studies show that personalisation will positively impact satisfaction and loyalty behaviour (Chang/Chen 2009, p. 416; Halimi/Chavosh/Choshali 2011, pp. 53-54). Satisfaction is sometimes accompanied by another mediating ele-

ment, such as the value of the personalisation system perceived by the customer (Salerno 2005, pp. 20-21). It should also be noted that some authors, such as Tyrväinen/Karjaluoto/Saarijärvi (2020, p. 7), also demonstrate the role of the CX as a mediator between personalisation and loyalty. The scientific literature has also extensively studied the impact of personalisation on customer retention, a component of loyalty. Again, the authors agree that the impact is generally positive (Bojei et al. 2013, pp. 175-176; Kwon/Kim 2012, p. 104).

Despite the optimism of the results presented above, some authors nuance them. Tsai/Huang (2007, p. 237) state that personalisation is necessary for retaining loyalty but is insufficient in itself: it will certainly attract the customer's attention, however, it will not necessarily impact loyalty behaviour. Other authors even question the link between the two. Che et al. (2015, p. 595) criticise the fact that the impact of personalisation on loyalty is often analysed through the spectrum of general constructs which are far too vague, e.g. attitude, satisfaction or usefulness. However, they do not look at the purchase context, i.e. elements which characterise the customer's purchase environment, such as unpredictability and trust. It would therefore be incomplete and wrong to analyse loyalty behaviour solely through these general constructs. The authors also argue that the link between personalisation and revisit intentions of the online shop is positive but not significant. Thirumalai/Sinha (2013, p. 700) also point out that poor personalisation design choices can impact loyalty behaviour significantly negatively. This is mainly due to the fact that companies do not consider the purchase context when deciding whether or not to personalise a particular stage of the process and, if so, in what way. The authors, therefore, argue that the decision to personalise is not uniformly beneficial. However, even if the personalisation strategy is contextually appropriate, it still must be of good quality. This is because the customer's loyalty behaviour will be impacted by the quality of the personalisation (Yoon et al. 2013, p. 889).

3.4. Impact on purchase intentions

In the three previous sub-chapters, we have seen different elements impacted by personalisation. At the end of the chain, we find the elements that attract all the attention: the impact on sales, purchase intentions and conversion rate. Although the elements mentioned earlier in this thesis are equally important, sales will determine a product's or service's profitability and, therefore the company's economic health. For this reason, we will concentrate more on this hereafter. The summary of the studies analysed in this sub-chapter can be found in Appendix I.

Ho/Bodoff (2014, p. 516) point out that personalisation allows companies to upsell. This strategy occurs when different consumers buy vertically different versions of a product (e.g. basic vs premium). Therefore, personalisation makes it possible to recommend the

highest version the customer can afford. This sub-chapter analyse this aspect through two prisms: purchase intentions and revenues (or profits). We will investigate mainly studies that focus on the performance indicators mentioned above. Many of them primarily analyse other personalisation impacts but extend their research to purchase intentions. Like van Doorn/Hoekstra (2013), who analyse the impact of personalisation on the feeling of intrusion, which in turn impacts purchase intentions.

Before analysing the results of the various experiments, we want to point out an essential element that the reader should consider. Most scientific studies analyse attitudinal outcomes, such as purchase intentions. Although these measures illustrate the willingness of customers to buy a product or not, they do not tell us whether the purchase is actually made. Scientific research often ignores practical outcomes, such as the impact on sales or profit. As Salonen/Karjaluoto (2016, p. 1097) argue, although business outcomes are often discussed, they are rarely the main focus. According to the authors, this would be because results often depend on many contextual factors, such as the type of customer, or the purchase phase. Furthermore, the few studies that mention practical outcomes often use questionable sources. For example, the study by Schreiner/Rese/Baier (2019, p. 87) is based on statistics provided by *GK-Software*, a company that develops personalisation software, or Chandra et al. (2022, p. 1530) cite figures from a survey by *McKinsey*, a company that provides marketing consulting. Therefore, these statistics' credibility is questionable: these companies have no interest in saying that personalisation is not that effective. The main reason is that companies conduct a lot of analysis on their personalised marketing tools but refrain from publishing them (Dias et al. 2008, p. 291) to avoid sharing their effective strategies with competitors. The only case studies that are publicly available often come from companies that offer personalisation services, e.g. the effectiveness of those offered by *Wiser* (n.d.b) to the clothing brand *Kappa*, or by *Epoq* (2018) to the Swiss bookseller *exlibris*. The methodology of these case studies is often unclear and may therefore call into question the legitimacy of the results, as already mentioned above. However, given the brands that companies claim to collaborate with, e.g. *Xbox* and *Unilever* collaborating with *Wiser* (2023), their expertise in the field must be beneficial and, therefore, close to the results claimed in the case studies.

First and foremost, it is essential to define purchase intentions. Ha/Janda (2014, p. 499) describe it as "a consumer's willingness to purchase products or services from a particular website" or any other company. The link between personalisation and purchase intentions is mostly positive in the scientific literature. For example, Li (2016, p. 30) or Pappas et al. (2014, p. 201; 2016, p. 799) state that personalisation increases purchase intentions. Non-scientific studies support the same view: the consulting firm McKinsey (Arora et al. 2021) states that 76% of customers are more likely to consider purchasing

from a company that offers a personalised service. Other scientific studies share this opinion but point out that this relationship can be moderated. For example, Ha/Janda (2014, p. 509) show that personalisation positively impacts satisfaction, which in turn impacts purchase intentions. However, this double relationship was only significant in the South Korean sample. Indeed, the relationship between satisfaction and purchase intentions could not be proven in the British sample.

The scientific literature also repeatedly shows that emotions play an essential role in the relationship. In the two studies conducted by Pappas et al. (2014, pp. 200-201; 2016, pp. 799-800), the authors demonstrate that personalisation creates positive customer emotions, which will have a significant effect on purchase intentions. However, negative emotions have no impact on purchase intentions. Using personalised services does not frustrate customers and does not affect purchase intentions. This goes against the results listed in the sub-chapter on the feeling of intrusion caused by personalisation (see sub-chapter 3.1). Indeed, the scientific literature claimed that personalisation could create a feeling of intrusion, leading to negative emotions reflected in purchase intentions. This argument is, therefore, refuted by Pappas et al. (2014, p. 203).

Despite the claims of Pappas et al. (2014), a consensus of research shows that personalisation can negatively impact purchase intentions. Numerous studies claim that either privacy concerns (Wetzlinger et al. 2017, pp. 127-128) or feelings of intrusiveness (Smink et al. 2020, pp. 483-484; van Doorn/Hoekstra 2013, p. 348) moderate the relationship and decrease purchase intentions. This effect takes place both on online websites but also when personalisation occurs in brick-and-mortar shops (Wetzlinger et al. 2017, pp. 127-128). Even if the fit between customer needs and advertising is high, the effect on purchase intentions will be partially offset by the feeling of intrusion (van Doorn/Hoekstra 2013, p. 342). A survey (Blum 2019) shows that if the customer finds a personalised newsletter ‘creepy’, more than half of them will unsubscribe, and 28% will even stop doing business with the company.

Many factors seem to influence the relationship between personalisation and purchase intention. According to Ha/Janda (2014, p. 496), two factors play a key role: satisfaction with the website, and the level of trust with the service provider. Other authors show in their studies that the quality of personalisation (Pappas et al. 2016, p. 799) or the gender of the customer (Li 2016, p. 29) could also influence the relationship. Van Doorn/Hoekstra (2013, p. 348) even state that the results can vary significantly from industry to industry. As Figure 29 in Appendix F shows, the structure of the results is completely different depending on the industry. While high-fit ads in financial services create much higher purchase intentions than low-fit ads, the results are much more nuanced for telecom ads.

Moving on from the analysis of attitudinal outcomes, we will turn to the more practical performance: sales or profit. As already explained, there are two types of analysis: scientific studies that follow a precise methodology and are published independently, and non-scientific studies that may be biased, omit methodology or insist on specific aspects of the results.

As far as scientific studies are concerned, they report a positive relationship between personalisation and sales. To the best of our knowledge, no study claims that the implementation of personalised services has a negative impact on sales, i.e. a decrease in turnover or profit due to the use of these technologies. As already seen in the previous sub-chapters, personalisation can negatively impact purchase intentions, and loyalty, directly or indirectly. The scientific literature has not yet demonstrated that this effect is greater than the positive effect induced by personalisation.

The vast majority of studies shows an increase in customer intentions following the implementation of personalised marketing tools. In their study, Sahni/Wheeler/Chintagunta (2018, p. 244) prove that adding the customer's first name to a newsletter increases the CTR, which positively impacts sales. Indeed, personalisation generated 35 additional sales, representing a value of $3,500. Kaptein/Parvinen (2015, pp. 22-23) and Belluf/Xavier/Giglio (2012, p. 279) agree and claim that revenue is affected through personalisation with, respectively, an increase in average revenue per website visitor ranging from €0.034 to €0.041 (about +20%) and an overall increase in revenue oscillating between 8% and 20%. Dias et al. (2008, pp. 293-294) reaffirm these findings and go even further: personalisation positively impacts direct and indirect sales. The authors demonstrate that adding a recommendation system on the website of the Swiss online retailer *LeShop* is more than useful. Indeed, they show that direct sales[5], which are the most attention-grabbing elements, do increase, but indirect sales far outweigh them. As shown in Figure 31 in Appendix F, direct sales vary around 0.05% (at its highest 0.30%) of the retailer's total monthly sales, while indirect sales are stable at around 0.15%. This shows that the impact of personalisation is not only immediate but also lasts over time. This trend for sales can also be seen in the profit. For example, Hinz/Eckert (2010, p. 75) show that implementing a recommendation system significantly increased profit by 0.15%.

Klein/Hoffmann/Pant (2021, p. 9) further state that this increase is also distinguishable when companies opt for more advanced personalisation strategies. The authors identify four personalisation stages: simple, segment-based, micro-segment-based and finally, 1:1 personalisation. They show that when a company moves from the first to the last

[5] Direct sales: when a customer directly buys a product in the recommendations. Indirect sales: when a customer subsequently buys a product recommended in a previous purchase.

stage, it can expect a 10 times higher conversion rate, a 9 times higher average order value and an 8 times higher turnover. The authors show that however the effect diminishes for each stage passed: the most significant increase is seen between segment-based and micro-segment-based personalisation, while the smallest is between the penultimate stage and 1:1 personalisation.

Let us now shed light on studies with more questionable methodologies. By this, we mean studies that have not been published in recognised scientific magazines, that have been carried out by companies that offer marketing products and services, or studies that do not follow a scientific methodology. The results should be analysed with caution for all the reasons explained at the beginning of this sub-chapter. In general, the results of non-scientific studies align with those of scientific studies. However, they often have more consistent and impressive results than the scientific literature. *Twilio Segment*, for example, the market-leading customer data platform service (Twilio n.d.), explains in one of its reports (Twilio Segment 2022, p. 12) that 80% of business leaders say that customers spend more (on average 34%) when their experience is personalised. *Epoq*, a German developer of personalisation software for e-commerce (Epoq n.d.), highlights the benefits of personalisation in two case studies available on their website. The company proved that newsletter personalisation helped children's equipment retailer *babymarkt.de* generate 95% more sales (Epoq 2019), and enabled online bookseller *exlibris.ch* to increase their turnover tenfold (Epoq 2018). A final example is the case study published by *Barilliance*, an e-commerce and personalisation consultancy (Barilliance n.d.). Following the implementation of a personalised recommendation tool on the online shops of outdoor sports equipment suppliers *Millets* and *Blacks*, the conversion rate respectively increased by 332% and 277% and the recommendation revenue increased by 19% and 14.6%.

As both scientific and non-scientific studies point in the same direction, we will not question the latter's findings in general. However, if we look at the results, it is interesting to note that they differ widely and are not comparable to any extent. Some companies tend to announce extremely high figures (e.g. Barilliance (n.d.) which claims an increase of more than 300%) which are not found in the scientific literature. It is therefore important to interpret the results with caution.

3.5. Other impacts

In the previous sub-chapters, the impacts of personalisation on four performance indicators were analysed: privacy concerns, satisfaction, customer loyalty and purchase intentions. Although the analysis of these four indicators is predominant and frequent in the literature, many authors have looked at other effects generated by personalisation. This

sub-chapter aims to analyse its other impacts, mainly on the CTR. All the studies are summarised in Appendix J.

Nowadays, online advertising has become a significant issue in marketing campaigns. This is illustrated by the behaviour of companies that are increasingly intensifying their advertising efforts on the web (Bleier/Eisenbeiss 2015a, p. 669). In order to measure the effectiveness of their campaigns, companies can rely on numerous measures depending on the domain. In the context of online advertising, the CTR is one of them, and it defines the ratio that indicates "how often people who see your ad […] end up clicking it" (Goggle Ads n.d.). For newsletters, it is common to talk about the OR, which is the "metric that measures the percentage rate at which emails are opened" (Big Commerce n.d.). While these metrics can be of great importance to businesses and prove the effectiveness of specific advertising campaigns or newsletters, this does not mean that there will necessarily be an economic impact (Bleier/Eisenbeiss 2015a, p. 684). Indeed, even if click-through or OR are high, this does not mean that customers will buy the goods promoted in the advertisement.

The scientific literature clearly shows that personalisation positively impacts the CTR. The study by Kaptein/Parvinen (2015, pp. 22-23), for example, proves that the introduction of personalisation increases the CTR from 9.4% to 13.5%, i.e. an increase of about 44%. Bleier/Eisenbeiss (2015a, pp. 673-674) come to the same conclusion. The authors even state that personalisation increases the CTR during the entire purchase process. This means that, regardless of whether the ad is shown to the customer during the information, consideration or post-purchase state, personalised advertising will be more effective than non-personalised advertising anyway. Echoing the previous sub-chapter, the non-scientific case study published by Epoq claims impressive results. Implementing their personalisation software is said to have increased CTR by 85%.

The positive impact of personalisation on CTR can also be observed on OR. For example, Sahni/Wheeler/Chintagunta (2018, p. 246) show that adding the customer's name to the newsletter increases the OR by 6%. This may seem insignificant, but in the context of the study, it represents 7'177 additional emails opened. Wattal et al. (2012, pp. 688-689) also show that personalisation positively impacts OR. It is interesting to note however that the authors do not reach exactly the same conclusions about the type of personalisation to be preferred. Sahni/Wheeler/Chintagunta (2018, p. 246) argue that adding the customer's name is beneficial, while Wattal et al. (2012, p. 694) prove the opposite.

However, it is rare to find studies that admit a direct relationship between personalisation and CTR or OR. Indeed, most authors state that certain elements can play the role of mediators. These include the level of trust the customer has in the company

(Bleier/Eisenbeiss 2015b, pp. 402-403), the collection strategy (Aguirre et al. 2015, p. 43) and the customer's management of the data (Tucker 2014, p. 547), the site on which the advertisement is displayed (Bleier/Eisenbeiss 2015a, pp. 685-686), or the presence of justification (White et al. 2008, p. 48).

Personalisation not only has a positive influence on CTR but also impacts the brand: many studies demonstrate its positive effect. Indeed, it has been shown that a positive affect triggered by personalisation can be transferred to the brand (Smink et al. 2020, p. 478). For example, personalised newsletters or recommendations can lead to positive responses to the brand. Gupta/Shukla (2022, pp. 14-15) also show that personalisation has a significant indirect impact on brand experience, brand awareness and brand strength, as shown in Figure 32 in Appendix F. Many other impacts of personalisation have been noted in the scientific literature. Indeed, it has consequences on emotions (Pappas et al. 2014, p. 201), perceived interactivity (Ha/Muthaly/Akamavi 2010, p. 894), on newsletter unsubscribe rate (Sahni/Wheeler/Chintagunta 2018, p. 246) or sales diversity (Belluf/Xavier/Giglio 2012, p. 279).

4. Limits of personalisation

Despite its many potential advantages, personalisation will face certain limitations. Indeed, these benefits are not infinite. Many legal and technical constraints tend to reduce its results. This negative effect could, in our view, be much greater in the future. Thus, first, the impact of irrelevant personalisation will be analysed in the following part. Then, we will see that personalisation does not necessarily imply positive results. Finally, the legal and technical limits will be outlined.

4.1. Irrelevant personalisation

Every user of online shops has had the following experience. While considering for a few days buying a specific product, for instance a particular computer model, the customer decides one day to buy it. In the following hours and days, the customer will be hassled with personalised advertising related to the product he is buying. However, the advertisement comes too late and may annoy or even irritate the customer. This example is reflected in the statistics: 96% of customers think that poor quality personalised advertising is a reality (Sitecore n.d., as cited in Deroualle 2020, p. 224). A study by Chau et al. (2013, pp. 187-188) explains that if customers perceive recommendations as irrelevant, they are likely to distrust the competence and integrity of personalisation, which could lead to negative emotions[6] and attitudes towards the company. The same phenomenon occurs if the customer feels that the recommendations are biased in favour of the seller. The relevance of an advertisement is even more important as it can help offset some of the negative effects. A study by van Doorn/Hoekstra (2013, p. 348) shows that high degrees of personalisation of an ad can increase the feeling of intrusiveness and affect purchase intentions. Nevertheless, these effects can be offset if the advertisement reflects the customer's current needs.

Despite these many incentives, companies can find it difficult to make advertisements relevant. Customers are increasingly likely to object to data sharing. Therefore advertisers have incomplete data that undermine the personalisation process (Deroualle 2020, p. 154). Furthermore, in the context of newsletters, even though the content may be highly relevant, customers will tend to delete them immediately. Indeed, email marketing has suffered greatly from the proliferation of spam in recent years (Hartemo 2022, pp. 585-586). Therefore companies need to produce quality personalisation, and not just quantity (Pappas et al. 2016, p. 795): namely, offering relevant and qualitative advertisements that will play a significant role on loyalty (Salerno 2005, p. 20) and purchase intentions (Pappas et al. 2016, p. 799).

[6] As explained previously, the scientific literature has not reached a consensus on the impact of negative emotions. It is therefore important to take this into account when reading the sub-chapter.

However, even if the advertisement is perfectly relevant to the customer profile, it may still be received negatively. Companies may want to overdo it by personalising an ad as much as possible to ensure its relevance. This can, however, backfire as customers will see this as evidence that their personal data is being used by the company (van Doorn/Hoekstra 2013, p. 348). It is also possible that an advertisement is relevant and in line with customers' image but does not like the image of themself the advertisement gives. The study by Hess et al. (2020, p. 358) explains that it is crucial to present reinforcing advertising images that resonate with consumers' self-image.

Companies should also consider that the results of personalisation are sometimes unpredictable. It is challenging to predict the actual impact of personalised advertising, which is the reason for the existence of this thesis. On several occasions, the scientific literature has found results that counter common sense. For example, Smink et al. (2020, p. 483) analysed the impact of using the mobile application *IKEA Place* on the feeling of intrusion. This application allows customers to visualise specific furniture in their living room through AR. The results showed that the application that used AR was perceived as less intrusive than the one that did not. Another example is the study by White et al. (2008, p. 48) which explains that the results of messages with low levels of personalisation could outperform those with high levels. These two studies show us that personalisation can sometimes be negative, even if the company has made every effort to make the ad relevant to the customer.

Despite all the elements mentioned previously, some experts argue that it is almost impossible to make relevant ads. A study shows that the relevance of third-party data for gender targeting is accurate between 25.7% and 62.7% of the time, and between 4.3% and 42.5% for age accuracy (Neumann/Tucker/Whitfield 2019, p. 920). Faced with low data accuracy, it is common to find negative views on personalisation. For example, Weinberg/Lombardo (2022) argue that personalisation is, given these results, simply impossible. Since marketers cannot rely on data, they argue that making relevant advertisements would be impossible. The specialists' feeling is also reflected in the opinions of the consumers. A study (Schriber 2022) on social network users showed that only 12% of Instagram users and 6% of Facebook users say that ads are "very relevant". In contrast, 59% of Facebook and 43% of Instagram users say that ads are "Not at all relevant". Companies are therefore faced with a real challenge: the personalisation that was supposed to increase the relevance of these ads is not achieving the desired objectives. This inability could therefore call into question the investments of some companies in personalisation tools.

A solution for companies to ensure that their personalised messages are relevant is to set up a feedback system. Klein/Hoffmann/Pant (2021, p. 15) see it as one of the three pillars of personalisation: maturity operating model, unified buyer view and continuous

feedback. The authors state that mature personalisation requires “a robust process for measuring performance, incorporating feedback and tracking external trends and benchmarks”. Some companies have understood this perfectly. As the figures in Appendix K show, Youtube often asks for feedback on recommendations made, whether in the form of push notifications or a questionnaire before the video is played. Instagram does the same by prompting polls in the middle of the user’s Feed. However, this strategy is by far not a common practice among businesses. Indeed, 71% of companies in the tourism industry and 59% of retailers does not have a feedback loop for their personalisation strategy (Klein/Hoffmann/Pant 2021, p. 4). Companies must therefore react as quickly as possible to implement such strategies.

4.2. Personalisation does not guarantee success

In Chapter 3, most impacts of personalisation were reviewed. However, these results are based on personalised marketing tools that are mostly effective and relevant. In the previous sub-chapter, we saw that having relevant ads is already challenging, but the conditions for success do not end there. Indeed, companies will still have to invest a lot of effort in developing a personalised campaign. The scientific literature has repeatedly shown that there is no point in spending blindly. For example, investments in personalisation are useless if consumers do not use it (Chellappa/Sin 2005, p. 181). Moreover, depending on the context, personalisation is not always effective (Aguirre et al. 2015, p. 44) or may even lead to negative responses (Wattal et al. 2012, p. 680). In summary, this sub-chapter aims to show that, even if the ad meets all the criteria listed in the previous chapters, it is still possible that personalisation does not achieve the expected goals.

One of the first challenges companies will have to overcome is displaying personalised content at the right place and at the right time. The advertisement will therefore have to be appropriately timed, i.e. appear at the most proper moment in the purchasing process, taking into account the time that has elapsed between the visit to the website and the ad, but also because the customer’s preferences may change over time. The company will also need to consider the placement of the advertisement, as its success will depend on the link between its content and the site on which it appears (Bleier/Eisenbeiss 2015a, pp. 669-670).

A study by Aguirre et al. (2015, pp. 41-42) shows that the credibility of the website where an advertisement is displayed contributes to its effectiveness. It will significantly impact customers’ attitudes and behavioural intentions towards the advertisement, as well as their perception of value. As illustrated in Figure 33 in Appendix F, the authors found significantly different results (perceived vulnerability and click-through intentions) depending on the site on which the ad was displayed. The website of the American

broadcaster *CNN* performed better than *Facebook* in most cases: this is mainly because *CNN* is more credible in the eyes of users. The study showed that the website's credibility could mitigate the negative effects of data collection. However, the authors point out that since the vast majority of Americans use *Facebook*, companies will have to find other tactics to reduce these adverse effects.

Regarding timing, the scientific literature provides many clues for companies. First, it has been shown that marginal effectiveness decreases significantly over the three stages of the buying process (information, consideration, and post-purchase state). The study by Bleier/Eisenbeiss (2015a, pp. 675-676) explains that as the customer progresses through the process, the difference in effectiveness decreases between personalised and non-personalised ads, as shown in Figure 34 in Appendix F. Therefore, companies need to offer advertising at the right time to maximise its results. However, a study shows that companies struggle to make this strategic decision. Personalisation is mainly done at the time of the transaction. This focus by companies is understandable given the obvious impact. However, Klein/Hoffmann/Pant (2021, p. 5) highlight two common shortcomings of companies. The first is a concentration of personalisation efforts at the beginning of the buying process, when offers are highly generic, and the CTR and ROI relatively low. The second is the lack of investment in personalisation in the customer retention phase, which, given the cost of acquiring a new customer, can be extremely high for the company if it fails to retain its customers. Companies, therefore, need to invest in personalisation efforts at the right time to ensure advertising effectiveness and a high ROI.

Once the timing and placement have been determined, advertisers might think that the effectiveness of their campaign is assured. This is not necessarily the case, as the channel used will determine the advertisement's success. For example, it may be expensive to promote a product on social networks (Gupta/Shukla 2022, p. 16). Although social networks engage customers more actively in brand communication, the company's efforts could be poorly rewarded, given the steady rise of fake accounts. Companies should therefore consider this factor when designing their online advertising marketing mix. Breuer/Brettel/Engelen (2011, p. 337) illustrate the differences between the channels in their study: "Implications of using our data sample include that, holding all else constant, banner advertising is 1.6 times more effective than email advertising if a fast sales effect is needed, whereas email advertising is 7.9 times more effective than banner advertising when all cumulative effects (i.e. long-term and short-term effects together) are taken into account". This shows that companies should not take the choice of channel lightly, at the risk of not achieving the objectives of their advertising campaign. It should also be noted that, apart from the problems linked to personalisation,

each channel has advantages and disadvantages, such as banner blindness for online advertising (Abedi/Koslow 2022).

However, for an advertisement to be effective, it still needs to be visible. If the customer is not exposed to the advertising message, it will have no effect. Many web users now use software to avoid being harassed with ads. The best known of these is *Adblock*, a "free extension that allows you to customise your web experience. You can block annoying ads, disable tracking and lots more" (AdblockPlus n.d.). According to the PageFair Adblock Report (Blockthrough 2022, p. 3), the application is used by 290 million users worldwide. However, some websites, like *CNN* (see Figure 35 in Appendix F), manage to detect when the visitor is using *Adblock* and ask them to disable it to access the platform. However, internet users are still finding ways around the advertising approaches of the web giants. Some extensions are being developed to access the site anyway, e.g. the *F*ck overlays* extension (Chrome web store n.d.). Another well-known application tackles a commonly used channel in personalisation: newsletters. *Cleanfox* is an application that allows users to automatically delete, block and unsubscribe from newsletters (Cleanfox n.d.). The user only needs to log in to the website, and the application takes care of the rest. The last example is *Privacy Badger*. This extension "stops advertisers and other third-party trackers from secretly tracking where you go and what pages you look at on the web" (Privacy Badger n.d.). These three examples of extensions, of which there are many others, undermine personalisation tools. Indeed, if the customer has all three extensions, no data can be collected, no advertisements can be shown, and no newsletters can be sent. Companies must therefore be aware of this limit.

4.3. Legal and technical limits of personalisation

As already mentioned in this thesis, data collection and management play a central role in the effectiveness of personalisation. One aspect that has not yet been considered is the impact of legislation. Indeed, for many years, governments have been aiming to tighten data protection laws, which has a considerable impact on the effectiveness of advertising. A study by Goldfarb/Tucker (2011, p. 58) analyses the impact of the introduction of the Data Protection Directive in Europe in 2003 and 2004. The authors show that the new legislation reduced the effectiveness of advertising campaigns by about 65% (decrease in purchase intentions from 2.63% to 1.71%), while the effectiveness remained stable in countries outside Europe. This directive significantly reduced the possibilities of collecting web bugs and cookies. The authors explain that, in order to have an advertisement with the same results as post-directive, marketers would have to invest 2.85 times more in advertising. This situation, highlighted by the scientific literature, is reflected in the sentiment of companies. Indeed, 50% of companies say personalisation has become more complicated since introducing new regulations.

A more recent European Union (EU) regulation is the General Data Protection Regulation (GDPR). It controls and regulates data protection within the European Economic Area (EEA)[7]. GDPR requires companies to offer the following rights to users: right to information (how and why data are collected), right of access (to know which data are collected), right to object (to refuse collection), right to rectification (to modify transmitted data), right to oblivion (to delete data) and the right to portability (to recover one's data) (GDPR 2016, Art. 12-22).

From the point of view of Swiss law, the legislation had fallen significantly behind its European neighbours. Indeed, the GDPR, which entered into force in 2018 (Gdpr.eu n.d.), was ahead of the Federal Act on Data Protection (FADP), a Swiss law adopted in 1992 and partially revised twice, in 2009 and 2019. The evolution of the internet and online commerce since 1992 is consequential and has required the government to completely overhaul the law in 2021 (EAER 2022). A new version of the FADP will come into force on September 1, 2023. The main purpose of this revision is to bring the law closer to European legislation (di Tria 2021). In addition, it allows for a certain consistency in data protection. Before the revision of the FADP, some Swiss companies could already be subject to GDPR under certain conditions. Suppose the Swiss company has a subsidiary or branch in the EEA, focuses its advertising efforts on EEA consumers or tracks their behaviour. In that case, it could already be covered by the GDPR (Métille/Ackermann 2020, pp. 81-82). The new version of the FADP will therefore provide better protection for customers. This is reflected in its core principles as summarised by Vasella (2021, pp. 278-279):

1. Do not process customer data secretly
2. Do not use more data than necessary
3. Only process data promptly.
4. Correct erroneous data and delete data that is no longer useful.
5. Ensure the security of data against unauthorised access.

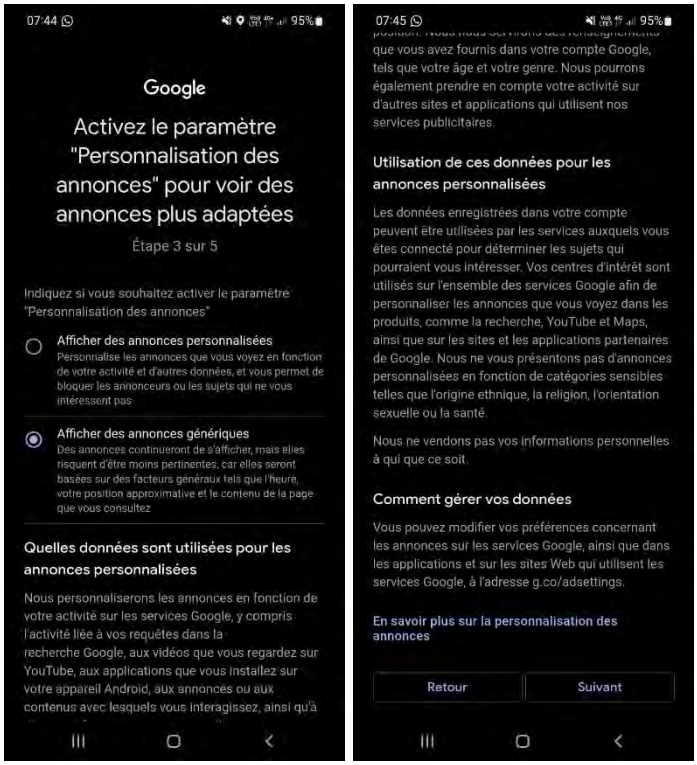
European governments, given their strong legislative base, went on the hunt for companies that go against the GDPR, with the web giants in their crosshairs. In France, for example, the national supervisory body, the CNIL, fined *Microsoft* $60 million for not allowing cookies to be refused on the search engine *Bing* (Le Point 2022). *Facebook* has also been repeatedly charged for failing to comply with the GDPR. Indeed, the EU has fined the company €390 million (Le Temps 2023). This amount may seem significant but is nothing compared to the sum blocked in *Facebook* Europe's budget of €3 billion to deal with European fines (Lausson 2022). However, this trend is not limited to

[7] In the Swiss context, it is important to note that Lichtenstein, unlike Switzerland, is part of the EEA (Chamoulaud 2022).

Europe. South Korea, for example, has recently condemned *Google* and *Meta* for failing to comply with data protection (Ikeda 2022).

Faced with these sanctions, some companies have felt forced to react. Well aware of the image damage such legal controversies can cause, Google, for example, is now giving its users more control. When creating an account, the company asks whether the user agrees to personalise the advertisements displayed to them, as illustrated in Figure 3. This possibility, therefore, represents a new limitation for companies that rely on Google's services for their advertising campaigns.

Figure 3: Google personalisation settings



Source: Google LLC 2023

Although these sanctions are limited to the GAFAMs, small and medium-sized enterprises are also affected by this issue. Indeed, they are not directly addressed to them, but governments are attacking the targeting on social networks or banners. Many companies use the advertising services offered by *Facebook* or *Google* to promote their products. For example, the *[Company B]*, whom we interviewed for this thesis, explained that data protection problems are mainly a reality for GAFAM and not their company (*[Employee B]*, 07.02.2023). However, this statement contradicts the fact that *[Company B]* mainly uses *Facebook* and *Instagram* for their advertising campaigns. Businesses should therefore be aware of the consequences of their choice of advertising providers.

The limits imposed by the new regulations are not the only risks companies face. Indeed, personalisation also requires technological capabilities that can be more or less advanced depending on the type of personalisation. Indeed, they need to rely on software that allows them to collect, measure, evaluate and learn (Kaptein/Parvinen 2015, p. 12). Whether it is a simple database in the form of a CRM or a high-powered tool that uses AI, companies will need to invest in storage space, computing power and IT capacity.

It should also be noted that IT infrastructures are often singled out for their questionable environmental impact. While the year 2022 was marked by unprecedented droughts (RTS 2022) and the risk of an energy shortage (Berger 2022), numerous controversies have emerged around the enormous consumption of water (Chartier 2023) and electricity (Bitsch/Rey 2022) of data centres. There is a risk that they will be more legislated or taxed, which could have a major impact on businesses. Personalisation therefore does not only have marketing implications but can also, through environmental issues (Witkowska 2016, p. 25), engage the Corporate Social Responsibility of the company.

The legal, technological and environmental risks have already been discussed, but let us also mention the geopolitical risks. Indeed, the issue of digital sovereignty is often put forward as a crucial objective by governments such as the EU (EU2020 n.d.). A study shows that 92% of the Western world's data is stored in the United States (Amiot et al. 2020, p. 3), demonstrating Europe's almost total foreign dependence. This problem for the private economy is also a reality for public entities. For example, the Swiss Confederation has chosen five foreign companies, four American and one Chinese, to provide for its cloud service (RTS 2021), which shows that there are currently no local players in data management. This dependence is, therefore, a significant risk for Swiss and European companies.

5. Future of personalisation

Personalisation tools are developing remarkably rapidly. When analysing the examples given in this thesis, it is easy to see that some personalisation techniques are very basic and rudimentary (e.g. adding the first name in a newsletter), and others are highly advanced (e.g. *Amazon*'s recommender agent based on customer interests, similar customers, current trends, etc.). Boudet et al. (2019) predict three major changes in personalisation over the next few years. Firstly, physical spaces will be digitised. As only 10% of companies have deployed personalisation beyond online channels, brick-and-mortar shops are its next horizon, e.g., AI in shops, GPS data or AR through kiosks in shops. Secondly, the empathy of the machines will be strongly developed. They will be able to understand other people's emotions, social issues, and trust. Finally, brands will now use ecosystems to personalise the customer journey. This will be done by working closely with different CX actors. The aim is to make navigating from one personalised service to another easier. For example, data sharing between the shopping centre, brands, and retailers.

The three potential developments mentioned above are very theoretical, and should serve as a long-term goal for companies. This sub-chapter will focus on tools that companies already have in their hands but whose potential is not yet fully exploited. This chapter aims to understand the possible future evolution of personalisation. First, we will analyse AR and AI, two technologies that will play a major role in the personalisation of tomorrow. Finally, a sub-chapter will be devoted to other potential developments.

5.1. Augmented reality

AR is a technology based on computer sciences. In order to avoid reducing its definition to specific uses, Mekni/Lemieux (2014, p. 205) propose to describe AR with the following three characteristics: it combines real and virtual, is interactive in real-time and is registered in 3D. As with any new technology, marketing has been quick to adopt it, giving rise to Augmented Reality Marketing (ARM). Rauschnabel et al. (2022, p. 1141) describe it as "the strategic integration of AR experiences, alone or in combination with other media or brand-related cues, to achieve overarching marketing goals". One of the advantages of this technology is that it helps to reduce the gap between online and offline shops. Indeed, AR makes it possible to try out and see a product (Smink et al. 2020, p. 474). However, this technology is still only rarely used in the industry. In a survey of 127 German managers, 60% said AR was not used within the company, while only 17% used it (Rauschnabel et al. 2022, p. 1141). Among the few businesses already using AR are *IKEA Place* (2023), which offers customers a 3D view of the furniture in their home, or *Gucci* (2023), which allows customers to try on shoes, hats and watches virtually. These examples are illustrated in Appendix L. It should also be noted

that AR is not limited to retail marketing. Companies can also use it for inventory management, as *Walmart* (Crecelius 2020) does, to facilitate the supply chain, as *DHL* (2017) does, or to give a new dimension to employee training, as *Volvo* (RE'FLEKT 2022) does.

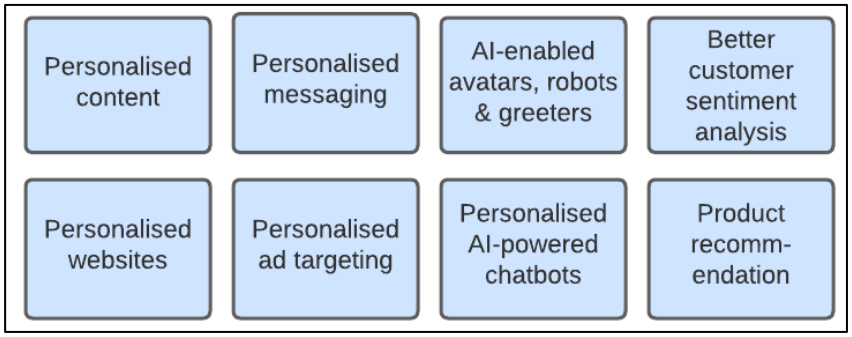
Smink et al. (2020, pp. 483-484) conducted two experiments to identify the effects of AR on the customer. The first analysed the impacts of the previously mentioned *IKEA Place* application and the second the *Makeup Genius* application from the French cosmetics brand *L'Oréal Paris*. The application allows testing, in real-time, what certain make-up products would look like on the customers' faces. Experiments have shown that the use of AR allows the CX to be more personalised and adds a new and more realistic dimension. They argue that AR can also be a powerful tool to increase purchase intentions. However, the authors show that AR can be perceived as intrusive. As already explained in subchapter 3.1, the feeling of intrusiveness can lead to negative effects and create reactance. Companies, therefore, need to be aware of the different potential effects of AR.

5.2. Artificial intelligence

AI technology, which is extremely complex to understand for computer neophytes, is highly scalable and offers impressive cost savings. Peyravi/Nekrosiene/Lobanova (2020, p. 827) describe it as "an interactive process between robots, computers, cloud computing, network devices, and digital content production in various daily life operations, especially in businesses". In their study, Jarek/Mazurek (2019, pp. 52-53) explain the different impacts of AI on the marketing mix. The authors explain that the cross-use of personalisation and AI impacts the four P's: automated product recommendations, dynamic pricing according to customer profile, unique promotion and personalised distribution policy, e.g. with 24/7 chatbots. The authors also point out that, in general, AI saves time on laborious activities, which is often the case in personalisation efforts. AI offers many possibilities to companies, as illustrated in Figure 4.

AI now plays an essential role in the daily work of companies: 80% of business and tech leaders say that AI increases worker performance and efficiency (Business Wire 2015). Indeed, companies can rely on them for many tasks. For example, the company *Xineoh* offers software that, based on AI, can recommend products to customers, segment them, predict demand or set prices (Xineoh n.d.). Another example is *Aivo* (n.d.). This chat tool interacts with customers to help them or provide information. *NetBase Quid* (n.d.), a social media listening tool that offers a real-time overview of customers'

Figure 4: AI personalisation across industries



Source: Walch 2020

reactions to the company. In addition, the software can understand customers' behaviour, feelings, emotions and drivers in every interaction. Finally, AI can also be used to generate individualised newsletters according to the profile of each customer, thanks to the *Epoq* tool (2018; 2019). In general, the use of AI by companies can be summarised as the use of a tool to perform tasks that are far too time-consuming and consequential for humans. Each interaction generates data. That is 2.5 quintillion bytes of data per day. AI can therefore help to manage and classify this data: this would be impossible without the help of a machine (Scheidegger 2022, p. 8).

Companies can therefore implement these tools in different ways. Online retailer *Misfits Market* uses AI to create a shopper's cart based on purchase probabilities. Proceeding from the customer's frequent acquisition, the AI will predict the cart, given that 75%-80% of products purchased are the same every week. This allows the customer to reduce search costs and shopping time and increases sales in *Misfits Market* (Stanley 2022). In another example, the fashion designer *Mark and Spencer* recently bought *Threads*, a website that offered recommendations to its customers. Indeed, an AI analysed the needs and desires of the customer and played the role of a personal stylist by proposing an outfit by e-mail each week (Mark and Spencer 2022). It should be noted, however, that AI-based personalised recommendations are not attracting the same interest across the industry. Indeed, *Zalando* has discontinued its personalised recommendation service *Zalon* (2022). However, the German platform has raised the possibility that the service could be integrated into their *Zalando Plus* programme (Van Rompaey 2022). Finally, there is the example of diamond and jewellery retailer *Rare Carat*. In collaboration with *IBM*, the company has developed "*Rocky*, the world's first Artificial Intelligence jeweller, a chatbot that is helping to ease the complicated process of buying a diamond" (Rare Carat 2017). The AI compares prices on different retailers' websites to offer the customer a product at the best price. Thus, we realise that AI can play a significant role in customer service in the future.

However, AI should be used with caution by companies. Indeed, each innovation of this technology raises many fears among consumers. AI especially evokes the potential drifts of this technology, such as identity theft (Leroy 2023), the risk of seeing the human replaced by the machine (Zahno 2023) or the presence of racial or gender bias (Goubet 2017). A study by Riegger et al. (2021, p. 146) shows that customers are still attached to human contact. Indeed, they will be unsettled if they are only confronted with robots, screens or any other machine. Customers say they feel the shopping experience will be worse with a machine anyway. For all these reasons, companies will have to analyse whether introducing AI tools can benefit them and their customers in general.

5.3. Other potential developments

A potential development that is often cited in the literature is the use of payment data for personalisation. The aim would be to unify credit and loyalty cards to achieve four benefits (Deroualle 2020, pp. 152-154). Firstly, data collection would be facilitated and would limit the negative impact on the shopping experience. Indeed, many customers claim that they wait too long at the checkout. Joining both cards would save customers time looking for their cards in their wallets or spelling out their email addresses. Secondly, it would also take competitive intelligence to another level. With the data collected, companies could learn how customers interact with competitors online and in brick-and-mortar shops. Thirdly, using payment data would allow for a much finer segmentation. Finally, this technology would allow companies to optimise advertising investments, as payment data would offer higher relevance. Although this technology offers many advantages, it raises many ethical questions. Payment data attracts the covetousness of many big web players like *Google* (BBC 2017), *Visa* or *Mastercard* (Steel 2011). However, customers are critical of these marketing techniques as they undermine the anonymity principle of the web. Customers could be targeted according to their 'sensitive' acquisitions: purchasing certain medicines or food, for example (Steel 2011).

Other technologies are emerging as potential developments for personalisation. Companies are using GPS data to personalise the user experience. For example, *Starbucks* uses the customer's location to offer discounts when they pass by a physical outlet (Boudet et al. 2019), *Macy's* alerts the customers when they are close to a shop (Abidi 2020), or *Sephora* uses GPS data to provide discounts to the customer based on the time they spend in different sections of the brick-and-mortar shop (CB Insights 2017). To illustrate this, screenshots of push notifications can be found in Appendix M. Another technology that marketers can use is machine learning, a "branch of artificial intelligence and computer science which focuses on the use of data and algorithms to imitate the way that humans learn, gradually improving its accuracy" (IBM n.d.). Some algorithms are now capable of interpreting new types of data. For example, *Amazon* has developed a new feature of its *Amazon Echo* that can detect whether the user is ill by

recognising whether they are talking through their nose or sneezing often. The device will therefore be able to order medication, or any other product needed in case of illness (Boudet et al. 2019).

In general, personalisation will have to develop in certain areas in the future. Indeed, regardless of the industry, the type or the tool used, marketers will have to offer an increasingly qualitative personalised service. They will also have to act omnichannel, using tools based on AI while adopting a more privacy-conscious approach (Stanley 2022; Carlson 2022).

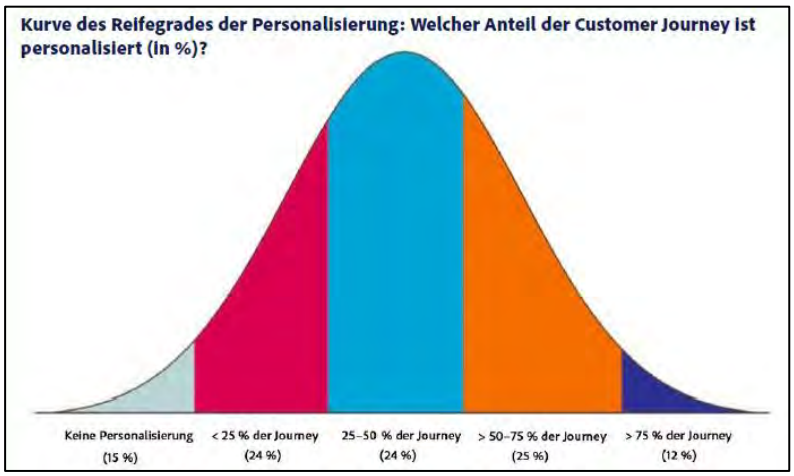
6. Business reality

The vast majority of this thesis has been based on the scientific literature results. It was necessary to look at companies' views on the issue too. To this end, *[Company B]* and *[Company A]* were interviewed about their use of personalisation. To do so, semi-directive interviews were conducted following the methodology developed by Sauvayre (2021). The interview guide can be found in Appendix N, as well as the summaries of the interviews with *[Company B]* and *[Company A]* in Appendices O and P respectively. Before analysing these cases of these two companies, an overview of the business's personalisation situation will be given.

6.1. Overview

Several surveys have been conducted among marketers. The results show that companies are not entirely ready for the complete personalisation of the buying process. As shown in Figure 5, only 37% of companies personalise more than half of the customer journey, while 15% do not personalise at all (Klein/Hoffmann/Pant 2021, p. 3). The reason why some companies are lagging is probably that it is difficult to determine the return on investment. They find it difficult to determine a business case, estimate a ROI and apply it across all channels. The wrong incentives are therefore holding companies back from investing in personalisation (Klein/Hoffmann/Pant 2021, p. 8).

Figure 5: Portion of the customer journey that is personalised



Source: Klein/Hoffmann/Pant 2021, p. 3

The result is that marketers do not have the resources to implement personalisation. A study shows that only 15% of CMOs think their company is on the right track for personalisation (Boudet et al. 2019). Despite the delay that some businesses have, some managers tend to limit its severity. Indeed, although it holds promise in many ways, some companies remind us that personalisation is not everything. Parry Malm, CEO of the multinational marketing tool developer *Phrasee*, explains: "Here's the thing about

personalisation: don't believe (all) the hype. You don't need to, and shouldn't, personalise most things. […] Personalisation is great, but it shouldn't be the only tool in your toolbox" (Davis 2023). It is therefore important to say that the 37% mentioned in the previous paragraph may have deliberately decided not to personalise the entire customer journey.

6.2. The cases of *[Company A]* & *[Company B]*

Although *[Company B]* and *[Company A]* are not representative of all companies, their interviews allowed us to understand how personalisation was implemented in the business world. These two companies have little in common. Indeed, almost everything separates them. One is a multinational company with several generations of experience, while the other is a young company operating at the regional level. One employs several thousand people, while the other only a hundred. In short, we are faced with two opposites. This situation is enriching for our study because it will allow us to demonstrate a specific diversity of contexts of personalisation. As mentioned at the beginning of this paragraph, the summaries of the two interviews with *[Employee B]* (*[Company B]*) and *[Employee A]* (*[Company A]*) can be found in Appendices O and P.

[Deleted: description of companies] Although they are in direct opposition, both companies claim to be in the same phase, i.e. the development phase. However, it is essential to say that *[Company A]* is more advanced than *[Company B]*. Despite what *[Employee A]* says, their system is already very advanced and differs significantly from *[Company B]*'s, which still has to build everything. Therefore, what is put forward by *[Employee B]* in this work, while *[Company B]* is at the beginning of the implementation process, will likely evolve over the coming time.

Regarding the management of personalisation, the two companies are very different (*[Employee A]* 02.03.2023; *[Employee B]* 07.02.2023). Indeed, the two visions of personalisation are at opposite ends of the spectrum. On the one hand, *[Company B]* does not necessarily have a clear strategy for implementing personalisation. Indeed, the project is being carried out transversally between the different departments that will be using it. *[Employee B]* herself explains that the definition of personalisation will vary significantly from one department to another, which could create significant problems during project implementation. She also explains that the position of personalisation manager does not exist within *[Company B]*, but that it had been offered to her at *[Company C]*, her former employer. She said this position never came about after she left the company. What is done at *[Company A]* is the opposite of the personalisation management done by *[Company B]*. Indeed, the company has a more rigorous approach. Firstly, personalisation follows a clear strategy with precise objectives frequently evaluated by a

marketing analyst. Furthermore, personalisation is the responsibility of one person, the CRM manager. The way to manage personalisation is, therefore, completely different.

For both companies, personalisation positively impacts the company in general (*[Employee A]* 02.03.2023; *[Employee B]* 07.02.2023), regardless of the performance indicator analysed. Indeed, both *[Company B]* and *[Company A]* claim that personalisation benefits their bottom line. However, the main objectives are different. *[Employee A]* explains that the main objective of personalisation is to make *[Company A]* the first choice for customers. When customers think about buying a specific product, they must think directly about *[Company A]*. She says that personalisation considerably impacts this performance indicator, which in turn impacts satisfaction, loyalty and purchase intentions. So, for *[Company A]*, personalisation is not a goal in itself but rather a mean to an end.

In the case of *[Company B]*, personalisation was adopted with a specific goal: to try to reverse the trend in the satisfaction that has been declining for some time. Even though sales are also crucial, personalisation will mainly focus on satisfaction. *[Employee B]* explains that personalisation will improve the enjoyment of the website or the ease with which customers can find products they like. Personalisation will therefore be adopted for this purpose.

Although both companies agree on their view of the positive effects of personalisation, their opinions completely diverge on the issue of negative effects. *[Company B]* (*[Employee B]* 07.02.2023) tends to strongly neglect the negative effects of personalisation through privacy concerns and feelings of intrusion. Indeed, *[Employee B]* explains that, depending on the country and industry, privacy concerns are not a reality for companies. According to her, since *[Company B]* does not use or collect sensitive data, there are no problems. *[Employee B]* points out that mainly the GAFAMs are concerned with these issues. However, it is interesting to note that *[Company B]*'s advertising campaigns largely focus on *Meta*'s advertising services (i.e. *Facebook* and *Instagram*). Therefore, *[Company B]* is more affected by these issues than they are willing to admit.

[Company A] has a much stronger opinion on the issue (*[Employee A]* 02.03.2023). Indeed, *[Employee A]* explains that, even if privacy concerns and feelings of intrusion are limited on the customer's side, it is essential to take an interest in these issues given the strong legislation. In her view, the legislation goes much too far. *[Employee A]* explains that following the entry into force of the GDPR, about 20% of the company's data has become unusable. She also says that only 10% to 20% of the website collects customer data. Applying these strategies to the entire website would be too complex to comply

with legislation. This strongly qualifies the conclusions of the Klein/Hoffmann/Pant study (2021, p. 3) mentioned in the previous subchapter[8]. Some companies have not necessarily fallen behind in personalising the customer journey but may have decided not to do so. Regardless of the legislative issues, *[Employee A]* explained that it is rare to have negative effects on brand image, satisfaction, or purchase intentions. According to her, there are no negative effects if personalisation is done well. They only appear if the company goes beyond what the customer wants or tolerates. *[Employee A]*, therefore, argues that the company must invest heavily in customer contact. If this is done, negative effects are almost avoided.

During the interviews, the question of the origin of the data was also raised. Both companies have based their personalisation strategies on data provided by the customer (*[Employee A]* 02.03.2023; *[Employee B]* 07.02.2023) for the many advantages listed earlier in this thesis. However, *[Company A]* sometimes uses external data purchased from third parties. However, *[Employee A]* explains that the quality of this data is inferior. The company, therefore, tries to keep the use of such data to a minimum.

Both companies were then asked about the impact of nationality on the acceptance of personalisation[9]. In general, the two companies did not have anything to differentiate their personalisation according to the customer's nationality. *[Employee B]* (07.02.2023) explained that excluding specific profiles from an advertising campaign is effortless nowadays. She said that on Facebook, for example, it is possible to determine which customers you want to reach and, therefore, by deduction, which ones you do not want. The problem, she says, lies in the choice of whether or not to exclude. Deciding who is likely to adopt personalisation and who is not will be the main problem for companies. This is why few companies make this highly complex selection. For *[Employee A]* (02.03.2023), although this sorting might be possible, she remains uncertain whether it makes sense. In her career, she has found more similarities than differences between customer profiles. She admits that the effect will certainly not be exactly the same, some clients will naturally be more sensitive than others, but the effect will always be the same (positive or negative). Furthermore, she questions these studies. In her opinion, it is incomplete to consider only personalisation. Many other elements will enter the customer's decision process. *[Employee A]* gave the example of the UK. She explains that British customers are highly price sensitive. Therefore, in her opinion, it is expected that personalisation will have little effect if it does not affect the price. *[Employee A]* thus qualified the results of the two studies.

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[8] Only 37% of companies personalise more than half of the customer journey (Klein/Hoffmann/Pant 2021, p. 3).

[9] Based on the results of Ha/Janda (2014) which show different responses to personalisation between the UK and South Korean sample and on the study by Tyrväinen/Karjaluoto/Saarijärvi (2020) which explains that the sensitivity to personalisation is different between Finnish and Swedish customers. Two studies analysed earlier in this thesis.

[Employee A] (02.03.2023) also explained that, in her opinion, customisation is not within reach of all companies for several reasons:

- Not all industries have the same potential. For example, she explained that it was easier to personalise shampoo advertisements at her former employer *[Company D]* than construction machinery at *[Company A]*.
- Beyond the company's sector of activity, personalisation requires substantial resources, whether technical, human or financial.
- Companies must surround themselves with specialised and trained people in the field. According to her, companies tend to think personalisation is within everyone's reach. However, she points out that this technology is relatively new, so the knowledge (e.g. what is technologically or legally feasible) is not readily available on Google but requires more advanced knowledge and contact.

7. Discussion

The different aspects of personalisation have been discussed in the previous chapters. The literature review and company interviews give us a comprehensive overview of the situation. In this chapter, the results will first be discussed. Then, a framework for personalisation will be developed. Finally, the limitations and the future of research will be explained.

7.1. Personalisation as a dynamic research element

The broad literature review conducted in the framework of this thesis and the interviews with companies have shown that the effects of personalisation are highly context dependent. Studies show that the customer's engagement with the product and the advertisement (Li/Liu 2017, p. 138) or how they interpret an advertisement (Kaptein/Parvinen 2015, p. 12) could strongly influence their attitude towards personalisation. It has also been shown that customers have different views on the cost/benefit trade-off of sharing their data (Pallant et al. 2022, p. 3). This differs from person to person and is also illustrated between genders (Li 2016, p. 29). Studies show that men and women do not necessarily like the same recommendation systems (Schreiner/Rese/Baier 2019, pp. 95-96) or the same social media (Ressac/Léger 2023, p. 10). The exact advertisement will, therefore, not bring the same results from one person to another.

This difference between customers is also found between nationalities. Indeed, many studies have found different reactions between samples from different countries. For example, Ha/Janda (2014, p. 509) explain that the relationship between personalisation and purchase intentions was positively mediated by satisfaction for the South Korean sample but not for the British. These results could be discredited because the two samples are culturally very different. However, Tyrväinen/Karjaluoto/Saarijärvi (2020, p. 7) have shown that two culturally similar nations can also display differences. The authors explain that the Swedish customer sample was more sensitive to personalisation than the Finnish.

The industry in which personalisation is implemented also plays a key role in its impact. Numerous studies have shown that negative effects (Smink et al. 2020, pp. 482-483), purchase intentions (van Doorn/Hoekstra 2013, p. 348) or CTR (Hartemo 2022, p.595) are not similar from one industry to another when experiments are carried out under the same conditions. In general, without necessarily focusing on a specific performance index, some authors (Aguirre et al. 2015, pp. 44-45; Shen/Ball 2009, pp. 87-88) argue that it is difficult to generalise research results to all areas.

Some authors bring an additional notion to the interpretation of the impact. According to them, it would be wrong to analyse the effects of “personalisation”, but it would be more accurate to analyse those of “perceived personalisation”. Li (2016, p. 27) explains that favourable effects are more likely to be induced by perceived personalisation than actual personalisation. Customers sometimes find it difficult to discern what is personalised and what is not. In his study, the author proves that a personalised message can be perceived as standardised (non-personalised) and vice versa. Future research should therefore take this nuance into account when analysing outcomes.

The scientific literature also points out that personalisation will not be applied similarly if the company has an omnichannel strategy. For instance, Schreiner/Rese/Baier (2019, pp. 88-90) rely on several studies to show that personalisation is not accepted similarly if it is sent by offline or online mail. Hess et al. (2020, p. 346) explain that studies done online cannot be applied offline for two reasons. Firstly, offline, the presence of other people around customers (e.g. other customers, vendors, bystanders) can affect their reaction: they might judge the personalised content. Secondly, in-store personalisation technologies allow for more “visible” data than online, e.g. body shape or age. These differences in reaction could therefore present real problems for businesses. However, the advent of AI promises to simplify the management of omnichannel advertising campaigns. Indeed, AI has the potential to create, optimise and manage them (Peyravi/Nekrosiene/Lobanova 2020, p. 829).

These differences in the effects happen mainly because it is a highly complicated marketing tool to analyse. Indeed, personalisation is a multidisciplinary strategy that touches on dimensions of management, economics, sociology, psychology, computer sciences, and consumer behaviour (Aksoy et al. 2021, p. 1092). The result is a situation where personalisation is generally accepted in the business world without evidence (Li/Liu 2017, p. 138).

The previous paragraphs have highlighted that personalisation does not apply in the same way in all contexts. Even if the results differ from one situation to another, it was necessary to point out that no study, to our knowledge, shows that personalisation would have a positive impact in one context and a negative impact in another. In most studies, the authors show that a certain relationship is significant in one context but not necessarily in the other. To take the example already cited above, Ha/Janda (2014, p. 509) say that the relationship between satisfaction and purchase intention is significant for the South Korean sample but not for the British. This leads us to say that personalisation may become less effective depending on the context but not necessarily unfavourable.

This context dependency was also illustrated in the interviews with *[Company A]* and *[Company B]*. Indeed, the two companies have opposite contexts, illustrated in their answers to questions related to personalisation. The way the two companies managed, planned and designed personalisation was often the opposite of each other. Beyond the difference in context, the interviews also allowed us to demonstrate that personalisation is generally perceived positively by companies, despite some uncertainty about what it entails.

In general, the studies analysed in Chapter 3 come to the same conclusions as *[Company A]* and *[Company B]*, i.e. that personalisation is beneficial for businesses. Although it is difficult to show a clear impact on behavioural performance indicators such as sales or profit, most studies predict an increase in customers' purchase intentions. The literature has also shown that personalisation positively impacts customer satisfaction. It impacts the shopping experience by reducing the search course, adding a new dimension, or offering the customer attention. As it is difficult to separate satisfaction and loyalty, studies have also generally shown a positive impact on the latter. Studies show that customers are more likely to repeat a purchase if their experience is personalised. However, these positive results tend to be qualified by privacy concerns. The authors point out that if data is collected in a covert way, if data is overused, or if the customer has no control over it, personalisation could alter his or her buying behaviour. The issue of the relevance of ads and recommendations was also highlighted. Although data collection and processing technologies are becoming increasingly advanced, some companies still struggle to offer relevant ads to their customers. This can lead to a certain lack of trust, distrust, and even reactance towards advertising and business. However, the scientific literature has difficulties determining whether personalisation's positive impact is more significant than the negative effects of privacy concerns and irrelevance. When considering all customers, personalisation has an overall positive impact according to the literature. Although privacy concerns strongly influence some attitudes, the negative impacts have not been shown to outweigh the positive ones.

We therefore affirm that personalisation is a dynamic rather than a static phenomenon. It would be incomplete to analyse personalisation as a fixed element, as in most studies. Salonen/Karjaluoto (2016, p. 1090) come to the same conclusion and explain that the impact of personalisation will depend on "contextual issues such as timing, location, and phases in the buying process". However, we argue that its results will depend on many other elements. It is difficult to make an exhaustive list of the factors for successful personalisation. In our opinion, any element that directly or indirectly impacts the buying process, the relationship between the customer and the company, the type of product or industry, the customer's values, tastes, interests and experience or any other

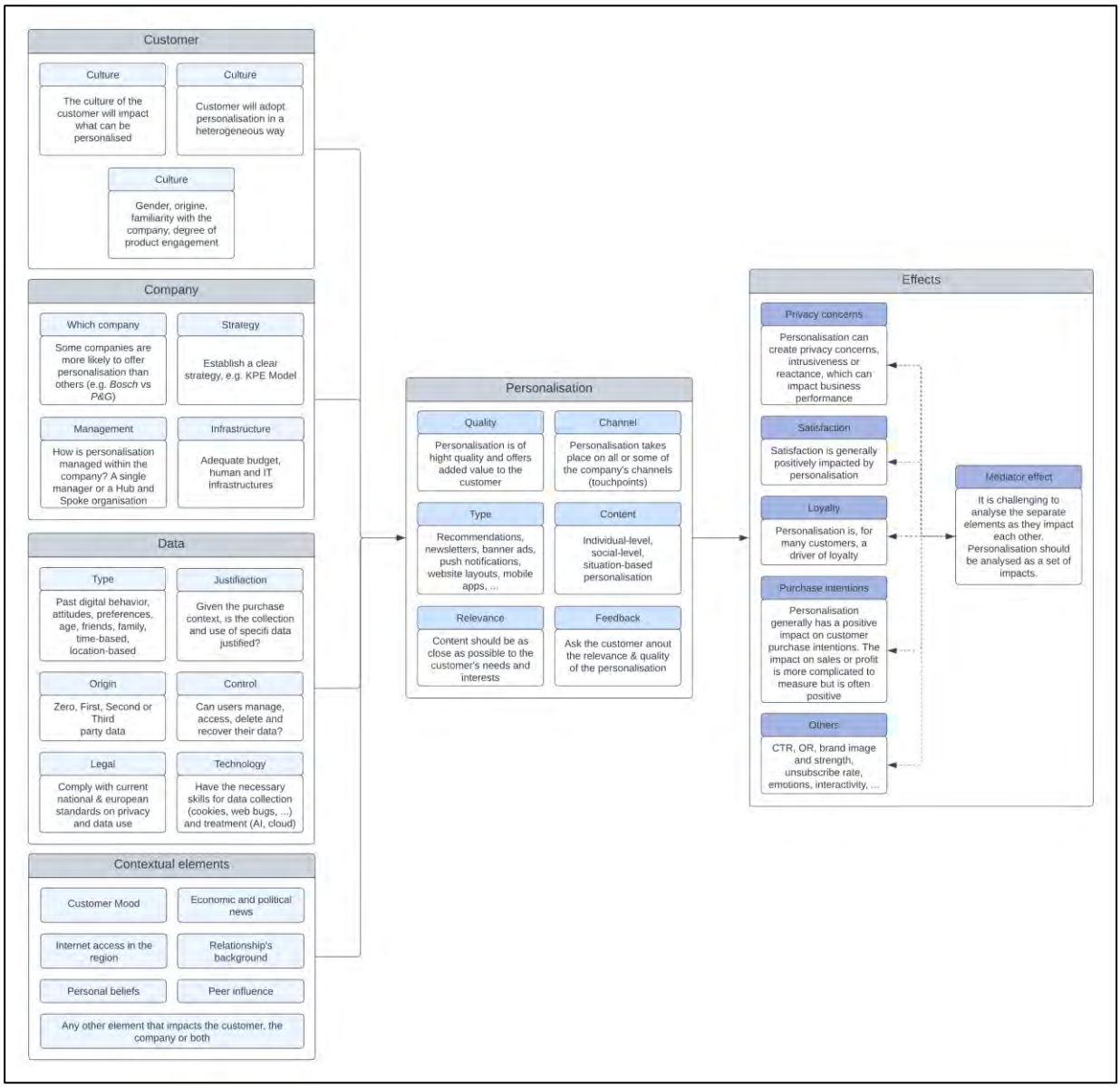
element that could impact the customer’s reaction to personalisation, are elements to be taken into consideration when deciding whether or not to personalise a campaign.

7.2. Personalisation framework

The literature review and the interviews with companies allowed us to sketch a profile of personalisation. It has been shown that many elements can directly or indirectly impact the effectiveness of personalisation. In order to provide an overview of the subject, a framework (see figure 6) was developed.

Figure 6 is divided into three parts. In the centre is the main element, i.e. personalisation with its different components: quality, channel, type, content, relevance and feedback. On the left-hand side are all the prerequisites for developing a personalised service. To be successful, the company must ensure that it has the skills to offer such a service, that the customers are ready to receive it and that the collection and use of data are done correctly. Finally, on the right-hand side, the different effects of personalisation, as analysed in Chapter 3, are summarised.

Figure 6: Personalisation framework



7.3. Limitations & future research

As already mentioned in sub-chapter 2.1, the term “personalisation” encompasses a wide variety of tools, strategies and objectives. The vast majority of studies on the subject, including this thesis, tend to repeat and compare the results of other studies conducted in incomparable contexts. For example, in their literature review, Salonen/Karjaluoto (2016, p. 1094) contrast two studies that reach different conclusions regarding the impact of personalisation on satisfaction. However, one study is conducted in an omnichannel context and analyses personalisation (Devaraj/Fan/Kohli 2006), while the other focuses on online customisation (Kim/Kim/Kandampully 2009). Given the different elements of analysis and contexts, it is not surprising that the authors come to diverging conclusions. Future studies should therefore consider differences in definition, industry, channel, personalisation tool and any other element that might influence the results. In general, marketers need to analyse the effects of personalisation on a case-by-case basis. Implementing a more sophisticated nomenclature would allow for a stricter methodology and more conclusive results, as opposed to the current analysis of notions that vary from one context to another.

Furthermore, the results of our thesis are mainly based on studies that use samples of young adults, millennials or students (e.g. Chau et al. 2013; Hess et al. 2020; Riegger et al. 2021; Schreiner/Rese/Baier 2019; Smink et al. 2020; Wetzlinger et al. 2017). This can be quickly seen in Appendices E, G, H, I and J. The authors defend this choice by the fact that young people are representative of online shoppers (Pappas et al. 2016, p. 797). Ha/Muthaly/Akamavi (2010, p. 886) provide another explanation based on the reasoning of Wang/Waller (2006, p. 674), who argue that their recruitment is administratively easier. Given that young people are less distrustful than older people of online personalised advertising (65% of 55+ year-olds are wary compared to 52% of 16-34 year-olds; Ressac/Léger 2023, p. 33), it would be interesting to conduct studies on more representative samples of the population, as in the study by Li/Liu (2017, p. 135). The authors, who recruited both students and non-students, explain that a more representative sample will improve the generalisability of the results. This type of research would allow us to determine the impact of personalisation on the whole population and not just on students, especially on topics such as privacy concerns. We believe students are the most likely to adopt personalisation, given their familiarity with new technologies. Scientific research should therefore, in the future, diversify the samples on which studies are carried out.

Another limitation of our thesis is that two elements often bias experimental methodology. Firstly, studies are often conducted in laboratories or are simulated. It is common to find studies that ask participants to put themselves in the shoes of a fictitious customer (e.g. Puzakova/Rocereto/Kwak 2013, p. 531) or that have to imagine a hypothetical

purchase scenario (e.g. Aguirre et al. 2015, pp. 44-45). Focusing on two examples where the results are biased, it is, in our view, clear that the feeling of intrusiveness will be significantly lower if the testing of an application that uses AR is done in a laboratory flat and not in the participant's home (Smink et al. 2020, p. 484) or that online music purchases will be more impulsive and less thoughtful when the participant does not spend their own money (Chau et al. 2013, pp. 189-190).

Secondly, many of the studies used in this thesis (e.g. Pallant et al. 2022; Pappas et al. 2016) are based on self-reported data or, in general, the set of studies that opt for a survey as their methodology. This represents a limitation for our thesis as there is, especially concerning privacy concerns, a gap between what the participant states and their actual behaviour (Strandburg 2005, as cited in Wattal et al. 2012, p. 681). It is, therefore, essential to take these two biases into account when reading this.

Therefore, future research should consider the limitations listed earlier in this subchapter to avoid falling into the same trap as studies conducted in the past. In addition, it will also have to consider the rapid evolution of personalisation and data collection techniques. If the scientific literature does not assume these, there is a risk of an even greater gap between research and practice. Therefore, future research must focus on these new technologies and not only on traditional instruments.

8. Conclusion

The literature review and the interviews with companies has shown that personalisation is generally positive for businesses. If done carefully, strategically and thoughtfully, personalisation will help to increase purchase intentions, drive satisfaction and encourage loyalty. However, it is crucial to remember that personalisation is a complex element. Its impact is often moderated by many elements. Moreover, a large number of factors can influence it. It will therefore be challenging, if not impossible, to accurately determine the results of implementing personalisation.

As demonstrated earlier, personalisation is a dynamic element that is highly context-dependent and in constant evolution. Its effects will vary depending on the environment: a banner personalised with third-party data from a 25-year-old student will not have the same effects as a newsletter based on zero-party data from a 75-year-old retiree. Customers, companies and researchers need to go beyond the simple terminology of “personalisation”. Only by adopting a more precise degree of differentiation can generalisations be made. If the actors of personalisation maintain this more-than-generic term, the current situation of vagueness will persist. With more precise terms and more contextualised studies, the scientific literature and the business world may be able to obtain more conclusive results.

Although the authors agree on the generally positive results, data management and privacy concerns may cloud the effectiveness of personalisation. Although most companies have become aware of this issue, many have not acted. The evolution of legislation on the subject will be decisive in the future. If policies keep pace with technological innovation, the risk of spill-over will be limited. However, if the current trend remains unchanged in the future, we are more likely to see the opposite happening. Although legislation has been perfected recently, it still needs to catch up. Collection and processing technologies will become more and more advanced and could lead to significant privacy concerns.

In response to the research question, the thesis demonstrates that personalisation can offer successful results for companies, provided they follow the caveats in the scientific literature. By following the framework (see Figure 6) when implementing personalisation, companies already protect themselves from many risks.

In conclusion, personalisation is a powerful marketing tool that can, under optimal conditions, significantly improve business performance. It saves customers considerable research time and makes it easier for companies to attract their interest. However, personalisation should not be considered a silver bullet, as some business forums or blogs suggest. Instead, it should be interpreted as a crucial part of a company’s marketing toolbox. In general, if a company takes the time to get to know its customers, promotes

relevant products, collects and uses data ethically, respects the customer's privacy and does so in complete transparency with the customer, then personalisation should probably bring positive results to the company.

In our opinion, although customers have a complex relationship with it (they want it but do not agree to share their data), personalisation will become more critical in the future. Simultaneous developments in customer needs, technology and legislation will create an ever-changing environment. Therefore, the scientific literature and companies must be aware of this emerging context of uncertainty.

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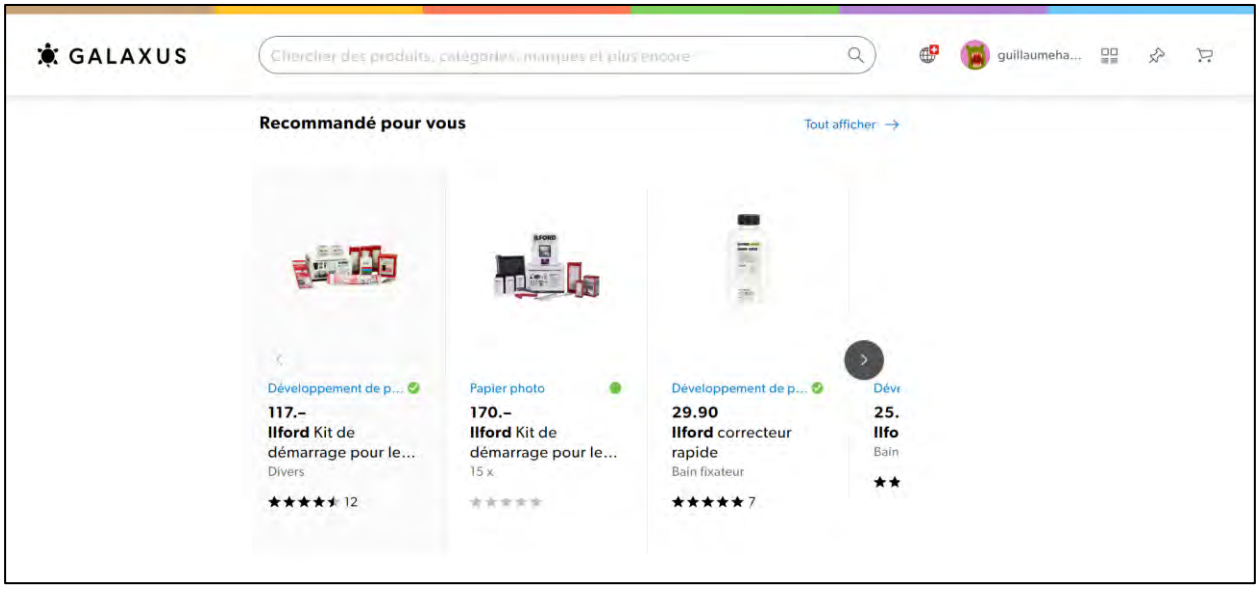
Appendix

The appendices are listed in the order of their appearance in the master's thesis.

A. Examples of Recommender systems

Figure 7: Galaxus recommendations on the homepage (Desktop version)

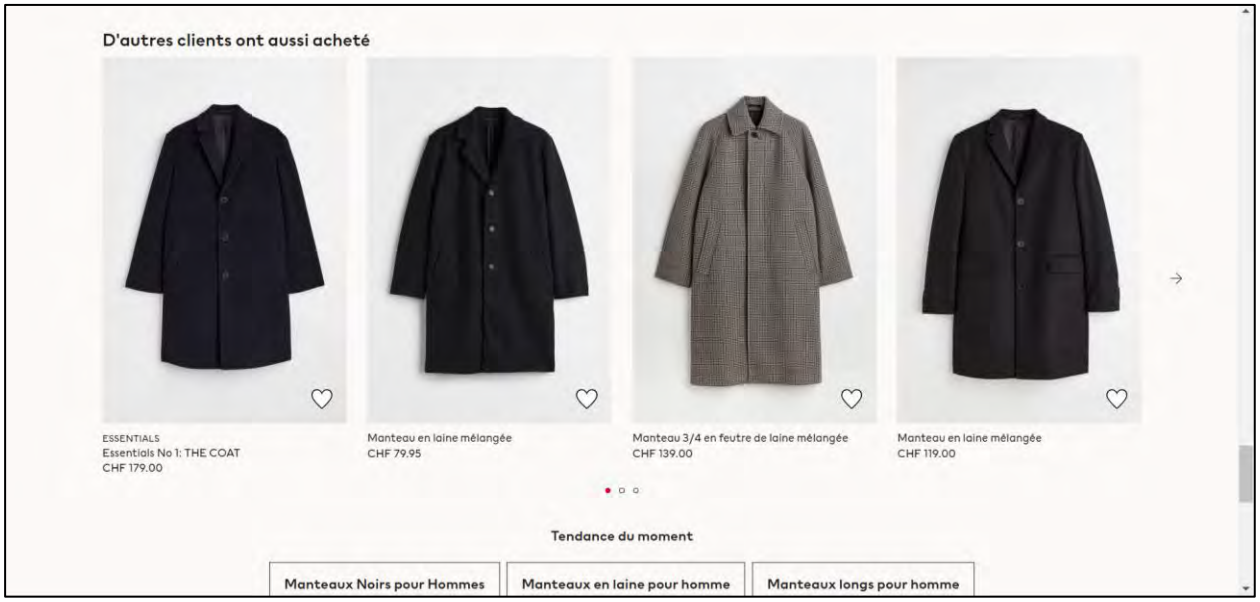


Source: Galaxus 2023

Figure 8: Galaxus recommendations on the homepage (Mobile version)

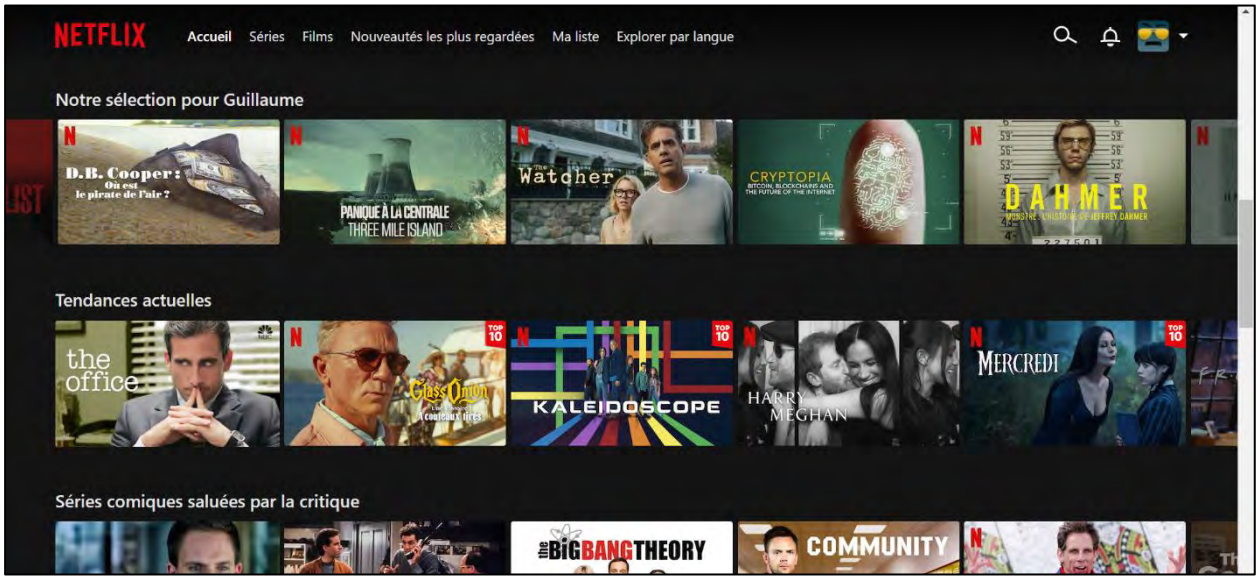
Source: Galaxus 2023

Figure 9: Recommendation below an article on the H&M website



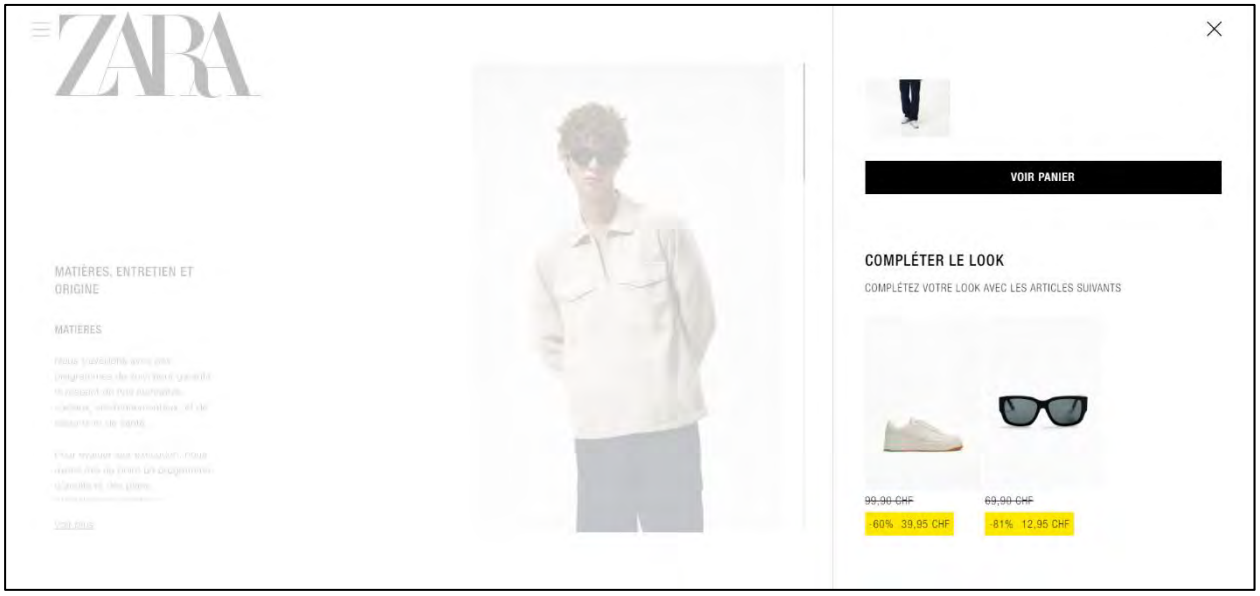
Source: H&M 2023

Figure 10: Personalised movie selection by Netflix



Source: Netflix 2023

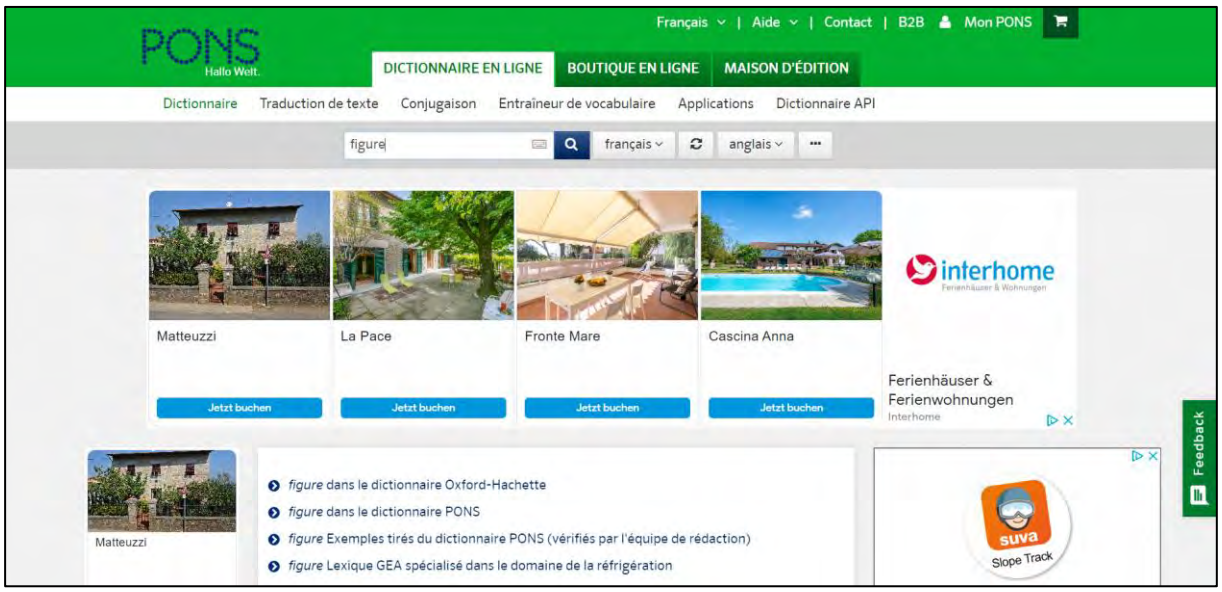
Figure 11: Recommendation when buying an item on the Zara website



Source: Zara 2023

B. Examples of Banner advertising

Figure 12: Interhome advertisement on pons.com



Source: Pons 2023

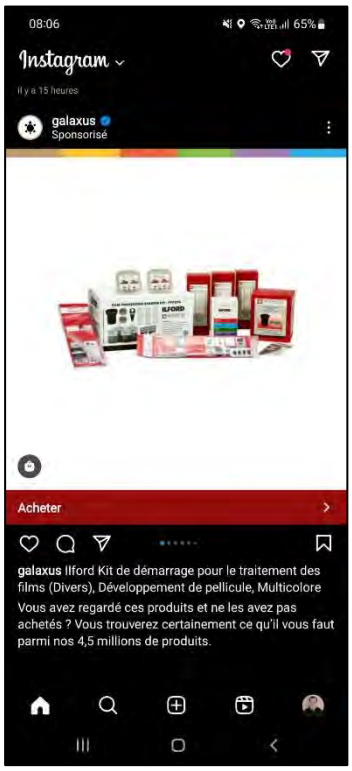
Figure 13: Nike advertisement on lequipe.fr

Source: L'Équipe 2023

Figure 14: Nike advertisement on Instagram

Source: Instagram 2023

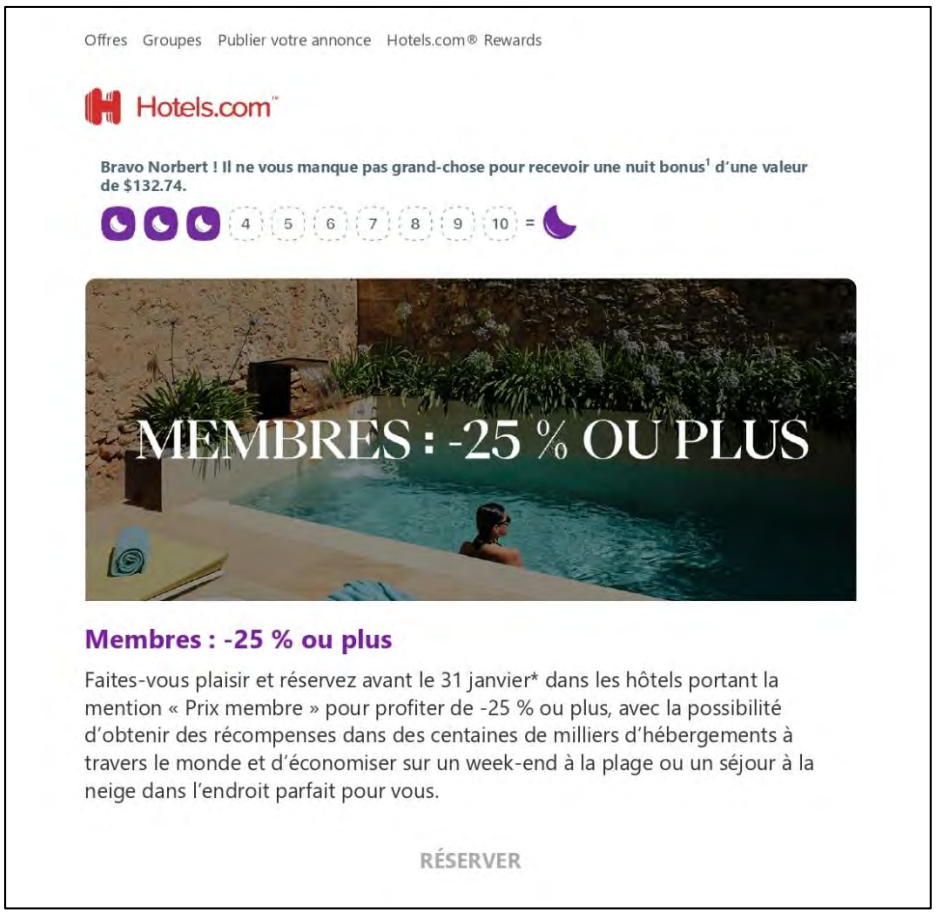
Figure 15: Galaxus advertisement on Instagram



Source: Instagram 2023

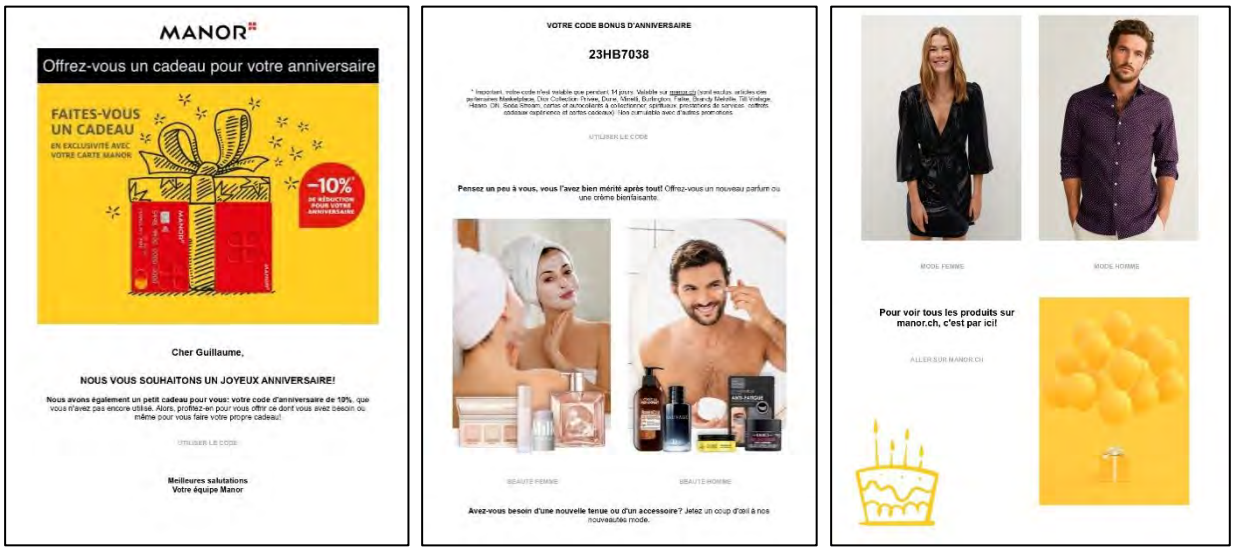
C. Examples of Newsletters

Figure 16: Hotel.com newsletter personalised with the customer's name



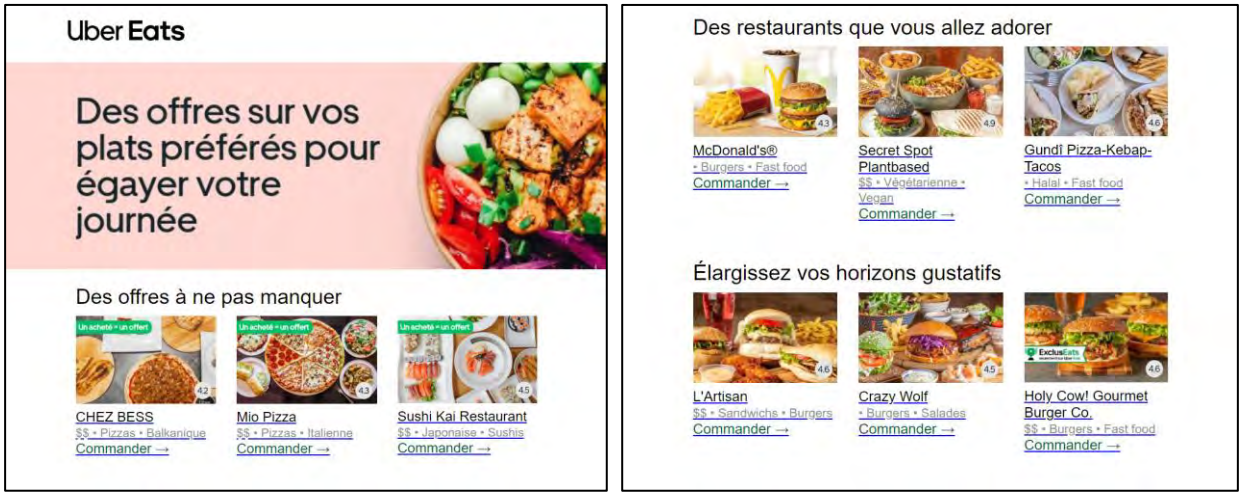
Source: Hotels.com 2023

Figure 17: Manor newsletter to celebrate the customer's birthday



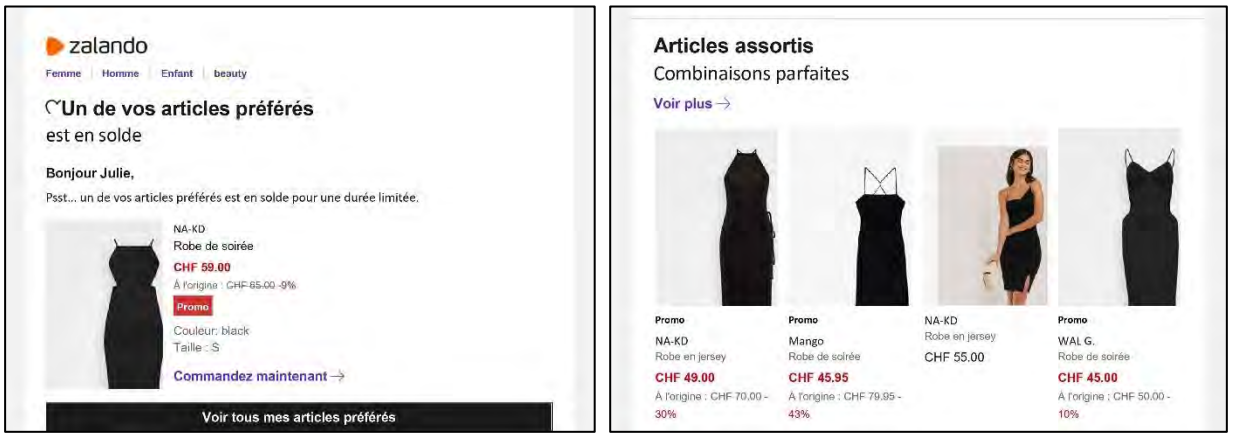
Source: Manor 2023

Figure 18: Uber Eats newsletter to suggest new restaurants



Source: Uber Eats 2023

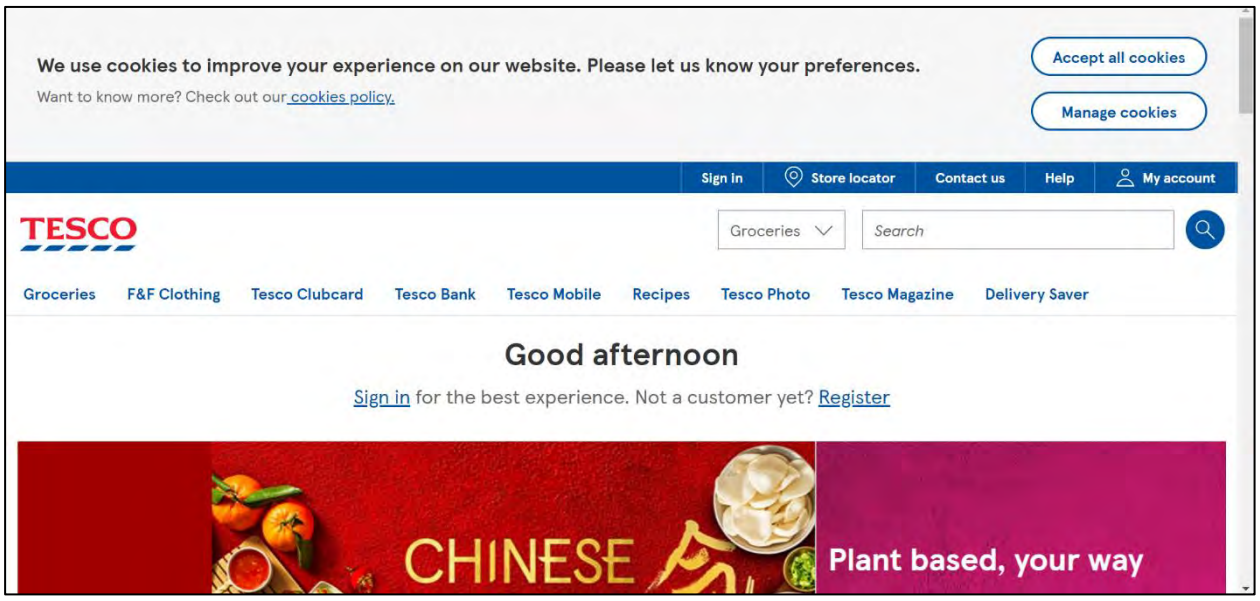
Figure 19: Zalando newsletter related to liked items



Source: Zalando 2022

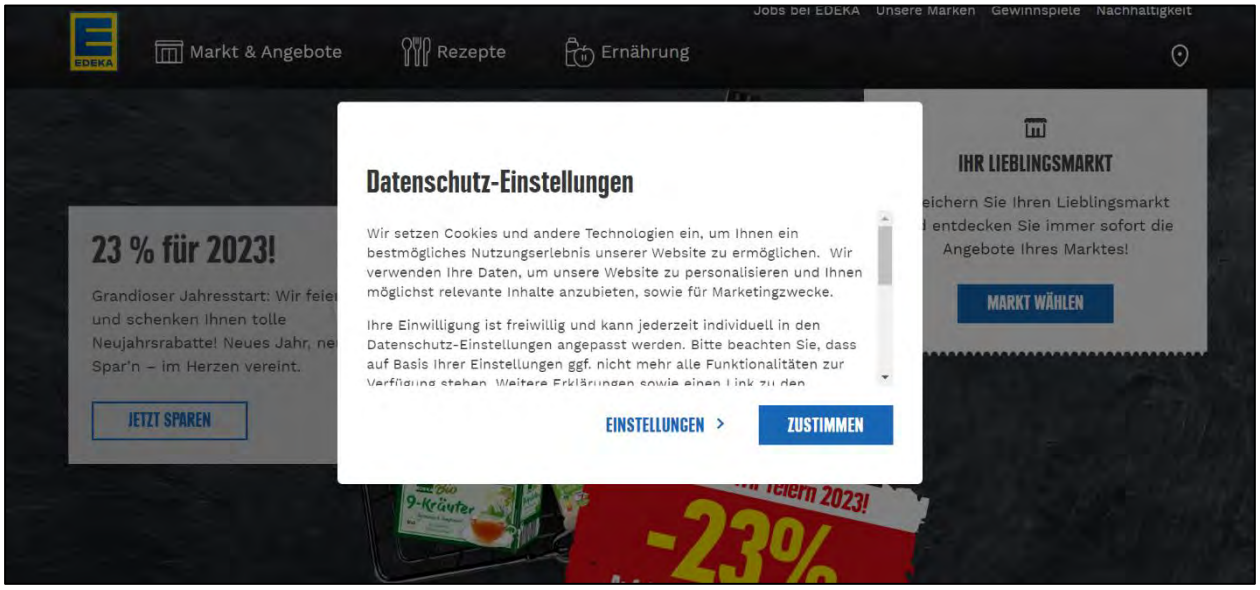
D. Examples of Data collection

Figure 20: "Accept or manage" Data collection by Tesco



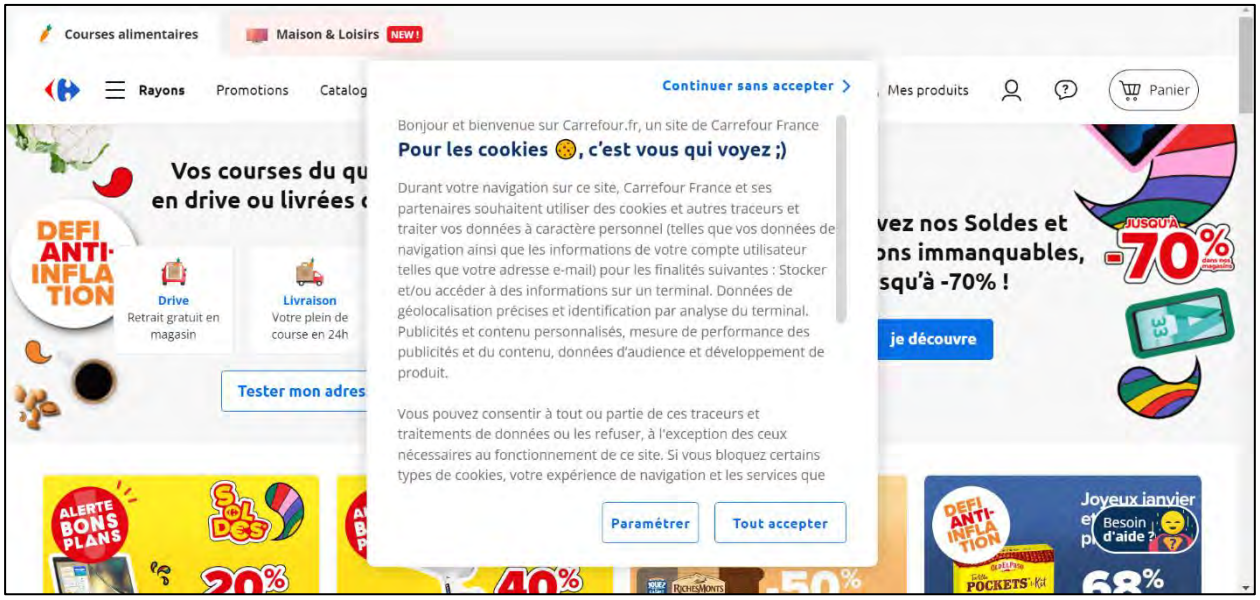
Source: Tesco 2023

Figure 21: "Accept or manage" Data collection by Edeka



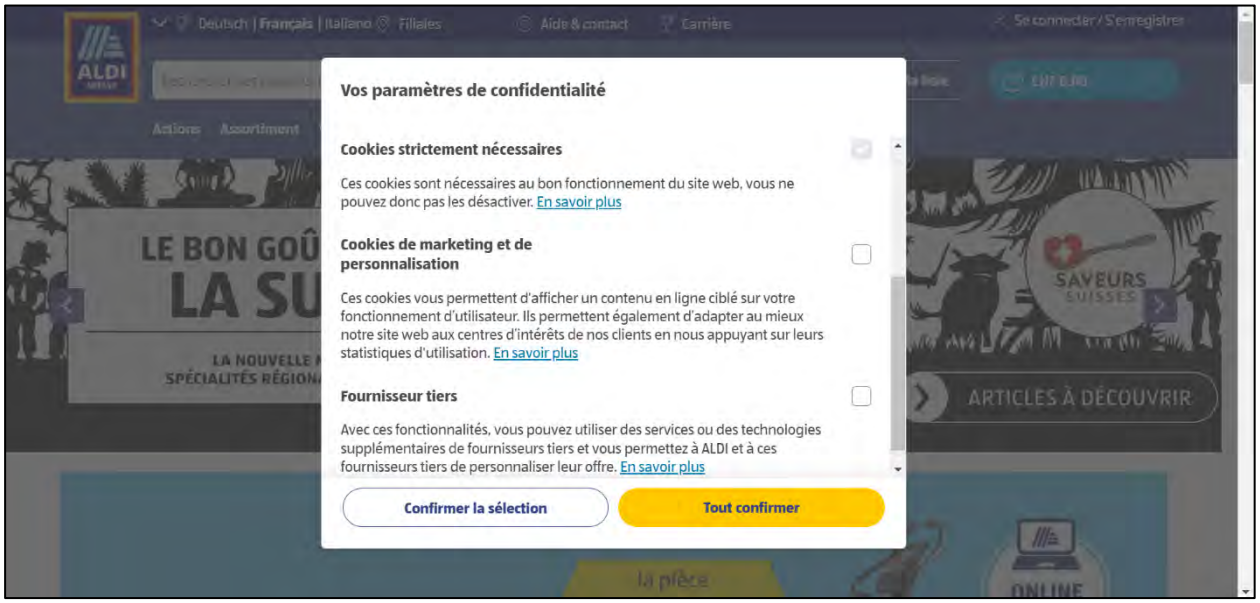
Source: Edeka 2023

Figure 22: “Accept, manage or decline” Data collection by Carrefour



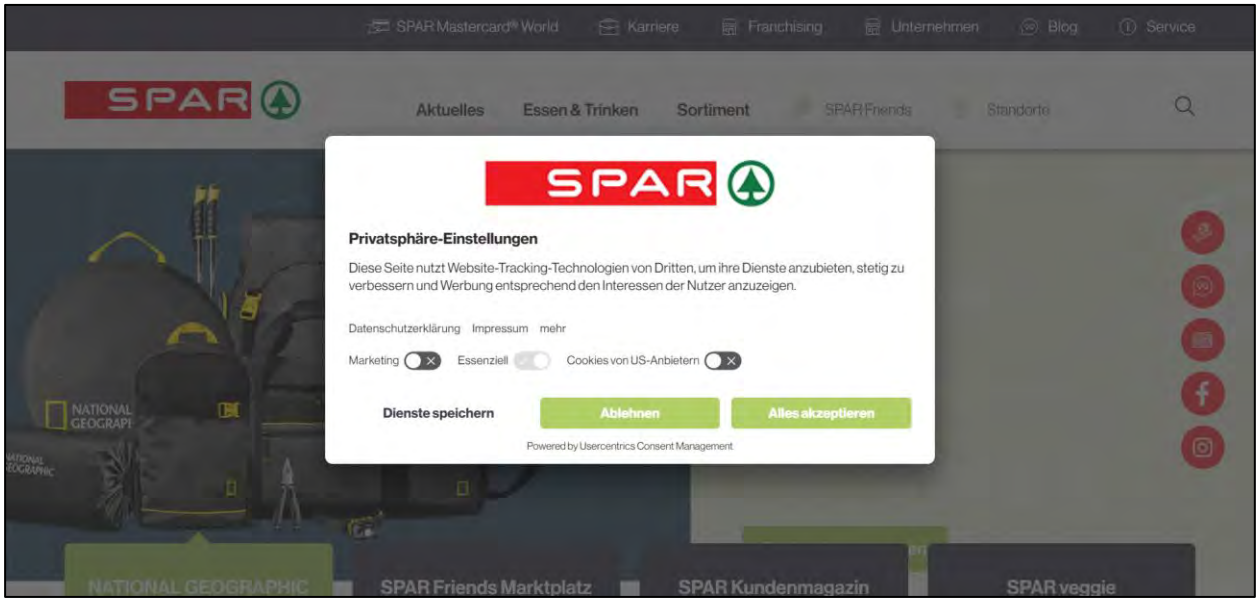
Source: Carrefour 2023

Figure 23: “Manage” Data collection by Aldi



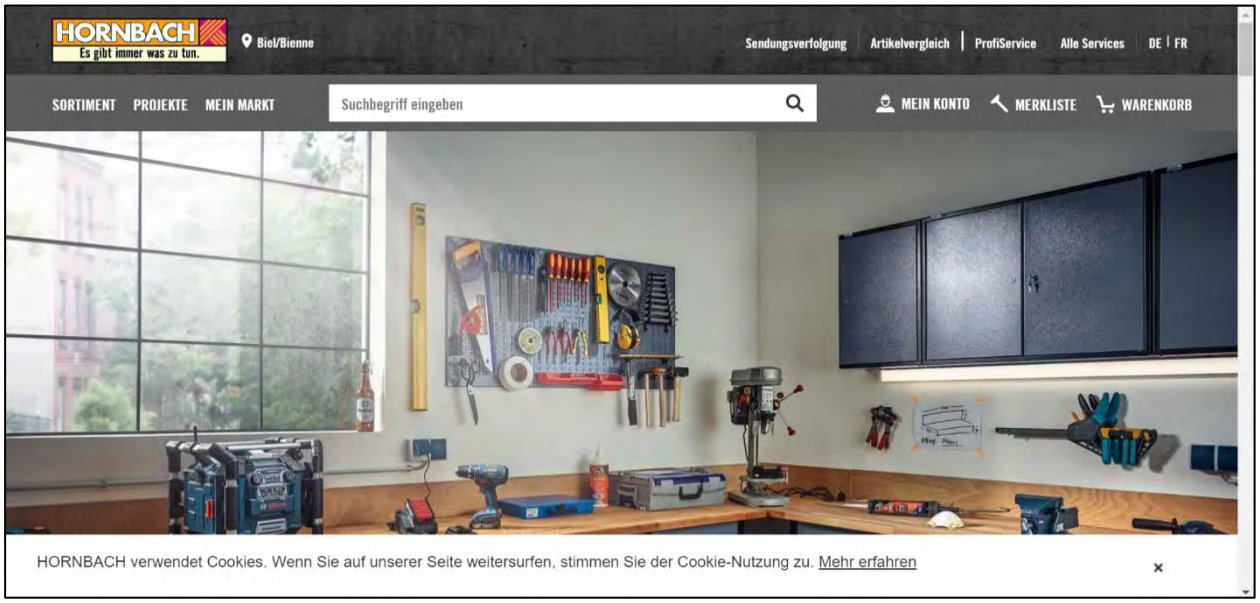
Source: Aldi 2023

Figure 24: “Manage” Data collection by Spar



Source: Spar 2023

Figure 25: “Implicit” Data collection by Hornbach

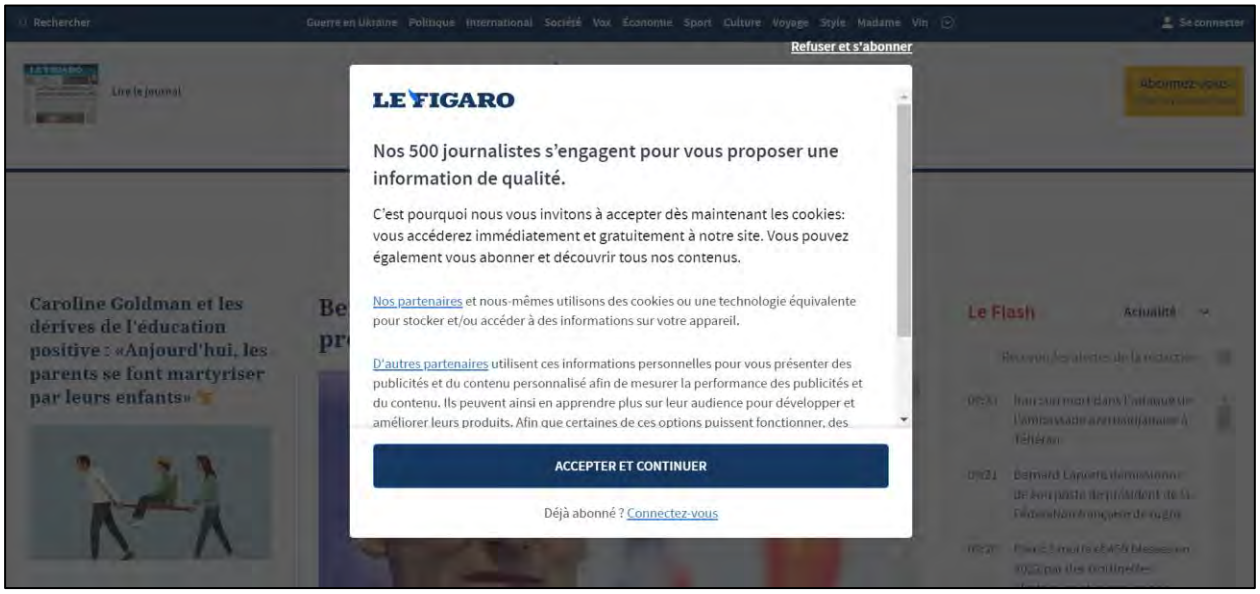


Source: Hornbach 2023

Figure 26: “Accept, pay or leave” Data collection by Le Point

Source: Le Point 2023

Figure 27: “Accept, pay or leave” Data collection by Le Figaro



Source: Le Figaro 2023

E. Table 2: Articles about the impact of personalisation on privacy concerns

Author(s)	Channel	Personalisation types	Analysed impact(s)	Observed impact(s)	Sample	Method of study	Further information
Aguirre et al. 2015*	Online	Advertisements	Click-through intentions, perceived vulnerability	· When firms engage in overt information collection, more personalised ads enhance click-through intentions, but not when firms engage in covert data collection (p = .033) · When firms engage in covert information collection, more personalised ads increase feelings of vulnerability, but not when firms engage in overt data collection. (p = .017)	120 participants from an online panel, familiar with Facebook	Experiment	On the impact of the company's collection strategy: overt or covert
				· When firms engage in covert data collection, more personalised ads decrease click-through intentions if the ad appears on a less trustworthy website, due to their increased feelings of vulnerability.	194 participants from an online panel, familiar with Facebook	Experiment	On the impact of the host website (trustworthy or not) on the effectiveness of ad; use of CNN and Facebook
				· Differences in click-through intentions between the overt and covert conditions became insignificant (p = .448), in support of: · When highly personalised ads contain trust-building cues, click-through intentions do not differ whether the information has been collected overtly or covertly.	123 participants from an online panel, familiar with Facebook	Experiment	On the impact if the customer can choose the parameters of data collection on the effectiveness of the ad
Bleier/ Eisenbeiss 2015b	Online	Advertisements	Privacy concerns, reactance, usefulness	· For a more trusted retailer, personalizing banners with high depth and narrow breadth increases their perceived usefulness compared to low-depth banners (p < .05) · For a more trusted retailer, personalizing banners with high depth and wide breadth does not increase reactance compared to low-depth banners (p < .1) · For a less trusted retailer, personalizing banners with high depth and narrow breadth increases reactance compared to low-depth banners. (p < .05) · For a less trusted retailer, personalizing banners with high depth and wide breadth increases reactance compared to low-depth banners. (p < .05) · For a more trusted retailer, personalizing banners with high depth and wide breadth does not increase privacy concerns compared to low-depth banners (p < .001) · For a less trusted retailer, personalizing banners with high depth and narrow breadth increases privacy concerns compared to low-depth banners. (p < .001) · For a less trusted retailer, personalizing banners with high depth and wide breadth increases privacy concerns compared to low-depth banners. (p < .001)	280 German university students	Experimental Lab Study	Depending on the trust placed in the retailer; Depending on the depth and breadth of the personalisation
Chau et al. 2013	Online	Recommendations	Trust in personalisation agent, trust in the company	· Irrelevant recommendations had a significant effect on online users' distrust of the personalisation agent's competence (p < .01) · When users perceived personalised recommendations to be irrelevant to their preferences, they were likely to distrust the agent's integrity (p < .01) · Users with high distrust in the agent's competence were unlikely to interact with the agent (p < .01)	245 university students through open enrolment on a university campus; 90.6% had online shopping experience	Experimentation in laboratory conditions	Music streaming platform; About irrelevant recommendations

Author(s)	Channel	Perso. types	Analys. imp.	Observed impact(s)	Sample	Method	Further info.
Goldfarb/ Tucker 2011	Online	Banner Advertising	Purchase intentions, privacy concerns	· Privacy laws reduced the effectiveness of advertising by over 65% (purchase intentions dropped from 2.63% to 1.71%)	9'596 different field studies of online ad campaigns; with an average of 347 participants	Survey	About the impact of privacy regulations on purchase intentions
Ha/Janda 2014	Online	Customised information such as recommendations	Purchase intentions, satisfaction, trust	· Greater customized information positively affects customer satisfaction for both the UK and South Korean samples · Satisfaction positively affects purchase intention for the Korean sample · Attitude toward the web site mediates the role of satisfaction and trust on purchase intentions for both the UK and South Korean samples · Customized information has a positive influence on trust for the Korean sample, but has no influence for the UK sample	448 university students	Survey	Online travel services; Study conducted in the UK and Korea; Customised used as an synonym of personalisation
Puzakova/ Rocereto/ Kwak 2013*	Online	Recommendation agent	Reactance, attitude	· Attitude towards the ad ($p < .05$), reactance ($p < .05$) and willingness to provide personal information ($p < .05$) revealed a significant interaction effect between the anthropomorphism of a recommendation agent and a customised message · Negative effect of anthropomorphism was evident when the message was customised vs non-customised · There were no significant differences in the attitudes towards the website ad either when the message was customised or when it was non-customised for an anthropomorphised recommendation agent ($p < .1$)	91 undergraduate university students	Experiment	Ad for a credit card company
				· Significant interaction effects between the anthropomorphism and the presence of a customised message for all dependent variables: attitude towards the ad ($p < .05$); the likelihood to click on the ad ($p < .05$); reactance ($p < .05$), willingness to provide personal information ($p < .05$)	98 undergraduate university students		
Rose et al. 2012	Online	Recommendations, website layout	CX, satisfaction, trust, repurchase intentions	· The greater the opportunity for customization of Internet shopping websites, the greater the level of perceived control ($p < .001$) · The greater the perception of control when using Internet shopping websites, the greater the affective experiential state ($p < .001$) · The greater the level of affective experiential state, the greater the level of online shopping satisfaction ($p < .001$) · The greater the level of online shopping satisfaction, the greater the level of online repurchase intention ($p < .001$) · The greater the level of trust in online shopping, the greater the level of online repurchase intention ($p < .05$)	220 European and American online shoppers	Online survey	-

Author(s)	Channel	Perso. types	Analys. imp.	Observed impact(s)	Sample	Method	Further info.
Smink et al. 2020*	Omni-channel	Augmented reality	Purchase intentions, intrusiveness	· AR app elicits a higher perceived personalisation compared to a non-AR app (p = .000) · An AR app elicits a higher perceived intrusiveness compared to a non-AR app (p = .017) · AR app induced a higher perceived intrusiveness, which negatively affected attitude and purchase intention (p < .05)	113 participants recruited via an online student subject pool	Experimentation in laboratory conditions	Face recognition: projects the make-up on the user's face; Make-up application (L'Oreal)
		Augmented reality	Purchase intentions, intrusiveness	· AR app elicits a higher perceived personalisation compared to a non-AR app (p = .001) · Higher level of spatial presence elicited by the AR app increased purchase intention (p < .001) · AR app was perceived as less intrusive than the non-AR app (p = .034)	81 participants recruited via an online student subject pool	Experimentation in laboratory conditions	Space recognition: furniture onto the user's surroundings; Furniture store application (Ikea)
Song et al. 2016*	Online	E-mail marketing	Privacy risks	· The level of personalisation had a significant main effect on privacy risk (p = .001) · Participants were more likely to perceive privacy risks with a highly personalised message than with a moderately personalised message under the no-control condition (p = .00) · When the personalised message allowed the participants to control their personal information, they reported a low level of privacy risk, even if they received the highly personalised message.	102 undergraduate university students majoring in business administration, mean age of 22.5	Experiment	About the impact of control and intimacy on privacy concerns; Bank industry
				· Without social presence, participants reported a higher level of privacy risk for the highly personalised message than for the moderately personalised message (p = .000) · For the participants who received a message with social presence, no significant difference in privacy risk emerged between the moderately personalised message and the highly personalised one (p = .886)	110 undergraduate university students majoring in business administration, mean age of 22.8		
Twilio Segment 2022	Online	Personalisation in general	Loyalty, privacy concerns, revenue	· 49% of customers say they will become repeat buyers after a personal shopping experience · 37% of companies use only 'first-party data' · Only 40% of customers say they trust companies to keep their data secure and use it responsibly · Nearly 80% of business leaders say consumers spend more (34% more on average) when their experience is personalized · 60% of consumers say that reliability and transparency are the most important characteristics of a brand, dominating all other characteristics	3'402 respondents (3,002 adult consumers and 400 business managers)	Report	Study conducted in 12 countries (Europe, Asia, America & Australia); *See remarks***
Tucker 2014	Online	Banner Advertising	Privacy concerns, CTR	· After the policy change, ads with personalised content were relatively more effective CTR than ads with generic but targeted or untargeted content (p = .0047)	1.2 million Facebook users	Field experiment	Impact of the privacy regulation change on Facebook; Conducted on a US-based non-profit campaign

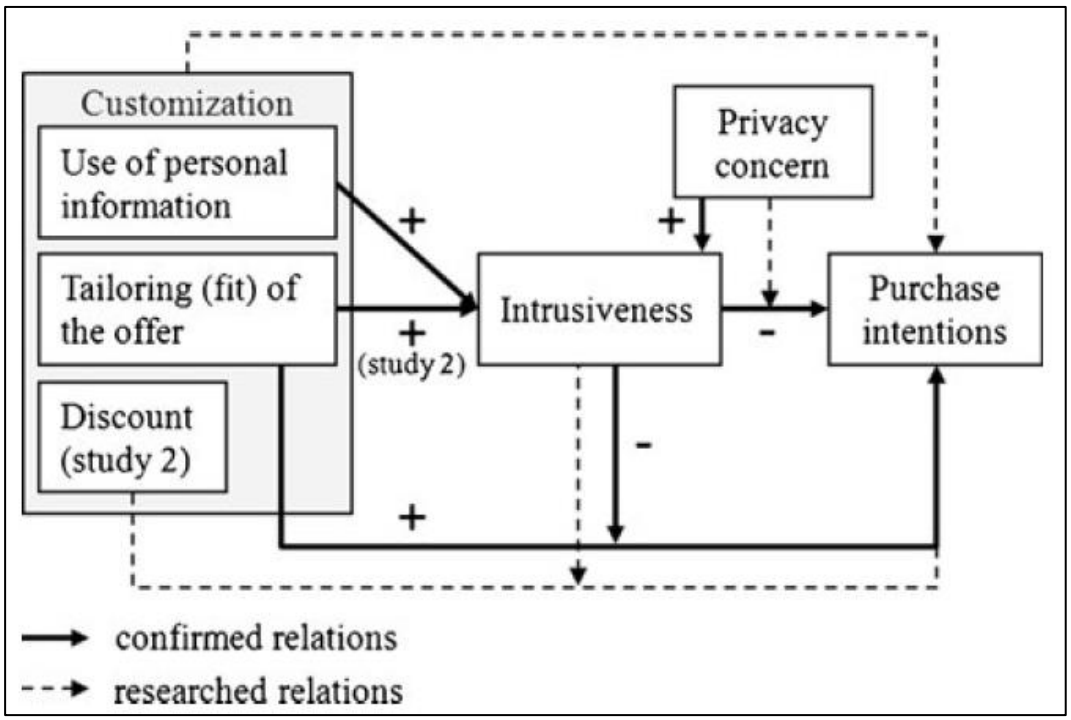
Author(s)	Channel	Perso. types	Analys. imp.	Observed impact(s)	Sample	Method	Further info.
van Doorn/ Hoekstra 2013*	Online	Banner Advertising	Intrusiveness, purchase intentions, privacy concerns	· Intrusiveness is greater when a message is personalized with the name ($p < .05$) or uses transaction information in addition to browsing data ($p < .01$) · Respondents with higher levels of privacy concerns perceive the ad as more intrusive ($p < .01$), but high fit does not affect intrusiveness ($p > .1$) · Customers are less likely to purchase intrusive offers ($p < .01$) and more likely to purchase high matching offers ($p < .01$), but this effect is weaker if intrusiveness is high ($p < .01$)	233 participants on a consumer panel	Online experiment	Internet banking services; Dutch customers
				· Personalizing advertising with name ($p < .01$) and using transaction information ($p < .01$) increase the perceived intrusiveness of the ad · Higher privacy concerns lead to more perceived intrusiveness of the ad ($p < .01$) · Purchase intentions are lower if advertising is perceived as intrusive ($p < .1$), but higher if fit is high ($p < .05$) but this effect is partially offset if advertising is intrusive ($p < .05$)	467 participants on a consumer panel	Online experiment	Telecommunications industry; replicates the majority of the findings from study 1
Wetzlinger et al. 2017	Omnichannel	Recommendations, push-notifications, virtual shelf	Customer trust, privacy concerns	· Personalisation triggers higher privacy concerns, both online ($p < .000$) and in retail ($p < .000$) · In online shops ($p = .06$) and retail store ($p = .01$), customers tend to be more willing to adopt non-personalised services than personalised services	112 university students with sufficient experience in using smartphones for e-commerce	Online survey	Retail sector
White et al. 2008*	Online	Email marketing	Click-through intentions, reactance	· The effect of personalisation on click-through intentions depended on the presence of a justification ($p < .05$) · Click-through intentions do not vary between high and low personalisation in the presence of a justification (ns), but were lower for high versus low personalisation without the presence of a justification ($p < .005$) · Impact of personalisation on reactance was moderated by justification ($p < .05$) · The degree of personalisation had an impact on reactance when the justification was absent ($p < .005$), which was not the case when the justification was present (ns) · Reactance is negatively related to click-through intentions ($p < .0001$)	86 undergraduates	Experiment	Movie rental website
				· Mails with higher perceived utility have higher click-through intentions ($p < .0001$) · Click-through intentions do not vary between high and low personalisation in the presence of a justification (ns), but were lower for high versus low personalisation without the presence of a justification ($p < .06$) · Click-through intentions were higher for low personalised messages ($p < .05$) when justification was present and perceived utility was high · Respondents with high perceived utility reported significantly lower levels of reactance ($p < .0001$) · Reactance was significantly negatively related to click-through intentions ($p < .0001$)	331 undergraduates	Experiment	Movie review website

* Studies marked with an asterisk are composed of two or more experiments.

** Study/Case/Report published by a company that provides marketing personalisation services. The methodology of the results is not (or poorly) explained.

F. Various tables and figures from studies used in the thesis

Figure 28: Conceptual model by van Doorn/Hoekstra (2013)



Source: van Doorn/Hoekstra 2013, p. 342

Table 3: Results of study 1 by van Doorn/Hoekstra (2013)

Independent variables	Dependent variable[a]	
	Intrusiveness	Purchase intentions
	Coefficient	Coefficient
Personalization: use of name	0.51**	0.04
Personalization: use of transaction information	0.58***	0.08
High fit	−0.16	1.67***
Intrusiveness		−0.23**
Intrusiveness × high fit		−0.28***
Privacy concern	0.40***	0.07
Intrusiveness × privacy concern		−0.05
Constant	4.33***	3.20***
R^2	0.17	0.27
N	233	233

**$p<0.05$; ***$p<0.01$ (two-sided test)

[a] Results obtained using a seemingly unrelated regressions estimator

Source: van Doorn/Hoekstra 2013, p. 345

Table 4: Results of study 2 by van Doorn/Hoekstra (2013)

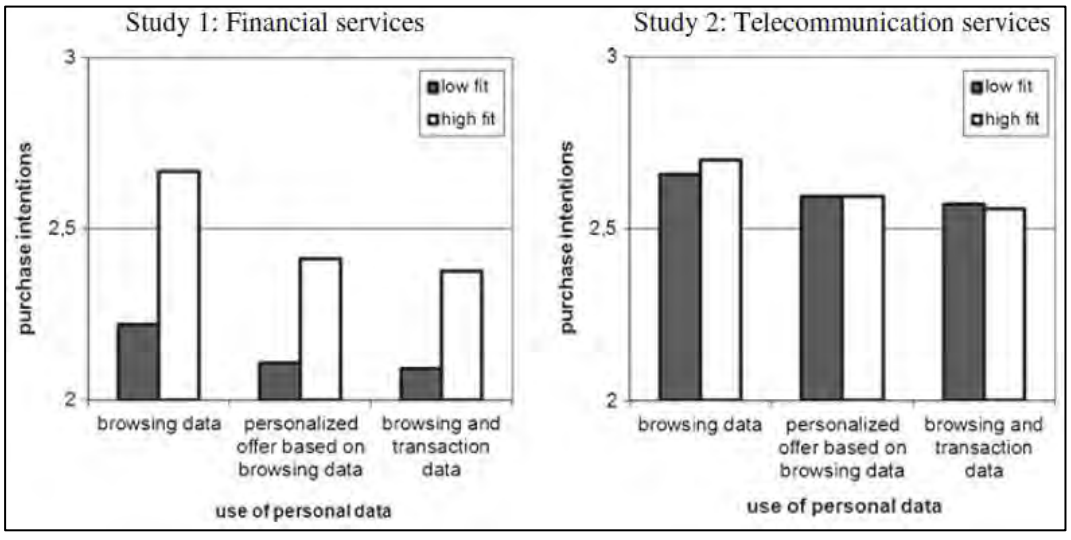
Independent variables	Dependent variable[a]	
	Intrusiveness	Purchase intentions
	Coefficient	Coefficient
Personalization: use of name	0.49***	−0.05
Personalization: use of transaction information	0.66***	−0.10
High fit	0.15**	0.40**
Discount		0.13
Intrusiveness		−0.13*
Intrusiveness × high fit		−0.09**
Intrusiveness × discount		−0.01
Privacy concern	0.40***	−0.35***
Intrusiveness × privacy concern		0.04
Constant	3.79***	3.16***
R^2	0.20	0.16
N	467	467

*$p<0.1$; **$p<0.05$; ***$p<0.01$ (two-sided test)

[a] Results obtained using a seemingly unrelated regressions estimator

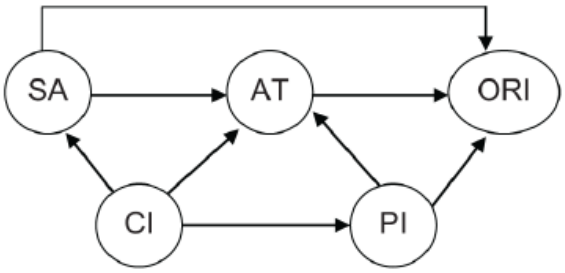
Source: van Doorn/Hoekstra 2013, p. 347

Figure 29 Impact of personalisation and fit of the ad on purchase intentions



Source: van Doorn/Hoekstra 2013, p. 348

Figure 30: Proposed Research Model by Ha/Muthaly/Akamavi (2010)



Proposed Research Model (PRM)

Notes: CI = customized information; PI = perceived interactivity; SA = consumer satisfaction; AT = consumer attitudes; ORI = on-line repurchase intentions

Source: Ha/Muthaly/Akamavi 2010, p. 882

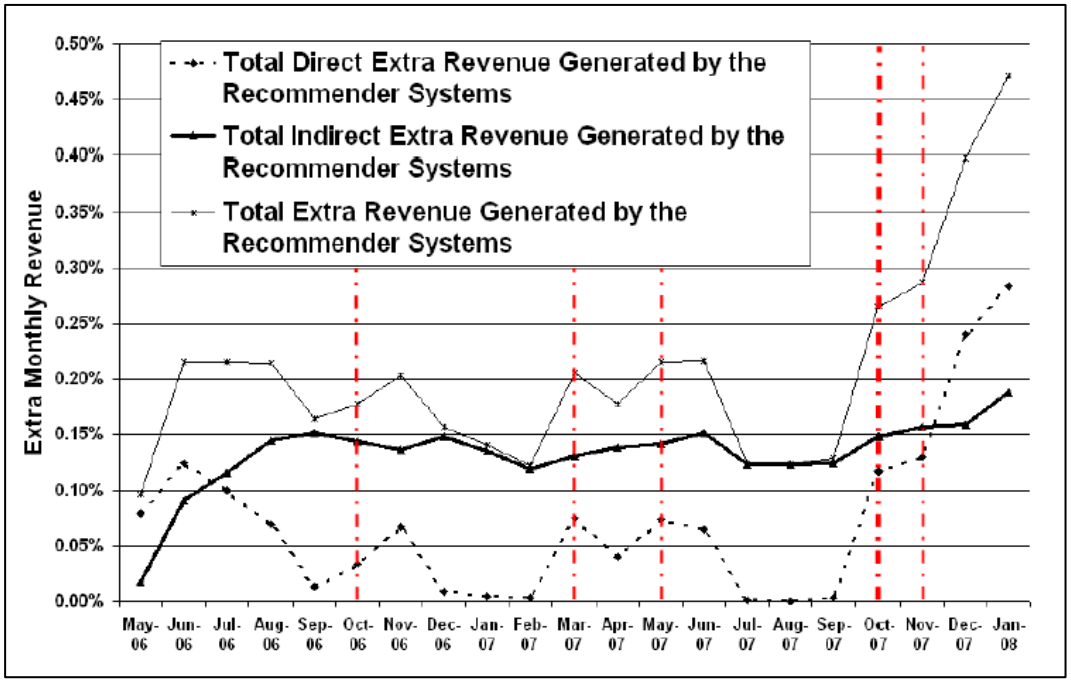
Table 5: Results of the study by Ha/Muthaly/Akamavi (2010)

From	To	DAM Korea	DAM UK	RMM Korea	RMM UK	IEM Korea	IEM UK	PRM Korea	PRM UK
SA	→ AT	0.661***	0.434**	0.644***	0.421***	0.595***	0.258 (ns)	0.560***	0.367*
AT	→ RI	0.683***	0.703***	0.553***	0.460***	0.553***	0.464**	0.280*	0.294*
CI	→ AT	0.211***	0.130 (ns)	0.138 (ns)	0.099 (ns)	0.011 (ns)	0.123 (ns)	0.022 (ns)	0.057 (ns)
PI	→ AT	0.441***	0.508***	0.405***	0.433**	0.365***	0.595***	0.382***	0.425**
CI	→ PI			0.587***	0.498*	0.695***	0.815***	0.688***	0.562**
PI	→ RI			0.223**	0.385**	0.243*	0.335 (ns)	0.257**	0.340*
CI	→ SA					0.796***	0.900***	0.792***	0.646***
SA	→ RI							0.299**	0.316**
Model fit									
Chi-square		520.242	234.806	450.176	214.598	293.705	187.389	287.403	182.557
Degree of freedom		148	148	146	146	145	145	144	144
CFI		0.846	0.872	0.874	0.899	0.938	0.937	0.941	0.943
RMSEM		0.094	0.085	0.086	0.076	0.060	0.060	0.059	0.057

Notes: $^{*}p < 0.05$; $^{**}p < 0.01$; $^{***}p < 0.001$

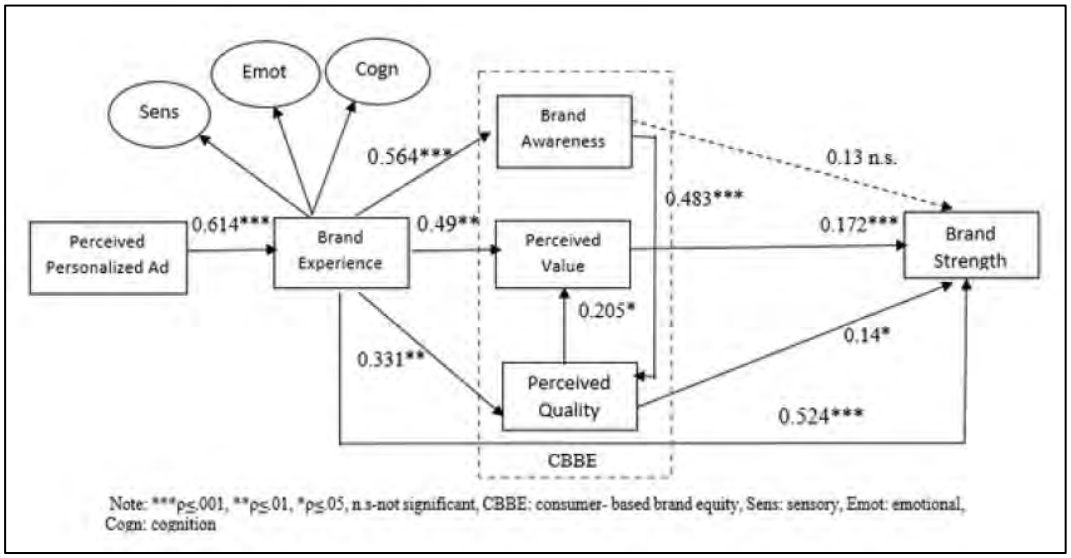
Source: Ha/Muthaly/Akamavi 2010, p. 894

Figure 31: Impact of recommender systems on direct and indirect sales



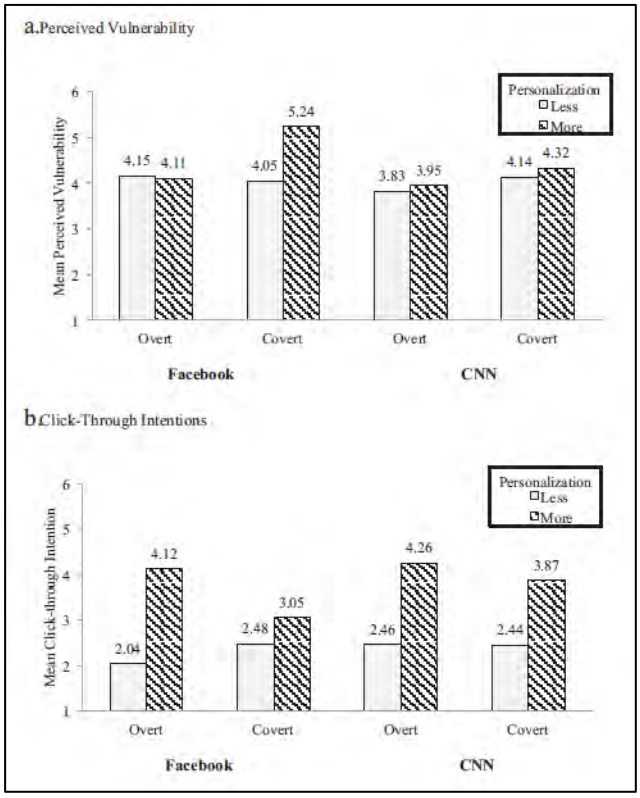
Source: Dias et al. 2008, p. 292

Figure 32: Structural Model by Gupta/Shukla (2022)



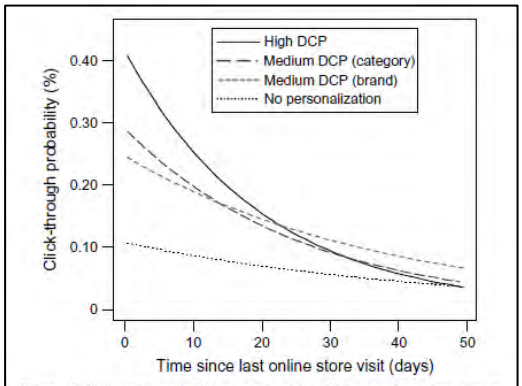
Source: Gupta/Shukla 2022, p. 13

Figure 33: Effects of personalisation on different websites



Source: Aguirre et al. 2015, p. 42

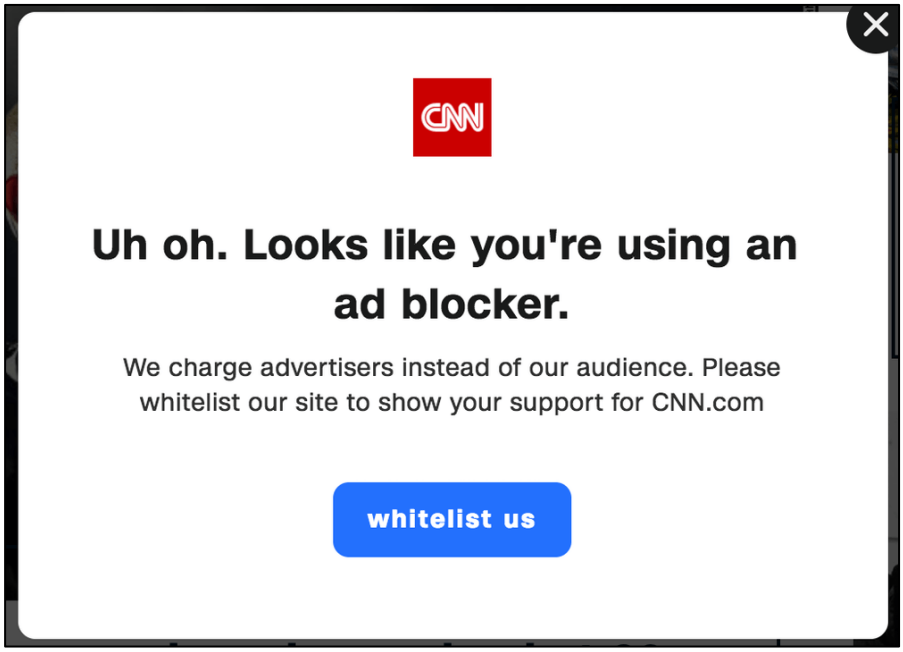
Figure 34: Effectiveness of personalised ad throughout the buying process



Notes. Click-through probabilities are based on the parameter estimates in Table 2, Panel (1), with *BannerRepetitions* and *BannersTotal* held constant at 1, and *VisitsTotal* held at the mean. Predictions start from the moment the consumer leaves the online store and persist until she has not returned for 50 days. These predictions disentangle a time effect from banner wear-out effects because we control for the number of repetitions since a consumer's last shopping session ($BannerRepetitions_{ij}$) and the total number of banners viewed before the focal ad impression ($BannersTotal_{ij}$). By holding these variables constant at 1, we can predict click-through probabilities for the first banner encountered following a shopping session, after a given number of days has passed. Moreover, we set $VisitsTotal_{ij}$ at its mean, to derive click-through probabilities for an average loyal consumer.

Source: Bleier/Eisenbeiss 2015a, p. 676

Figure 35: Notification to deactivate Adblock



Source: Teo 2022

G. Table 6: Articles about the impact of personalization on satisfaction

Author(s)	Channel	Personalisation types	Analysed impact(s)	Observed impact(s)	Sample	Method of study	Further information
Chang/ Chen 2009	Online	Recommendations, Advertisements, promotions	Customer satisfaction, customer loyalty	· Personalisation is one of the four components of the customer interface quality. · Customer interface quality has a significant positive influence on customer satisfaction ($p < .001$) · Customer satisfaction has a significant positive influence on customer loyalty ($p < .001$)	314 Taiwanese adults who had at least one year's online shopping experience; 78% are between 20-30 yo	Survey	Respondents were asked to respond according to an e-commerce of their choice.
Ha/Janda 2014	Online	Customised information such as recommendations	Purchase intentions, satisfaction, trust	· Greater customized information positively affects customer satisfaction for both the UK and South Korean samples · Satisfaction positively affects purchase intention for the Korean sample · Attitude toward the web site mediates the role of satisfaction and trust on purchase intentions for both the UK and South Korean samples · Customized information has a positive influence on trust for the Korean sample, but has no influence for the UK sample	448 university students	Survey	Online travel services; Study conducted in the UK and Korea; Customised used as an synonym of personalisation
Ha/ Muthaly/ Akamavi 2010	Online	Customised information such as recommendations	Repurchase intentions, consumer satisfaction, perceived interactivity	· Customised information has an indirect positive impact on repurchases intentions. · Customised information has a positive impact on consumer satisfaction ($p < .001$), which impact positively repurchase intentions ($p < .01$) · Customised information has a positive impact on perceived interactivity ($p < .01$), which impact positively repurchase intentions ($p < .05$)	448 university students	Survey	Online travel services; Study conducted in the UK and Korea; Customised used as an synonym of personalisation
Halimi/ Chavosh/ Choshali 2011	Omnichannel	Personalisation in general	Customer loyalty, relationship satisfaction	· Personalisation has a positive impact on relationship satisfaction ($p < .01$) · Relationship satisfaction has a positive impact on customer loyalty ($p < .01$)	100 travelling agency customers and secondary data from online database.	Survey	Tours and travel agencies in Malaysia
Hess et al. 2020*	Offline	Advertisements in brick-and-mortars shops	CX, customer response to personalisation	· When the ad is personalised, consumers are less favourable toward the retailer under social presence ($p = .01$) · When the ad is personalised, consumers have less favourable behavioural intentions toward the retailer under social presence ($p = .01$)	176 undergraduate university students; Average age = 20 yo	In-store experiments	Clothing industry; Influence of social presence;
		Advertisements in brick-and-mortars shops	CX, customer response to personalisation	· Social presence decreases positive attitudes toward the retailer and increases embarrassment when the personalised ad is threatening and congruent · Social presence increases flattery when the personalised ad is bolstering and congruent, which, in turn, increases the consumer's attitude toward the retailer	436 undergraduate business university students; Average age = 20 yo	In-store experiments	Dental hygiene industry; Influence of social presence

Author(s)	Channel	Perso. types	Analys. imp.	Observed impact(s)	Sample	Method	Further info.
Rose et al. 2012	Online	Recommendations, website layout	CX, satisfaction, trust, repurchase intentions	· The greater the opportunity for customization of Internet shopping websites, the greater the level of perceived control ($p < .001$) · The greater the perception of control when using Internet shopping websites, the greater the affective experiential state ($p < .001$) · The greater the level of affective experiential state, the greater the level of online shopping satisfaction ($p < .001$) · The greater the level of online shopping satisfaction, the greater the level of online repurchase intention ($p < .001$) · The greater the level of trust in online shopping, the greater the level of online repurchase intention ($p < .05$)	220 European and American online shoppers	Online survey	-
Salerno 2005	Offline	Advertising, discounts	Loyalty, repurchase intention, general satisfaction	· Influence of personalisation practices on loyalty behaviour occurs mainly through satisfaction and/or perceived value ($p < .01$) · The adaptability of the offer, one of the five personalisation practices, has a particularly direct impact on repurchase intention ($p < .05$)	426 inhabitants of the same neighbourhoods, in the north of France	Paper survey	On clothing brands available in the region (brick-and-mortar shop or catalogue sales)
Tsai/Huang 2007	Online	Recommendations	Repurchase intentions, satisfaction	· The direct impact of customization on repurchase intentions was not significant ($p > .1$) · Customisation impacts positively “Switching Barriers” ($p < .001$), which impacts positively repurchase intentions ($p < .01$). · Overall satisfaction influenced repurchase intentions positively ($p < .01$)	1’287 customers from the mailing list of an online store in Taiwan	Survey	-
Tyrväinen/ Karjaluoto/ Saarijärvi 2020	Omnichannel	Personalisation in general	CX, loyalty, Repeat Purchase Intention (RPI), WOM	· Personalisation has a positive direct effect on emotional CX ($p < .01$) and cognitive CX ($p < .01$) · Emotional CX ($p < .01$) and Cognitive CX ($p < .01$) has a positive direct effect on WOM · Emotional CX ($p < .01$) and Cognitive CX ($p < .01$) has a positive direct effect on RPI	4’418 retail customers recruited via a market research firm; skewed toward young consumers (63.1% are 15-34 yo)	Online survey	The experiment was conducted in two different countries, Finland and Sweden
Verhagen et al. 2014	Online	Virtual agents	Satisfaction	· VCSA’s friendliness has a positive effect on customer’s perceived personalisation during the service encounter ($p < .01$) · VCSA’s expertise has a positive effect on customer’s perceived personalisation during the service encounter ($p < .01$) · The sense of personalisation elicited by the VCSA has a positive effect on service encounter satisfaction ($p < .01$)	296 university students from a business administration program	Experimental survey	On the use of virtual customer service agents (VCSAs)

Author(s)	Channel	Perso. types	Analys. imp.	Observed impact(s)	Sample	Method	Further info.
Wattal et al. 2012*	Online	Email marketing	OR, satisfaction	· Product-based personalisation positively impacts the probability that an e-mail will be opened by more than 99% of customers ($p < .01$)	364'646 emails	Analysis of company data	Web-based distributor for a variety of products (e.g., long distance phone services, electricity, gas, health insurance, Internet connections)
				· Customers respond positively to e-mails with implicit product-based personalisation ($p < .05$) · Consumers on average respond negatively to personalised greetings ($p < .05$) · Familiarity with a firm indeed leads to less negative reaction to personalised greetings in email ads · Customers who did not purchase previously respond more positively to product personalisation ($p < .01$)	23'323 emails		

* Studies marked with an asterisk are composed of two or more experiments.

** Study/Case/Report published by a company that provides marketing personalisation services. The methodology of the results is not (or poorly) explained.

H. Table 7: Articles about the impact of personalisation on customer loyalty

Author(s)	Channel	Personalisation types	Analysed impact(s)	Observed impact(s)	Sample	Method of study	Further information
Arora et al. 2021	Online	Personalisation in general	Purchase intentions, repurchase intentions	· 76% of consumers are more likely to consider purchasing from brands that personalise · 78% of consumers are more likely to make repeat purchase from companies that personalise	1013 participants from a US consumer panel	Study	*See remarks***
Bojei et al. 2013	Offline	Staff recommendations	Consumer retention	· Personalisation has a significant positive impact on customer retention ($p < .01$)	413 loyalty/reward program members of three retail stores in Malaysia; 71% were <35 yo	Survey	Retail Sector
Chang/ Chen 2009	Online	Recommendations, Advertisements, promotions	Customer satisfaction, customer loyalty	· Personalisation is one of the four components of the customer interface quality. · Customer interface quality has a significant positive influence on customer satisfaction ($p < .001$) · Customer satisfaction has a significant positive influence on customer loyalty ($p < .001$)	314 Taiwanese adults who had at least one year's online shopping experience; 78% are between 20-30 yo	Survey	Respondents were asked to respond according to an e-commerce of their choice.
Che et al. 2015	Online	Personalisation in general	Revisit intentions	· Personalization specificity is positively but insignificantly related to revisit intention ($p > .1$)	228 experimented online shopping customers	Survey	Data from the chines survey website sojump.com
Ha/ Muthaly/ Akamavi 2010	Online	Customised information such as recommendations	Repurchase intentions, consumer satisfaction, perceived interactivity	· Customised information has an indirect positive impact on repurchases intentions. · Customised information has a positive impact on consumer satisfaction ($p < .001$), which impact positively repurchase intentions ($p < .01$) · Customised information has a positive impact on perceived interactivity ($p < .01$), which impact positively repurchase intentions ($p < .05$)	448 university students	Survey	Online travel services; Study conducted in the UK and Korea; Customised used as an synonym of personalisation
Halimi/ Chavosh/ Choshali 2011	Omnichannel	Personalisation in general	Customer loyalty, relationship satisfaction	· Personalisation has a positive impact on relationship satisfaction ($p < .01$) · Relationship satisfaction has a positive impact on customer loyalty ($p < .01$)	100 travelling agency customers and secondary data from online database.	Survey	Tours and travel agencies in Malaysia
Rose et al. 2012	Online	Recommendations, website layout	CX, satisfaction, trust, repurchase intentions	· The greater the opportunity for customization of Internet shopping websites, the greater the level of perceived control ($p < .001$) · The greater the perception of control when using Internet shopping websites, the greater the affective experiential state ($p < .001$) · The greater the level of affective experiential state, the greater the level of online shopping satisfaction ($p < .001$) · The greater the level of online shopping satisfaction, the greater the level of online repurchase intention ($p < .001$) · The greater the level of trust in online shopping, the greater the level of online repurchase intention ($p < .05$)	220 European and American online shoppers	Online survey	-

Author(s)	Channel	Perso. types	Analys. imp.	Observed impact(s)	Sample	Method	Further info.
Salerno 2005	Offline	Advertising, discounts	Loyalty, repurchase intention, general satisfaction	· Influence of personalisation practices on loyalty behaviour occurs mainly through satisfaction and/or perceived value ($p < .01$) · The adaptability of the offer, one of the five personalisation practices, has a particularly direct impact on repurchase intention ($p < .05$)	426 inhabitants of the same neighbourhoods, in the north of France	Paper survey	On clothing brands available in the region (brick-and-mortar shop or catalogue sales)
Thirumalai/Sinha 2013	Online	Recommendations	Customer loyalty	· Results suggests that personalizing decisions may not be a uniformly beneficial strategy (in terms of customer loyalty) for all retailers. · Ceteris paribus, the customer loyalty of retailers who pursue transaction personalisation will be greater than that of retailers who do not ($p < .01$). · Ceteris paribus, the customer loyalty of retailers who pursue personalisation of decisions will be greater than that of retailers who do not (conditionally supported).	Data of 422 retailers	Survey	Sample data collected by the marketing services company BizRate
Tsai/Huang 2007	Online	Recommendations	Repurchase intentions, satisfaction	· The direct impact of customization on repurchase intentions was not significant ($p > .1$) · Customisation impacts positively "Switching Barriers" ($p < .001$), which impacts positively repurchase intentions ($p < .01$). · Overall satisfaction influenced repurchase intentions positively ($p < .01$)	1'287 customers from the mailing list of an online store in Taiwan	Survey	-
Twilio Segment 2022	Online	Personalisation in general	Loyalty, privacy concerns, revenue	· 49% of customers say they will become repeat buyers after a personal shopping experience · 37% of companies use only 'first-party data' · Only 40% of customers say they trust companies to keep their data secure and use it responsibly · Nearly 80% of business leaders say consumers spend more (34% more on average) when their experience is personalized · 60% of consumers say that reliability and transparency are the most important characteristics of a brand, dominating all other characteristics	3'402 respondents (3,002 adult consumers and 400 business managers)	Report	Study conducted in 12 countries (Europe, Asia, America & Australia); *See remarks***
Tyrväinen/Karjaluoto/Saarijärvi 2020	Omnichannel	Personalisation in general	CX, loyalty, Repeat Purchase Intention (RPI), WOM	· Personalisation has a positive direct effect on emotional CX ($p < .01$) and cognitive CX ($p < .01$) · Emotional CX ($p < .01$) and Cognitive CX ($p < .01$) has a positive direct effect on WOM · Emotional CX ($p < .01$) and Cognitive CX ($p < .01$) has a positive direct effect on RPI	4'418 retail customers recruited via a market research firm; skewed toward young consumers (63.1% are 15-34 yo)	Online survey	The experiment was conducted in two different countries, Finland and Sweden

* Studies marked with an asterisk are composed of two or more experiments.

** Study/Case/Report published by a company that provides marketing personalisation services. The methodology of the results is not (or poorly) explained.

I. Table 8: Articles about the impact of personalisation on purchase intentions

Author(s)	Channel	Personalisation types	Analysed impact(s)	Observed impact(s)	Sample	Method of study	Further information
Arora et al. 2021	Online	Personalisation in general	Purchase intentions, repurchase intentions	· 76% of consumers are more likely to consider purchasing from brands that personalise · 78% of consumers are more likely to make repeat purchase from companies that personalise	1013 participants from a US consumer panel	Study	*See remarks***
Barilliance 2014*	Online	Recommendations	Conversion rate, revenue	· Conversion rate from a product recommendation compared to the average conversion rate of the site: +332% · Products purchased following a click on product recommendations: 19.6% · Site revenue from product recommendations: 19%	Sales data from the millets.co.uk online shop	Case study; A/B Testing	Outdoor apparel industry; *See remarks***
				· Conversion rate from a product recommendation compared to the average conversion rate of the site: +277% · Products purchased following a click on product recommendations: 14.6% · Site revenue from product recommendations: 16.9%	Sales data from the blacks.co.uk online shop		
Belluf/ Xavier/ Giglio 2012	Online	Recommendations	Revenue	· Existence of recommendation leads to an overall increase in revenue of 8-20% ($p < .05$) · Existence of recommendations increased the number of page views per user in the order of 5-9% ($p < .05$) · Existence of recommendations increased the sales diversity of 4-15% ($p < .05$)	Data from 1 million orders, from 600'000 different users	Case study; A/B Testing	Data from Nova Pontocom, the second largest Brazilian online retailer
Blum 2019	Online	Email marketing	Purchase intentions	· If customers find personalization efforts creepy, more than half will unsubscribe from their newsletter and 38% will stop doing business with the company.	2'500 customers	Survey	*See remarks***
Boudet et al. 2019	Online	Recommendations, personalised communication	Revenue	· Personalisation can drive 5-15% increases in revenue · Personalisation can drive 10-30% increases in marketing-spend efficiency	-	-	*See remarks***
Dias et al. 2008	Online	Recommendations	Revenue	· The recommendation system increases direct revenues. · Indirect extra revenue substantially (at least by 66% and on average by 336%) increased the total extra value generated by recommender systems. · Effect of a recommender system extends far beyond the direct extra revenue generated from the purchase of recommended items (direct revenues < indirect revenues).	Data collected from an online shop between May 2006 and January 2008	Case study; A/B Testing	Data from the online retailer LeShop.ch
Epoq 2018	Online	Email marketing	Revenue	· The turnover of the personalised newsletter has increased tenfold compared to the standard newsletter. · Considerable reduction of manual work (labour costs) for the product manager	Data collected from exlibris.ch, an online book shop	Case study; A/B Testing	*See remarks***

Author(s)	Channel	Perso. types	Analys. imp.	Observed impact(s)	Sample	Method	Further info.
Epoq 2019	Online	Email marketing	Click-through, sales	· 85% higher CTR in the category-based newsletter · 95% more sales thanks to the category-based newsletter.	Data collected from babymarket.de, an online baby and children equipment shop	Case study; A/B Testing	*See remarks***
Goldfarb/ Tucker 2011	Online	Banner Advertising	Purchase intentions, privacy concerns	· Privacy laws reduced the effectiveness of advertising by over 65% (purchase intentions dropped from 2.63% to 1.71%)	9'596 different field studies of online ad campaigns; with an average of 347 participants	Survey	About the impact of privacy regulations on purchase intentions
Ha/Janda 2014	Online	Customised information such as recommendations	Purchase intentions, satisfaction, trust	· Greater customized information positively affects customer satisfaction for both the UK and South Korean samples · Satisfaction positively affects purchase intention for the Korean sample · Attitude toward the web site mediates the role of satisfaction and trust on purchase intentions for both the UK and South Korean samples · Customized information has a positive influence on trust for the Korean sample, but has no influence for the UK sample	448 university students	Survey	Online travel services; Study conducted in the UK and Korea; Customised used as an synonym of personalisation
Hartemo 2022	Online	Email marketing	OR, CTOR, conversion rate	· E-mails that were customized based on volunteered data led to the highest OR ($p < .001$) · E-mails that were customized based on volunteered data led to the highest CTOR ($p < .001$) · E-mails that were customized based on volunteered data led to higher conversion rate ($p < .01$)	1864 university applicants, 67% are digital natives (<30 yo)	Longitudinal study; Field experiments	Finnish education industry; Difference between volunteered and observed data
Hinz/ Eckert 2010	Online	Recommendations	Profit, Search costs	· The introduction of a recommendation system increased profit by 0.15% ($p < .01$) · A reduction of search costs by 10% would generate an additional contribution margin of 29'677.88 € for the company. · The use of a recommendation system decreased the sales of the 20%-top-products by 4.03% but increased the sales of the other 80 percent by 17.42%.	15'411 customers who bought 1'007'168 movies	Simulation model	Sales data from the leading German video-on-demand provider
Kaptein/ Parvinen 2015	Online	Recommendations, product-display pages	Click-through-rate, sales	· Personalisation increases CTR by 43.6%, statistically significant ($p < .02$) · Personalisation increases the average revenue per customer from €0.034 to €0.041	1'449 customers of an online shop	Case Study: A/B Testing	Children's clothing industry
Klein/ Hoffmann/ Pant 2021	Omni-channel	Various types (content, advertising, recommendations)	Sales, conversion rate	· 10x better conversion when switching from simple personalisation to 1:1 personalisation · 9x higher average order value after switching from simple personalisation to 1:1 personalisation · 8x higher conversion per visitor after switching from simple personalisation to 1:1 personalisation · Micro segmentation throughout the customer journey can double revenue	611 directors (or higher) of companies with a revenue of >$1 billion	Study	In retail and tourism

Author(s)	Channel	Perso. types	Analys. imp.	Observed impact(s)	Sample	Method	Further info.
Li 2016*	Online	Advertisements	Purchase intentions, attitude toward the ad	· Participants' attitudes towards personalised and generic advertising did not differ significantly, nor did their purchase intentions · Perceived personalisation had a significant positive impact on purchase intention ($p < .001$)	225 adults from a consumer panel	Experiment	Travel service; Perceived personalisation vs real personalisation
				· Participants in the personalised condition perceived the ads as significantly more personalised than participants in the generic condition ($p < .001$) · Female participants revealed stronger purchase intentions than male participants ($p < .05$) · When participants perceived the ad to be more personalised, they had a more favourable attitude towards ad ($p < .001$) and a higher purchase desire ($p < .001$)	142 undergraduate university students	Experiment	Two product categories: cereals and sunglasses; Perceived personalisation vs real personalisation
				· Participants in the match condition generated a more favourable attitude towards the ad than participants in the mismatch condition ($p < .05$) · Perceived personalisation positively affected attitude toward the ad ($p < .001$) and purchase intention ($p < .01$) · If a message does not contain incorrect information, it has a potential to be interpreted as personalised	83 undergraduate university students	Experiment	Two product categories: Water brand and Ketchup brand; Perceived personalisation vs real personalisation
Li/Liu 2017	Online	Advertisements	Purchase intentions	· Purchase intention was positively impacted by personalisation ($p < .001$) and product involvement ($p < .05$) · Significant interaction effect between personalisation and product involvement on attitude toward the ad ($p < .05$) · Interaction effect between personalisation and product involvement did not significantly differ across two product types	163 voluntary participants (91 university students, 72 non-student adults)	Between-subjects experiment	Study conducted in two different industries: textbook and grocery shopping
Pappas et al. 2014	Online	Recommendations, Advertisements, deals	Purchase intentions	· Personalisation will make shoppers' positive emotions stronger ($p < .001$) · Shoppers' positive emotions will make their intention to proceed to online purchases stronger ($p < .001$) · Personalisation will make shoppers' intention to proceed to online purchases stronger ($p < .01$) · The impact of personalisation on negative emotions is insignificant on purchase intentions	182 Greek users of online retailers; 59.3% are <29 yo; 86.8% graduates or post-graduate university students	Online survey	-
Pappas et al. 2016	Online	Recommendations	Purchase intentions	· The quality of the personalisation leads to higher purchase intentions ($p < .01$) · The presence of personalisation is enough to lead to higher purchase intentions ($p < .01$)	582 customers with previous experience in personalised online shopping; 25% is >35 yo; 77.3% have a bachelor or a higher education degree	Online survey	-

Author(s)	Channel	Perso. types	Analys. imp.	Observed impact(s)	Sample	Method	Further info.
Ramnarayan 2005	Omnichannel	Various types (content, advertising, recommendations)	Perceived profits, customer responsiveness, perceived effectiveness	· Perceived effectiveness of personalisation as measured by profit increase as extent of personalisation increases (p = .02) · Perceived effectiveness of personalisation as measured by "responsiveness to customers" increase as extent of personalisation increases (p = .01)	207 marketing managers; companies with a marketing budget of min. $50 million.	Online survey	Perceived effectiveness of personalisation from the company's perspective
Sahni/ Wheeler/ Chintagunta 2018*	Online	Email marketing	OR, extra leads, unsubscription	· The probability that an email is opened increased by 20%, from 9.05% to 10.80% when the name of the recipient was included in the subject line (p < .01) · Adding the name in the subject line (at almost the same cost) resulted in considerable gains: 458 more recipients opened their email, which generated 35 extra leads (worth about $3'500) and 85 fewer people unsubscribed.	68'088 email IDs	Analysis of company data	Impact of the name in the subject; Data of a company selling online test preparation products
				· When the recipient's name was added to the subject line, the OR increased by 6%, i.e., 7'177 more recipients opened their emails (p < .01) · Click-rate increase was larger (a 7% increase, leading to 859 more clicks; p < .01) · Unsubscription rate was lower in the treatment condition, which is 11% lower than the control condition (38 fewer recipients unsubscribed, p = .17)	1'111'130 email IDs	Analysis of company data	Impact of the name in the subject; Data of *MercadoLibre*, largest online marketplace in South America
				· The likelihood that an email was opened increased significantly from 12.8% to 15.8% (a 23% increase; p < .01) when the name of the recipient was included in the subject line.	5'000 email IDs	Analysis of company data	Impact of the name in the subject; Data of *Stanford University*'s marketing team
				· Emails which showed the recipient's name and mentioned the discount generates the largest number of leads (p = .02) · Adding the recipient's name to the body of the email, when it was already mentioned in the subject line, did not increase the leads further (p = .38) · Unsubscribe rate did not change significantly across conditions. · When the name of the recipient was present in the email, the presence of the discount increased the leads (p < .01)	1'411'510 email IDs	Analysis of company data	Impact of the name in the mail body and discounts; Data of a company selling online test preparation products
Smink et al. 2020*	Omnichannel	Augmented reality	Purchase intentions, intrusiveness	· AR app elicits a higher perceived personalisation compared to a non-AR app (p = .000) · An AR app elicits a higher perceived intrusiveness compared to a non-AR app (p = .017) · AR app induced a higher perceived intrusiveness, which negatively affected attitude and purchase intention (p < .05)	113 participants recruited via an online student subject pool	Experimentation in laboratory conditions	Face recognition: projects the make-up on the user's face; Make-up application (L'Oreal)
		Augmented reality	Purchase intentions, intrusiveness	· AR app elicits a higher perceived personalisation compared to a non-AR app (p = .001) · Higher level of spatial presence elicited by the AR app increased purchase intention (p < .001) · AR app was perceived as less intrusive than the non-AR app (p = .034)	81 participants recruited via an online student subject pool	Experimentation in laboratory conditions	Space recognition: furniture onto the user's surroundings; Furniture store application (Ikea)

Author(s)	Channel	Perso. types	Analys. imp.	Observed impact(s)	Sample	Method	Further info.
Twilio Segment 2022	Online	Personalisation in general	Loyalty, privacy concerns, revenue	· 49% of customers say they will become repeat buyers after a personal shopping experience · 37% of companies use only 'first-party data' · Only 40% of customers say they trust companies to keep their data secure and use it responsibly · Nearly 80% of business leaders say consumers spend more (34% more on average) when their experience is personalized · 60% of consumers say that reliability and transparency are the most important characteristics of a brand, dominating all other characteristics	3'402 respondents (3,002 adult consumers and 400 business managers)	Report	Study conducted in 12 countries (Europe, Asia, America & Australia); *See remarks***
van Doorn/ Hoekstra 2013*	Online	Banner Advertising	Intrusiveness, purchase intentions, privacy concerns	· Intrusiveness is greater when a message is personalized with the name ($p < .05$) or uses transaction information in addition to browsing data ($p < .01$) · Respondents with higher levels of privacy concerns perceive the ad as more intrusive ($p < .01$), but high fit does not affect intrusiveness ($p > .1$) · Customers are less likely to purchase intrusive offers ($p < .01$) and more likely to purchase high matching offers ($p < .01$), but this effect is weaker if intrusiveness is high ($p < .01$)	233 participants on a consumer panel	Online experiment	Internet banking services; Dutch customers
				· Personalizing advertising with name ($p < .01$) and using transaction information ($p < .01$) increase the perceived intrusiveness of the ad · Higher privacy concerns lead to more perceived intrusiveness of the ad ($p < .01$) · Purchase intentions are lower if advertising is perceived as intrusive ($p < .1$), but higher if fit is high ($p < .05$) but this effect is partially offset if advertising is intrusive ($p < .05$)	467 participants on a consumer panel	Online experiment	Telecommunications industry; replicates the majority of the findings from study 1
Wetzlinger et al. 2017	Omnichannel	Recommendations, push-notifications, virtual shelf	Customer trust, privacy concerns	· Personalisation triggers higher privacy concerns, both online ($p < .000$) and in retail ($p < .000$) · In online shops ($p = .06$) and retail store ($p = .01$), customers tend to be more willing to adopt non-personalised services than personalised services	112 university students with sufficient experience in using smartphones for e-commerce	Online survey	Retail sector
Wiser (n.d.a)	Online	Recommendations	Sales, conversion rate, customer engagement	· 27% increase in customer engagement on product pages · 18% increase in conversions · 5% increase in average order value from product recommendations.	Data collected from Gym+Coffee online shop, an sportswear brand	Case study; A/B Testing	*See remarks***
Wiser (n.d.b)	Online	Recommendations	Sales, conversion rate, customer engagement	· 40% increase in customer engagement on product pages with personalized product recommendations. · 11% increase in average order value with personalized product recommendations · 17% increase in conversions with personalized product recommendations.	Data collected from Kappa online shop, an sportswear brand	Case study; A/B Testing	*See remarks***

* Studies marked with an asterisk are composed of two or more experiments.

** Study/Case/Report published by a company that provides marketing personalisation services. The methodology of the results is not (or poorly) explained.

J. Table 9: Articles about other impacts of personalization

Author(s)	Channel	Personalisation types	Analysed impact(s)	Observed impact(s)	Sample	Method of study	Further information
Aguirre et al. 2015*	Online	Advertisements	Click-through intentions, perceived vulnerability	· When firms engage in overt information collection, more personalised ads enhance click-through intentions, but not when firms engage in covert data collection (p = .033) · When firms engage in covert information collection, more personalised ads increase feelings of vulnerability, but not when firms engage in overt data collection. (p = .017)	120 participants from an online panel, familiar with Facebook	Experiment	On the impact of the company's collection strategy: overt or covert
				· When firms engage in covert data collection, more personalised ads decrease click-through intentions if the ad appears on a less trustworthy website, due to their increased feelings of vulnerability.	194 participants from an online panel, familiar with Facebook	Experiment	On the impact of the host website (trustworthy or not) on the effectiveness of ad; use of CNN and Facebook
				· Differences in click-through intentions between the overt and covert conditions became insignificant (p = .448), in support of: · When highly personalised ads contain trust-building cues, click-through intentions do not differ whether the information has been collected overtly or covertly.	123 participants from an online panel, familiar with Facebook	Experiment	On the impact if the customer can choose the parameters of data collection on the effectiveness of the ad
Bleier/ Eisenbeiss 2015a*	Online	Advertisements	CTR, view-through rate, degree of personalisation	· Ads with a high level of personalisation have a higher CTR than non-personalised ads in the information state (p < .01), the consideration state (p < .01), and the post-purchase state (p < .1)	Analysis conducted on 1'264'885 banners	Field experiment	With the focus on the different states of the purchasing process; Major fashion and sporting goods retailer.
				· Personalised banners are more effective than non-personalised ads (p < .01) · Personalised banners generate less view-through than non-personalised ads on motive incongruent websites (p < .05), but more view through on motive congruent websites (p < .01)	38'501 consumers	Field experiment	With a focus on the congruence of the site on which the ad is displayed; Major fashion and sporting goods retailer.

Author(s)	Channel	Perso. types	Analys. imp.	Observed impact(s)	Sample	Method	Further info.
Bleier/ Eisenbeiss 2015b	Online	Advertise-ments	Privacy con-cerns, reac-tance, useful-ness	· For a more trusted retailer, personalizing banners with high depth and narrow breadth increases their perceived usefulness compared to low-depth banners ($p < .05$) · For a more trusted retailer, personalizing banners with high depth and wide breadth does not increase reactance compared to low-depth banners ($p < .1$) · For a less trusted retailer, personalizing banners with high depth and narrow breadth increases reactance compared to low-depth banners. ($p < .05$) · For a less trusted retailer, personalizing banners with high depth and wide breadth increases reactance compared to low-depth banners. ($p < .05$) · For a more trusted retailer, personalizing banners with high depth and wide breadth does not increase privacy concerns compared to low-depth banners ($p < .001$) · For a less trusted retailer, personalizing banners with high depth and narrow breadth increases privacy concerns compared to low-depth banners. ($p < .001$) · For a less trusted retailer, personalizing banners with high depth and wide breadth increases privacy concerns compared to low-depth banners. ($p < .001$)	280 German university students	Experi-mental Lab Study	Depending on the trust placed in the retailer; Depending on the depth and breadth of the personalisation
Epoq 2019	Online	Email market-ing	Click-through, sales	· 85% higher CTR in the category-based newsletter · 95% more sales thanks to the category-based newsletter.	Data collected from babymarket.de, an online baby and children equip-ment shop	Case study; A/B Testing	*See remarks***
Gupta/ Shukla 2022	Online	Personalised Advertise-ments on social media	Brand strength, brand experi-ence	· Personalised ad has a positive impact on their brand experience ($p < .001$) · Personalised ad has a positive impact on the three elements of brand equity CBBE ($p < .001$) · Customer Brand experience has a positive impact on brand strength ($p < .001$)	Indian Facebook users; University students were targeted; 89.04% are <35 yo	Online survey	Number of participants is not specified in the study; Many sources are missing in the bibliography
Ha/ Muthaly/ Akamavi 2010	Online	Customised information such as rec-ommendations	Repurchase intentions, consumer satisfaction, perceived interactivity	· Customised information has an indirect positive impact on repurchases intentions. · Customised information has a positive impact on consumer satisfaction ($p < .001$), which impact positively repurchase intentions ($p < .01$) · Customised information has a positive impact on perceived interactivity ($p < .01$), which impact positively repurchase intentions ($p < .05$)	448 university students	Survey	Online travel services; Study conducted in the UK and Korea; Cus-tomised used as an synonym of personali-sation
Hartemo 2022	Online	Email market-ing	OR, CTOR, conversion rate	· E-mails that were customized based on volunteered data led to the highest OR ($p < .001$) · E-mails that were customized based on volunteered data led to the highest CTOR ($p < .001$) · E-mails that were customized based on volunteered data led to higher conversion rate ($p < .01$)	1864 university appli-cants, 67% are digital natives (<30 yo)	Longitudi-nal study; Field experi-ments	Finnish education industry; Difference between volunteered and observed data

Author(s)	Channel	Perso. types	Analys. imp.	Observed impact(s)	Sample	Method	Further info.
Kaptein/ Parvinen 2015	Online	Recommendations, product-display pages	Click-through-rate, sales	· Personalisation increases CTR by 43.6%, statistically significant ($p < .02$) · Personalisation increases the average revenue per customer from €0.034 to €0.041	1'449 customers of an online shop	Case Study: A/B Testing	Children's clothing industry
Sahni/ Wheeler/ Chintagunta 2018*	Online	Email marketing	OR, extra leads, unsubscription	· The probability that an email is opened increased by 20%, from 9.05% to 10.80% when the name of the recipient was included in the subject line ($p < .01$) · Adding the name in the subject line (at almost the same cost) resulted in considerable gains: 458 more recipients opened their email, which generated 35 extra leads (worth about $3,500) and 85 fewer people unsubscribed.	68'088 email IDs	Analysis of company data	Impact of the name in the subject; Data of a company selling online test preparation products
				· When the recipient's name was added to the subject line, the OR increased by 6%, i.e., 7'177 more recipients opened their emails ($p < .01$) · Click-rate increase was larger (a 7% increase, leading to 859 more clicks; $p < .01$) · Unsubscription rate was lower in the treatment condition, which is 11% lower than the control condition (38 fewer recipients unsubscribed, $p = .17$)	1'111'130 email IDs	Analysis of company data	Impact of the name in the subject; Data of *MercadoLibre*, largest online marketplace in South America
				· The likelihood that an email was opened increased significantly from 12.8% to 15.8% (a 23% increase; $p < .01$) when the name of the recipient was included in the subject line.	5'000 email IDs	Analysis of company data	Impact of the name in the subject; Data of *Stanford University*'s marketing team
				· Emails which showed the recipient's name and mentioned the discount generates the largest number of leads ($p = .02$) · Adding the recipient's name to the body of the email, when it was already mentioned in the subject line, did not increase the leads further ($p = .38$) · Unsubscribe rate did not change significantly across conditions · When the name of the recipient was present in the email, the presence of the discount increased the leads ($p < .01$)	1'411'510 email IDs	Analysis of company data	Impact of the name in the mail body and discounts; Data of a company selling online test preparation products
Tucker 2014	Online	Banner Advertising	Privacy concerns, CTR	· After the policy change, ads with personalised content were relatively more effective (CTR) than ads with generic but targeted or untargeted content ($p = .0047$)	1.2 million Facebook users	Field experiment	Impact of the privacy regulation change on Facebook; Conducted on a US-based non-profit campaign
Tyrväinen/ Karjaluoto/ Saarijärvi 2020	Omni-channel	Personalisation in general	CX, loyalty, Repeat Purchase Intention (RPI), WOM	· Personalisation has a positive direct effect on emotional CX ($p < .01$) and cognitive CX ($p < .01$) · Emotional CX ($p < .01$) and Cognitive CX ($p < .01$) has a positive direct effect on WOM · Emotional CX ($p < .01$) and Cognitive CX ($p < .01$) has a positive direct effect on RPI	4'418 retail customers recruited via a market research firm; skewed toward young consumers (63.1% are 15-34 yo)	Online survey	The experiment was conducted in two different countries, Finland and Sweden

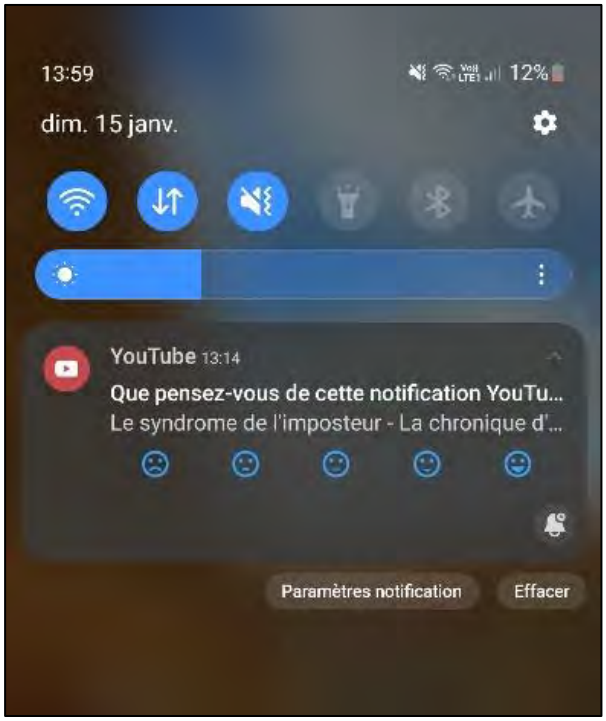
Author(s)	Channel	Perso. types	Analys. imp.	Observed impact(s)	Sample	Method	Further info.
Wattal et al. 2012*	Online	Email marketing	OR, satisfaction	· Product-based personalisation positively impacts the probability that an e-mail will be opened by more than 99% of customers ($p < .01$)	364'646 emails	Analysis of company data	Web-based distributor for a variety of products (e.g., long distance phone services, electricity, gas, health insurance, Internet connections)
				· Customers respond positively to e-mails with implicit product-based personalisation ($p < .05$) · Consumers on average respond negatively to personalised greetings ($p < .05$) · Familiarity with a firm indeed leads to less negative reaction to personalised greetings in e-mail ads · Customers who did not purchase previously respond more positively to product personalisation ($p < .01$)	23'323 emails		
White et al. 2008*	Online	Email marketing	Click-through intentions, reactance	· The effect of personalisation on click-through intentions depended on the presence of a justification ($p < .05$) · Click-through intentions do not vary between high and low personalisation in the presence of a justification (ns), but were lower for high versus low personalisation without the presence of a justification ($p < .005$) · Impact of personalisation on reactance was moderated by justification ($p < .05$) · The degree of personalisation had an impact on reactance when the justification was absent ($p < .005$), which was not the case when the justification was present (ns) · Reactance is negatively related to click-through intentions ($p < .0001$)	86 undergraduates	Experiment	Movie rental website
				· Mails with higher perceived utility have higher click-through intentions ($p < .0001$) · Click-through intentions do not vary between high and low personalisation in the presence of a justification (ns), but were lower for high versus low personalisation without the presence of a justification ($p < .06$) · Click-through intentions were higher for low personalised messages ($p < .05$) when justification was present and perceived utility was high · Respondents with high perceived utility reported significantly lower levels of reactance ($p < .0001$) · Reactance was significantly negatively related to click-through intentions ($p < .0001$)	331 undergraduates	Experiment	Movie review website

* Studies marked with an asterisk are composed of two or more experiments.

** Study/Case/Report published by a company that provides marketing personalisation services. The methodology of the results is not (or poorly) explained.

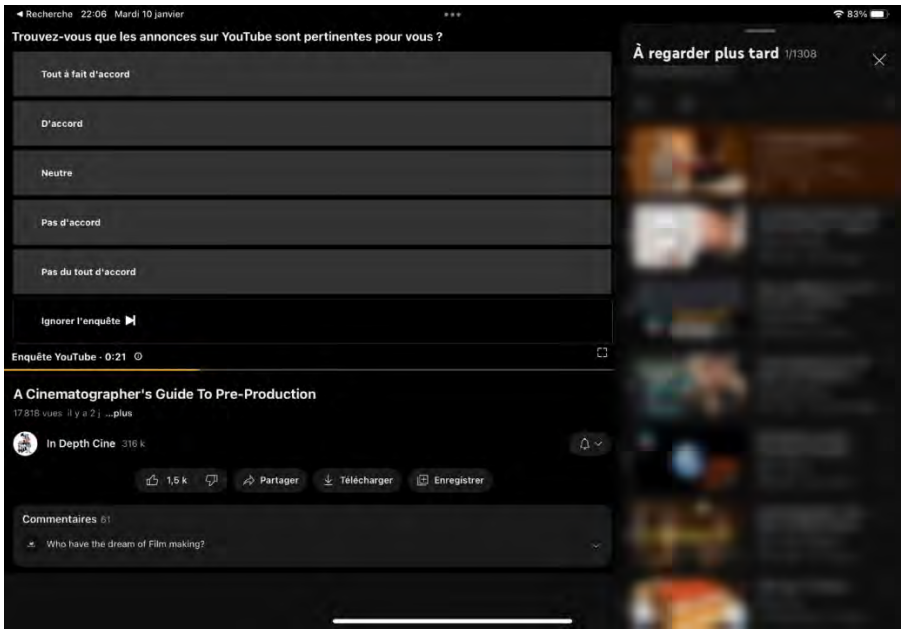
K. Examples of requests for feedback on personalisation

Figure 36: Youtube review notification



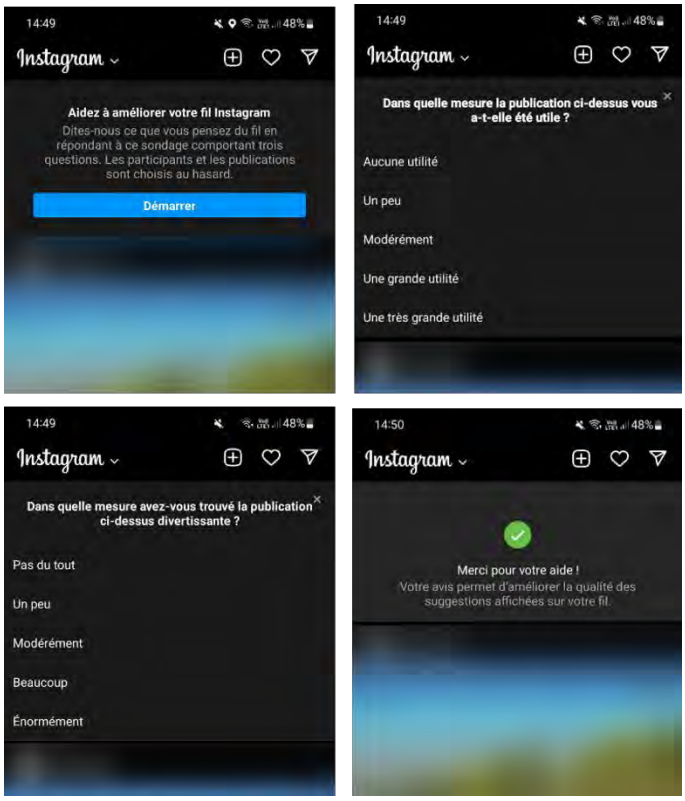
Source: Youtube 2023

Figure 37: Youtube review ad



Source: Youtube 2023

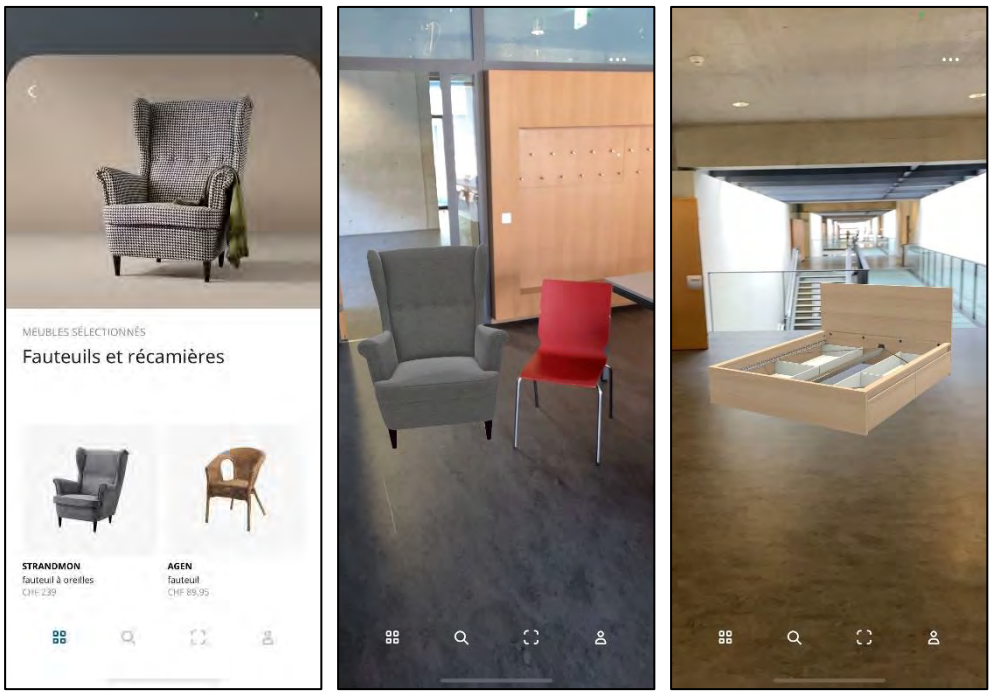
Figure 38: Instagram review post



Source: Instagram 2023

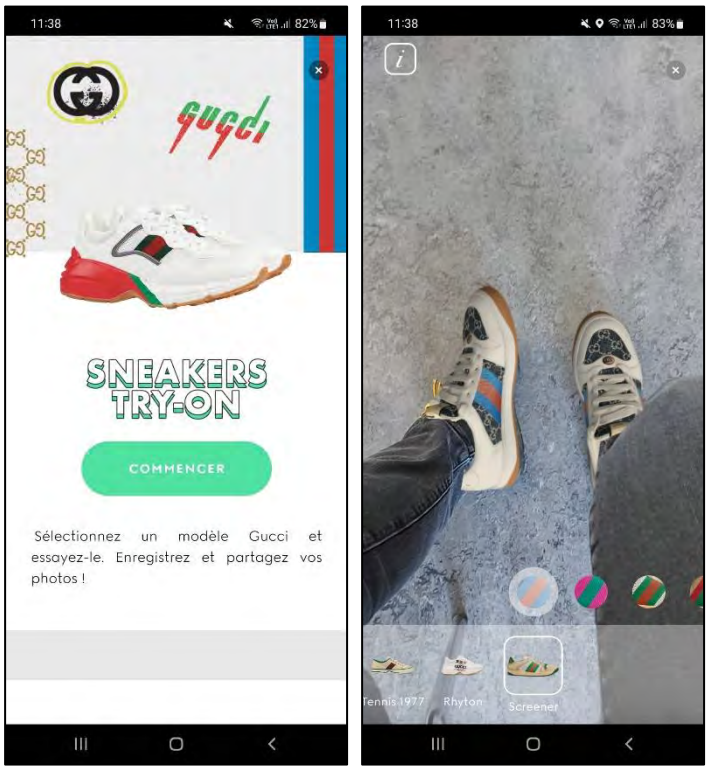
L. Examples of the use of AR

Figure 39: Screenshots of the IKEA Place app



Source: IKEA Place 2023

Figure 40: Screenshots of the Gucci app



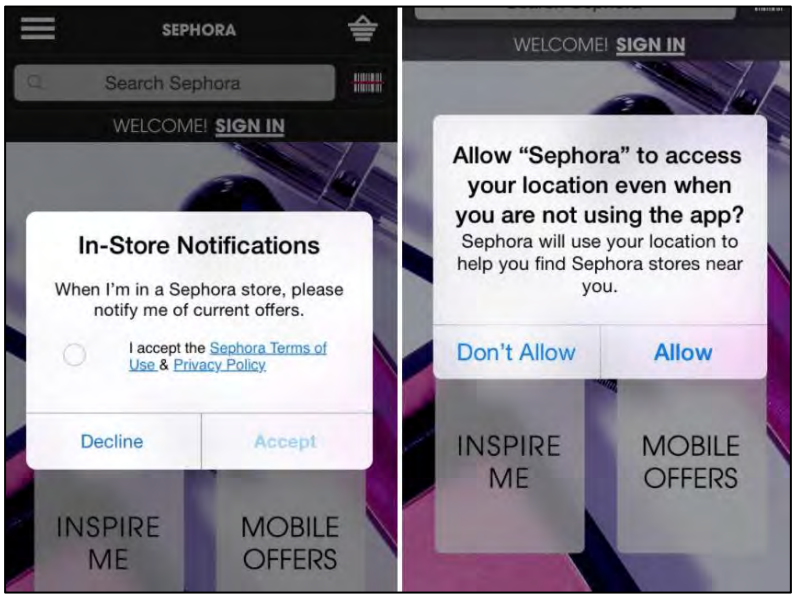
Source: Gucci 2023

M. Examples of location-based notifications

Figure 41: Starbucks location-based notification

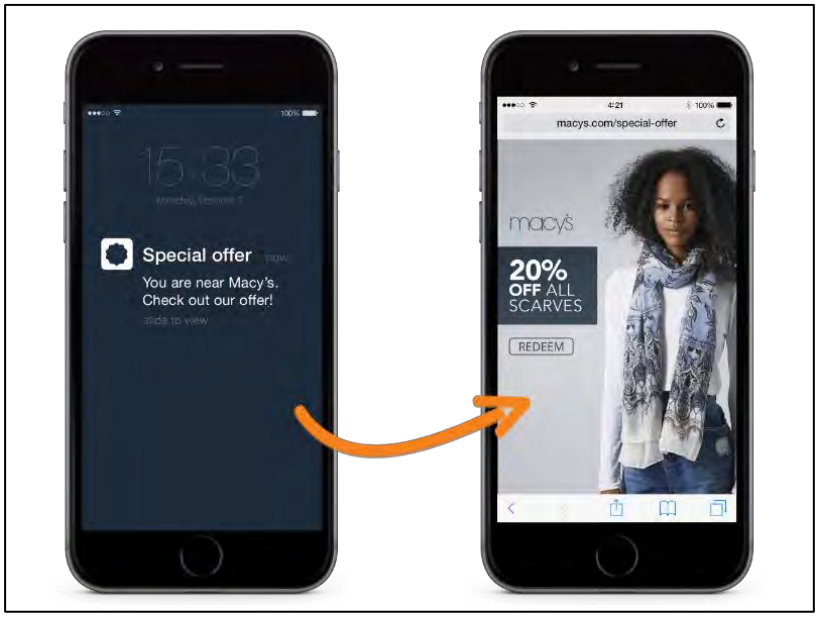
Source: PlotProjects n.d.

Figure 42: Sephora location-based notification



Source: BuzzFeed News (n.d.) as cited in CB Insights 2018

Figure 43: Macy's location-based notification



Source: Abidi 2020