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Bachelor Thesis

The positive consequences for companies of using personalisation in the digital marketing

Name Student: Silvia Barendse

Student ID number: 575918

Supervisor: E.A. Keehnen

Second Assessor: F. Prins

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## Abstract

Advertisements have been used for a long time period. However, as the internet has been developing over the past few decades, a new form of advertising has been evolved; online personalised advertisements. These are advertisements that use the personal data of customers to customize the customer experience per individual. The use of the customers' data has evoked privacy concerns and feelings of invasiveness for the customers. There has already been done a lot of research about these consequences. On the other hand, research about the consequences for the companies is still ill-found. Therefore, this thesis investigates the positive consequences for companies of using personalised advertisements. It is found that three factors contribute to the success of a company, which are the company's image from the customers' perspective (Kotler, Kartajaya and Setiawan, 2019), the customers' likelihood to purchase products from the company (Esmeli, Bader-El-Den and Abdullahi, 2020), and the customers' loyalty to the company (Reiccheld and Schefter, 2003). In addition, it is found that the click-through rate gives information about the success of an advertisement (Seckelmann, 2011). Therefore, these four concepts (image, purchase likelihood, loyalty, and click-through rate) are investigated in the thesis by conducting a survey. When filling out the survey, respondents will be shown an advertisement with a certain personalisation degree, and are asked questions about what they would do or think if they saw this advertisement online. There are three different personalisation degrees. With the obtained data, it is investigated whether the respondents give different answers when receiving advertisements of different personalisation degrees. In order to analyse the data, one-way ANOVA-tests are used to investigate whether the mean responses of the three different personalisation degree groups differ with a statistically significance. The survey data give the results that there are no statistically significant differences. Therefore, the four concepts are not positively influenced when using personalised advertisements and are thus not the positive consequences of using personalisation for advertisements. However, this conclusion contradicts the existing literature. This contradiction can be the result of too few survey respondents, as this has caused the analysis results to be not significant. Therefore, further research has to be done to come up with a valid conclusion.

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## 1. Introduction

We as humans have used advertisements for way longer than we realise. At first, word of mouth was used to let customers know about certain products. As brands did not exist yet, products were generally announced when they were made. Later, in the fifteenth and sixteenth century, print media came into the world. In the seventeenth century, the first advertisements were published in newspapers. At the end of the nineteenth century, advertisements began to engage customers with the products by using slogans and pictures. During the twentieth century, the radio was invented and started to be a useful tool for advertising. Later, television was invented and advertisements were displayed. Then at the beginning of the twenty-first century, digital marketing arose, making the customers not only passive receivers but also active distributors, contributors and even creators of the content. And then the most recent development, starting in the late 2010s but still developing, is the use of Artificial Intelligence in advertising to create personalised advertisements (Shah et al., 2020). Personalisation is defined as presenting and using personal information of customers in the interactions and transactions to individualise customer experience and enhance marketing effectiveness (Aksoy et al., 2021). Therefore, personalised advertisements use the data of the individual customers in order to individualise the customer experience. This development is causing a lot of changes in the marketing domain, as it changes the way customers decide what products they want to purchase and to what company they are loyal to. This, in turn, affects the outcomes and results for the companies. Therefore, it is relevant to investigate the use of Artificial Intelligence to create personalised advertisements. This will be done in this bachelor thesis. Focusing on the positive consequences of using artificial intelligence for personalised advertisement, it will become clear whether it is beneficial to use artificial intelligence in this domain. Therefore, this bachelor thesis' initial research question is:

*What are the positive consequences for a company of using Artificial Intelligence to create personalised advertisements for its customers?*

## 2. Literature Review

### 2.1 Definitions & Concepts

#### 2.1.1 (E-)Consumer Behaviour

First, it is important to explain and elaborate on the important concepts that will be used in this thesis, starting with the definition of consumer behaviour. Consumer behaviour comprises all physical, mental, and emotional processes a customer engages in to fulfil his or her wants when he or she chooses, purchases, uses, and discards products and services (Priest, Carter and Statt, 2001). Customers are the people who try to fulfil a personal or community's need by spending their money. Hence, customer behaviour refers to how customers behave when they acquire and utilize products and services (Khatri, 2021). The traditional economic theory makes the assumption that customers compare the costs and benefits of different consumption options. Eventually, they choose the option which maximizes their utility. Therefore, the customers are called rational decision makers (Muller et al., 2011). In 1968, Engel, Kollat, and Blackwell developed The Consumer Decision Model (as described in Bray, 2008). The foundation of this model is a seven-steps decision-making process which the rational decision makers follow. The first step is the customer's recognition that there is a disparity between the customer's present situation, and the situation the customer would like to be in. There are two influences that affect this recognition process. First, in combination with the customer's previous memories, the customer receives and processes stimuli. Thereby, the customer experiences external variables, which can be environmental (culture, social class, family, situation) and / or individual (resources, motivation, knowledge, personality, values, lifestyle). Once the need has been identified, the customer starts looking for information, after which the customer compares the different consumption options. This comparison is also influenced by the external variables that have just been described. After the customer has compared the different options, he or she purchases one of these options. After the purchase, the customer reviews the product. The last stage is the divestment, which symbolizes the awareness that the product will probably be thrown away once it has been used (Bray, 2008)

Another model describing the customer's decision-making process is The Theory of Buyer Behaviour, developed by Howard in 1963 and further developed by Howard and Sheth in 1969 (as described in Bray, 2008). This model describes input variables, followed by hypothetical constructs or intervening variables, that cause the outputs. Besides the input variables, exogenous variables also influence the hypothetical constructs / intervening variables. The input variables are the factors the customer is exposed to in his or her surroundings and receives information from. There are two types of hypothetical constructs; those categorized as learning constructs (motive, evoked set, decision moderator, predisposition, inhibitors, contentment) and those that are categorized as perceptual constructs (sensitivity to information, perceptual bias, information search). As mentioned above, exogenous variables potentially have a big impact on these hypothetical constructs. However, these variables are

not explicitly defined as it is likely that they vary per customer. At last, the customer's reaction is represented by the five output variables, which are attention, comprehension, attitudes, intention, and the customer's purchase behaviour (Bray, 2008).

These two models present consumer behaviour for rational decision makers. However, in reality, customers are not rational decision makers. They exhibit behavioural biases, of which there are five. First, customers with cognitive limitations may find it difficult to make a decision from a wide range of possibilities, or they might find it difficult to comprehend information. Another bias is called hyperbolic discounting. This phenomena occurs when a customer would rather accept a lower payout now than a greater payout later in life, even though they would prefer the higher payout if he or she could receive this amount now as well. This concludes that customer preferences fluctuate over time. Next, there are default positions. When this occurs, customers might not adequately weigh all their alternatives as they seem to be strongly influenced by their default or endowment position. Another type of bias is called loss aversion. This bias refers to the customers' tendency to worry excessively about preventing losses as they tend to value losses more than gains of the same magnitude. Finally, there is information framing which explains that the manner in which information is presented, affects the overall quality of the decisions made by customers (Muller et al, 2011).

Over the last several decades, the idea of e-consumer behaviour has evolved. The customers who purchase products online are behaving differently from conventional customers. The term 'e-consumer behaviour' refers to this observed behaviour (Dennis et al., 2009). Customers who search and buy products online benefit in a number of ways. For instance, these customers can purchase products at reduced prices, have access to a large range of products and companies that sell these products, may find it more convenient to purchase products online, can compare product characteristics more easily, and exchange opinions and reviews. However, customers who buy online can also face some issues. For instance, there may be errors in the displayed prices, there may be hidden charges, the purchased products may arrive later than promised, or they may not arrive at all, or the products may not match the description posted online (Muller et al., 2011).

With their research, Bagga and Bhatt (2013) conclude that the customers' decisions to purchase products online or in stores are affected by intrinsic factors, such as the desire for pleasure and entertainment, and convenience. The convenience drives customers to make purchases online, while the desire for pleasure and entertainment has the opposite outcome. In addition, concerns about security can also affect customer's behaviour online. Nonetheless, Bagga and Bhatt have shown that although these security

concerns affect the customers' online purchasing behaviour, they can not be considered the primary incentive for customers to purchase products in stores instead of online. At last, social networking and information seeking can both have a significant impact on the customer's behaviour. They result in electronic word-of-mouth and information distribution, which affect the intentions of the customers who look for this kind of information (Bagga and Bhatt, 2013).

#### 2.1.1.1 Loyalty

When customers have positive experiences with a company, they may become loyal to that company. Companies can benefit from these so-called loyal customers. However, for many companies, the significant expenses associated with solely obtaining new clients cause many customer relationships to be unprofitable in the first years. Nonetheless, as time passes, the number of purchases from loyal customers increases while the expenses of providing services to these customers decrease. These two phenomena result in significant gains for the company, causing the relationship with the customer to become beneficial. In the e-commerce industry, the same trend can be witnessed. In fact, this trend is even further amplified on the internet. The initial expenses associated with acquiring a new customer on the internet mostly exceed those associated with traditional channels, resulting in greater losses. Nevertheless, profit growth quickens even more in the years that follow. Furthermore, besides making more and larger purchases, the customers often recommend new potential customers to the company, generating additional revenue. These referred customers start making money considerably earlier, since they are relatively inexpensive to obtain (Reichheld and Schefter, 2003).

Companies must earn customers' trust before they become loyal customers. This is far more difficult to do online than it is in physical stores. Customers who purchase products online are forced to depend on promises and images; they are unable to interact with salespeople or physically see the products. Customers will purchase products elsewhere if they lack confidence in a company online. However, they are far more inclined to provide their personal information to companies they do trust. This allows the company to build closer relationships, and provide customers with customized offerings. This, consecutively, reinforces the customers' trust and loyalty to the company (Reichheld and Schefter, 2003).

In addition to trust, the image of a company also plays an important role in establishing customer loyalty. This corporate image is described by Riordan, Gatewood, and Bill (1997, as described in Kurunaratna and Kumara, 2018) as each customer's unique assessment of a company's actions, initiatives, and achievements. Andreassen and Lanseng (1997, as described in Kurunaratna and Kumara, 2018) state that a company's corporate image is a cumulative mindset towards the company, whether or not it is

built on experience. They state that customers' perceptions of a company are formed and shaped by their interactions with it, and these perceptions affect the customers' company choice. In addition, according to Kandampully and Suhartanto (2000, as described in Kurunaratna and Kumara, 2018), the customers' image of a company plays a significant role in determining the customer loyalty. Likewise, a significant positive correlation between a company's corporate image and its customers' loyalty has been found by Boohene and Agyapong (2011, as described in Kurunaratna and Kumara, 2018).

#### 2.1.1.2 Image & Purchase Intention

We will dive a bit further in the concept of a company's image. The image will determine the brand equity, together with the brand awareness. According to Farquhar (1989, as described in Page and Lepkowska-White, 2002), brand equity is the boost in value that a product receives from a brand. Aaker (1996, as described in Page and Lepkowska-White, 2002) argues that customers can distinguish and understand a product's quality more easily if a brand is well-known. Two factors are crucial for creating a powerful brand, states Keller (1993, as described in Page and Lepkowska-White, 2002), namely brand awareness and brand image. The probability and simplicity with which the customer will identify a brand with its offered products is known as the brand awareness. Customers' opinions of a brand and the connections they have with it in their memories are related to the brand image. Nowadays, websites are also used to promote and sell products. Therefore, in addition to brand equity, the concept of web equity has been discovered. Like brand equity, web awareness refers to the customers' level of acquaintance with the website. The web image is determined by the connections that customers have with it in their memory, both connected and not connected to the website. Factors that are not connected to the product are linked to the customers' experiences on the website, argues Alba et al. (1997, as described in Page and Lepkowska-White, 2002). Therefore, they are significantly important for the company's online reputation. Cognitave (1999, as described in Page and Lepkowska-White, 2002) adds that customers' interactions with a website influence not just how they feel about a company, but also whether or not they plan to return to the website. Therefore, web equity surpasses conventional brand equity (Page and Lepkowska-White, 2002).

A company that sells products online via a website, has to create a positive user experience on its website in order to establish a positive image. To create this positive user experience, there are eight essential components that have to be taken into account. The first component is reliability, which is about how easily accessible a website is. When a company's website is not available at all times, according to Cognitave (1999, as described in Page and Lepkowska-White, 2002), customers may browse other websites and at the same time develop unfavourable feelings about the company, which can be harmful to the company's image. Thereby, Deighton (1996, as described in Page and Lepkowska-White, 2002)



argues that it is critical for a website to be easy to use. Hoffman and Novak (1996, as described in Page and Lepkowska-White, 2002) add that the ease of website use determines the customers' satisfaction. Satisfied customers are more likely to return to the website in the future. The overall quality of information on the website is the next component. Alba et al. (1997, as described in Page and Lepkowska-White, 2002) conclude that the degree to which customers may utilize the available knowledge before making the purchase to forecast their level of contentment after using the product, is what determines this overall quality. The next component is the simplicity of comparing products. Consequently, the simplicity of ordering products is another important component. Kunz (1998, as described in Page and Lepkowska-White, 2002) found that customers are more satisfied with a website when the purchase process is made easier. The next component is the speed at which website pages can be accessed. Offering customers an experience-focused, engaging, and entertaining website is another component that creates a positive user experience. Li et al. (1999, as described in Page and Lepkowska-White, 2002) and Waltner (1999, as described in Page and Lepkowska-White, 2002) both found in their research that customers are more likely to have a positive user experience and foster a favourable company image if they can engage with other potential customers, and sales and support staff. In addition, sensory stimulation from the website also contributes positively. At last, Alba et al. (1997, as described in Page and Lepkowska-White, 2002) add that creating a customized experience also contributes to a positive image for the company. A company offers its customers a more valuable experience by allowing them to customize their shopping experience, suggests Roman (2000, as described in Page and Lepkowska-White, 2002). Fletcher (2000, as described in Page and Lepkowska-White, 2002) adds that customers are less inclined to use other websites as they have already devoted time and effort in creating a profile on the company's website.

In addition to these eight website factors, there are also four seller characteristics which influence the company's image. The first is customer service, which has a significant impact on customer's online purchasing decisions, according to Griffith and Krampf (1998, as described in Page and Lepkowska-White, 2002). Waltner (1999, as described in Page and Lepkowska-White, 2002) adds that the rapidity and the accessibility of the seller are important variables that influence the quality of customer service. The next characteristic is privacy protection, which is mentioned by Culnan and Milberg (1999, as described in Page and Lepkowska-White, 2002), or the ability to make customers at ease to share their personal information. Culnan (2000, as described in Page and Lepkowska-White, 2002) also mentions the next characteristic, which is security assurance. This is the seller's promise that the customer's personal data is secured both during transmission, as well as after it has been stored. The last characteristic is the seller's trustworthiness. Several activities can contribute to increasing the trust. According to Hollis (2000, as described in Page and Lepkowska-White, 2002), timely delivery and the return of funds contribute, while Marshak (2000, as described in Page and Lepkowska-White, 2002)

mentions that company's should keep their word, and Gray (2000, as described in Page and Lepkowska-White, 2002) adds that reasonable return policies contribute to trust. Hollis (2000, as described in Page and Lepkowska-White, 2002) shows that companies that cultivate trust are able to generate loyal customers. Therefore, trust can be seen as a necessary component for successful company-customer relationships (Page and Lepkowska-White, 2002).

Brand identity, brand image, brand integrity, and brand interaction are the four components that come together to form marketing, as is described by Kotler, Kartajaya, and Setiawan (2019, as described in Dash, Kiefer and Paul, 2021). The choices that are made about the brand's positioning and the customers' perception of the brand create the brand identity. It embodies the values the company wants to be associated with. Therefore, brand identity is the company's portrayal of the brand, whereas brand image is the customers' perspective. The likelihood that customers will purchase products at the company is often affected by the brand identity, as multiple aspects of brand identity have a direct impact on the customers' behavioural intentions. When a brand adds value and enhances a customer's esteem through an original and relatable brand identity, customers are more likely to purchase at that company. Furthermore, the influence of brand image on the customer's intention to purchase a product at the company is equally significant. The brand image determines how distinctive the brand is. Research indicates that a positive correlation between a customer's self-esteem and a company's brand image influences the customer's intentions towards the company. Consequently, a robust and favourable brand image contributes to the development of customers' trust and acceptance, which positively affects the likelihood that customers' will purchase at the company (Dash, Kiefer and Paul, 2021).

As more customers are searching for products online, there is a new problem that emerges, namely customer conversion. When comparing the overall number of visits to the amount of user visits that result in a purchase, Liu et al (2019, as described in Esmeli, Bader-El-Den and Abdullahi, 2020), Zhou et al. (2019, as described in Esmeli, Bader-El-Den and Abdullahi, 2020), and Behera et al. (2020, as described in Esmeli, Bader-El-Den and Abdullahi, 2020) showed that the proportion of users that end up purchasing a product is very little. A significant portion of these discarded visits may be due to the customer's initial lack of desire to purchase, which almost completely eliminates the possibility of conversion in the first place. However, a significant portion of these discarded visits originate from individuals who did have a desire to make a purchase. In these specific situations, there may have been reasons such as a scarcity of offers or an inability to accurately analyse the user behaviour, that has caused the absence of a purchase. For these customers, personalised marketing techniques, such as personalised advertisements, could be useful (Esmeli, Bader-El-Den and Abdullahi, 2020). To

investigate these strategies, it is important to first explain and elaborate on the marketing and personalisation concepts.

### *2.1.2 Marketing*

In the most basic form, marketing can be explained as the process by which a company creates and exchanges value with its target market. Therefore, a company must have a thorough understanding about its potential customers, rivals, and potential partners to practice marketing strategies successfully. By fulfilling customers' demands and desires, a company generates value, after which it has the right to extract some of this value by placing a price on the product and selling it. A company's marketing strategy is its plan for this value creation. This strategy often consists of two main activities. First, the company decides which market it wants to target, and how it wants their product to be perceived by the customers within this market. This first step is called segmentation. Over the past years, marketers have shifted from targeting huge mass markets to smaller niche markets through customized marketing campaigns, which is possible thanks to new technologies. Once the company has figured out which market it wants to target, it has to outline a marketing strategy with which it can reach this desired position. For this, the marketing mix is often used, also called the four P's, and it includes the product, pricing, place, and promotion. The product comprises the whole set of advantages that a customer receives when purchasing a product. The price is determined by the mix of product, place, and promotion, as these factors affect how much customers value the complete mix. As customers often place varying values on a given product, companies could consider to charge different prices to different customers. The place stands for the marketing channel, which is the network the company uses to communicate with its customers. This includes everything from demand creation to the actual delivery. At last, the promotion. This includes choosing the best ways to engage with customers to spread information about the product and its characteristics (Silk, 2006).

As mentioned, the product part of the four P's comprises the whole set of advantages which a customer receives when he or she purchases a product (Silk, 2006). This shows the concept of 'Experience Economy'. Experiences are unique concepts that can be sold, and which customers definitely want to purchase. Companies generate experiences by purposefully interacting and connecting with customers, using goods as props and services as the stage, in a way that makes the event unforgettable. Since every experience is a result of the interaction between a staged event and a customer's state of mind, no two customers can have the same experience. Nowadays, the experiences sale is done in multiple ways. Brand-new improvements in technologies give rise to entirely new online experiences, for which companies often ask its customers a fee. But before companies can do this, though, they have to provide their customers with an experience which they find valuable enough to pay this fee. Therefore, the

design, the marketing, and the delivery of the experiences are crucial. Two aspects may be used to conceptualize experiences; the customer participation, which can either be passive or active, and the customer connection, which links the performance to the customer. These two aspects allow experiences to be grouped into four main classifications. In the first group, which is called entertainment, customers are more likely to be engaged passively to the performance, and only take the information and occurrences in. The second group consists of educational events. These events usually require relatively more active engagement. Escapist experiences entail more customer immersion, as these are the third group. The last group are the esthetical experiences, in which customers immerse fully in the activity while they have little to no power over it. These days, in order to provide customers with the best possible online shopping and product-search experience., the experience economy has also been implemented online (Pine and Gilmore, 1999). This application of the experience economy on the internet shows a shift in the marketing.

In the past few decades, marketing has shifted from traditional to digital. As there became more and more internet users, customers started to search for products online. This led to a greater integration of digital platforms into marketing strategies, which caused the prevalence and effectiveness of these strategies to increase. The idea of marketing automation was first introduced in 2007, which gave companies the ability to segment their customers, gather personalised information about these customers, and start marketing campaigns via multiple channels. Over the next years, customers' growing reliance on digital devices and the further development of social media led to more innovations in the digital marketing techniques. Nowadays, to increase brand awareness and lead generation, digital marketers use all online mediums (Desai, 2019).

The marketing medium to reach customers is thus shifting from the four P's to the internet. Internet marketing is the term for this new medium, which can be described as using electronic communication technologies to accomplish a company's marketing objectives. Numerous tasks are involved in this internet marketing, which are the communication method, distribution method, the website creation, and the payment method and security. The promotion of products online, online advertisements, and raising customer awareness via multiple online channels are all part of the communication method. The delivery strategy of products to the customers is captured in the distribution method. One of the main reasons why customers purchase products online is the ease of purchasing products and having them delivered at their home. Subsequently, according to Thomas (2008, as described in Bagga and Bhatt, 2013), the website must be designed while considering that the website must be user friendly, informative, it must be visually appealing, and it must stand out from the competitors' websites. The experience economy implicates that the website must be developed in a way that it maximizes the customer's experience

when he or she is using the website (Pine and Gilmore, 2019). Finally, the method of payment, and the security, are the last important tasks for companies in that they have to reassure their customers that their data and the used payment method are safe and trustworthy (Bagga and Bhatt, 2013).

The fundamental market shifts from an exclusive, vertical, individual market to an inclusive, horizontal, and social market has led to the marketing transition from traditional to digital. Because customers are now able to interact and communicate more with each other as a result of the internet and social media, and because companies are able to innovate through online teamwork, the market has become more inclusive. In addition, the market has also become more horizontal. In earlier days, marketing campaigns easily influenced customers and the customers' behaviour. However, customers no longer trust these marketing campaigns. Nowadays, they trust the f-factor, which consists of the customer's friends, family, Twitter followers, and Facebook fans. They are now used to utilize social media and the internet to ask for opinions and experiences of other customers, as they find these opinions and experiences more trustworthy than the company's own marketing campaigns. At last, the market has become more social instead of individual. In the past, customers' purchase decisions relied on their own, individual tastes, as well as their desire to adapt themselves to the social practices. Each person had an individual ratio between these two elements on which they based their purchasing decisions. But as customers have become more connected to each other in the last several years, they started to value each other's opinions more. Therefore, the desire to comply to the social norms has risen. Thereby, customers nowadays share their experiences and opinions through reviews. By combining all these reviews, the customers establish their own image of a company together. All these factors have caused the market to become more social (Kotler, Kartajaya and Setiawan, 2019).

The fundamental changes in the market that have just been mentioned have caused the shift in the marketing from traditional to digital. In the traditional marketing, the four P's were used. However, in the digital marketing, these four P's have been replaced by the four C's, which are co-creation, currency, communal activation, and conversation. The new, innovative production development technique, with which companies try to engage the customers in the process, is the co-creation of these four C's. The concept of currency involves dynamic pricing, which takes into account the demand and supply for the product. The customers' desire to have immediate access to the products and services when they have purchased them is captured in the third C, namely communal activation. Finally, the C that symbolises conversation indicates the shift from the conventional, one-sided communication to conversations between the companies and their customers. Companies can increase their chances of surviving the fundamental shifts in the market, which have been described earlier, by combining the four C's with the traditional four P's (Kotler, Kartajaya and Setiawan, 2019).

A traditional marketing framework, which describes the customer journey, is called the four A's framework. In this framework, the four A's consist of aware, attitude, act, and act again. Therefore, the customer journey starts with a set that comprises the products which the customer considers to purchase, called the consideration set. The customer then gathers data about the products in this consideration set (aware), form opinions about these products (attitude), then decides whether he or she wants to purchase a product in the set, and which product this is (act), and at last determine whether he or she would make the same purchase again in the future (act again). But just like the four P's, this framework has also been updated to a version for the current digital era. This updated framework consists of aware, appeal, ask, act, and advocate. Customers learn about companies through advertisements, other customers' recommendations, and prior experiences in the aware phase. Then, in the appeal phase, customers are drawn to particular purchase options. The customer then investigates the most appealing purchase options by reading reviews on the internet about the products, and asking friends and family for their opinions and experiences. This phase is referred to as the ask phase. At this point, as multiple experiences and opinions are brought together and examined, the customer journey transforms from individual to social. This appeal phase is followed by the act phase, in which the customer will purchase the product of which he or she is convinced it will meet his or her expectations. The framework ends with the advocate phase. Throughout this phase, customers may start to feel loyal to the company, which could lead to recommendations to other customers and repeated purchases (Kotler, Kartajaya and Setiawan, 2019).

The main aim of marketing is to move customers from the awareness phase in the 5 A's framework to the advocate phase. As customers' decision are typically affected by a mix of their own influence, others' influence, and the outer influence, there are three ways to accomplish this marketing goal. External variables affect the outer influence. As the message, media, and the frequency of these variables can be determined beforehand, the outer influence can be controlled and managed. Thereby, the other's influence is also external. However, it is challenging for companies to control and manage the other's influence, as word-of-mouth from friends, family, and the rest of the customer's community makes up the vast majority of it. Furthermore, a customer's own influence is often affected by the outer influence and the others' influence, as it is the outcome of prior experiences and interactions with companies, as well as subjective opinions and personal preferences (Kotler, Kartajaya and Setiawan, 2019).

### *2.1.3 Personalisation*

There are several ways to execute the promotion component of the previously discussed four P's. As promotion was originally done by broadcasting commercials on television and placing advertisements in newspapers (Shah et al., 2020), recent internet and social media advancements have made it possible

for companies to use a new advertising technique. The personalisation of advertisements is one such new technique. Personalisation is the use and presentation of a customer's personal data in the communications in order to customize the customer experience and in turn improve the effectiveness of the marketing technique (Aksoy et al., 2021). According to the Oxford dictionary (as described in Chandra et al., 2021), personalisation recognizes and honours the distinct, unique characteristics of every customer and provides them with customized products that are based on their individual preferences. Peppers and Rogers (1997, as described in Chandra et al., 2021) add that personalisation seeks to increase the customers' satisfaction by enhancing the quality of their purchase decisions and thereby encouraging the customers' loyalty to the company. Murthi and Sarkar (2003, as described in Chandra et al., 2021) define personalisation as a process during which customer preferences are identified, product offerings are aligned with these preferences, and in the end the company's attempts are analysed to evaluate whether the product offerings align with the identified customer preferences. Lim et al. (2022, as described in Chandra et al., 2021) explain that in order to do this, companies exploit insights on customers' data. This data can only be gathered when customers engage with the company, which they may do so by communicating on social media, posting product and experience reviews, or sharing purchase information. Personalisation may be categorized using three elements, state Fan and Poole (2006, as described in Chandra et al., 2021), namely what is personalised (functionality, channel, interface, content), who the target audience is (group or individual), and the creator of the personalisation (company or customer initiated). Furthermore, Aksoy et al. (2011, as described in Chandra et al., 2021) argue that personalisation techniques may also be categorized according to the used communication method and the way the personalised information is applied in the communication. For example, individualistic communication that emphasizes personal touch through the use of different introductions in combination with each customer's own name is the most essential part of the self-reference technique. Epley et al. (2007, as described in Chandra et al., 2021) and Puzakova et al. (2013, as described in Chandra et al., 2021) mention the anthropomorphism technique, which uses human-like behaviour and communication, including voices, gestures, and emotions, to strengthen the relationship between the customer and company. Finally, Akter and Wamba (2016, as described in Chandra et al., 2021) name the system-characteristics technique, with which smart systems and algorithms provide personalised data for each customer. Differentiated offers for specific customers are part of personalised marketing, which is the process of creating and providing products and services that are specifically tailored to each individual customer. Instead of using a uniform approach, a company that has access to a database with customer information could customize products and customer experiences to match the customers' likes and dislikes, thereby creating even more value for them. Creating personalised advertisements is one way the personalisation can be applied to marketing (Chandra et al, 2021).

#### *2.1.4 (Online) Advertising*

Marketing thus encompasses all of the phases from product creation and customer targeting until the delivery of the product and the evaluation of the outcome. Advertising is one of these phases in the middle of this process. The Institute of Practitioners in Advertising state that advertising is defined as conveying the most compelling selling message to the potential customers about a certain product or service, for the least amount of money. Advertising therefore reflects the product or service itself, as well as its name, packaging, price, and the delivery. It is a special kind of communication since it must not only provide the potential customers with information, it must also convince them to make the purchase. Hence, affecting the customers' opinions and behaviour is the primary objective of advertising. Potential customers must understand the message the company attempts to convey in order for the advertising to succeed. Misunderstanding of the message might lead to customer behaviour that is not beneficial for the company (Jefkins, Jefkins and Yadin, 2000).

With the increase of the amount of internet users over the past few years, the popularity of online advertising has risen. Online advertising is the intentional placement of advertisements on websites which are owned by third parties (Ha, 2008). Three categories can be used to describe online advertising. The first type is search engine advertising, which consists of advertisements that appear next to algorithmic search results. This type allows the advertisements to appear in front of the customers right when they are searching for them. As the advertisements are tailored to the customers' search content, it is part of so-called contextual targeting. Advertisements that are shown on websites without the provision of algorithmic search or other media content is the second category, called classified advertising. Then, display advertising is the third category. Advertisements that fall under this category are displayed on websites other than search engines. With display advertising, there is a potential for target advertising. Instead of basing the display advertising primarily on user demographics, as was done in the past, companies now target particular demographic groups based on data about their previous online behaviour (Goldfarb, 2013).

Three distinct models describe how online advertising may be performed. The broker model is the first one, which describes how an advertising broker manages a group of advertisers and publishers. A targeting criterion is specified by the broker. Generally, the pricing structure for the targeting is based on the amount of impressions. The broker usually captures a portion of the campaign funds and passes the remaining funds on to the publisher. The second model is referred to as the portal model. Big publishers that have the capacity to provide their own brokering tend to utilize this technique as they oversee their own group of advertisers and host the advertising platform. This creates an advantage for the publisher, as all user profiles are only stored on its own platform and not on a broker's platform. In



the last model, which is called the advertiser model, the advertisers choose to reach out to the customers directly, through the use of mails and messages for instance. Therefore, all relationships with publishers are controlled and supervised by the advertiser (Bilchev and Marston, 2003).

Thus, the previous three models describe how advertisers launch their advertisements, and how to choose which potential to target. This is accomplished by inspecting user profiles. However, how exactly does this so-called distributed profile advertising work exactly? This procedure consists of two stages. The first step is to actually establish user profiles, which entails linking different profiles together. Advertisers create unique, unidentifiable identities for all users so they do not breach the privacy design principles. Consequently, the advertiser passes this new identity on to the broker, who associates it with an existing identity that refers to the same user. As this procedure will be performed with several advertisers, in the end the broker will have a collection of identities that are associated with identities that already existed. Then the second phase involves delivering personalised advertisements by using the connections which have just been established between the new and existing identities. After the broker checks with various publishers, through the user's browser, whether or not the advertisers possess a customized advertisement for the user, the broker requests this advertisement from the chosen advertiser and then presents it to the user (Bilchev and Marston, 2003).

#### 2.1.4.1 Click-Through Rate

Personalised advertisements are displayed to the appropriate customer segments by using the models that have just been described. However, this does not imply that the customers respond to these advertisements right away. The click-through rate is the rate between the total amount of times a potential customer has clicked on the advertisement, and the total amount of times and advertisement has been displayed to potential customers. Therefore, it is a metric that shows the effectiveness of advertisements. It has been found by Rogers and Thorson (2000, as described in Seckelmann, 2011) that for advertisements that include the customer's name and personal interests, the click-through rate is relatively higher than that of advertisements that do not include this information. Nonetheless, it is important to carefully take the customers' privacy concerns into consideration. Customers value personalised advertisements. However, Xu (2007, as described in Seckelmann, 2011) and Brandimarte, Acquisti, and Loewenstein (2010, as described in Seckelmann, 2011) note that customers will respond dismissively to these advertisements, which will reduce the click-through rates, once they feel like they have no power over their own personal information. On the other hand, Tucker (2010, as described in Seckelmann, 2011) concludes that once customers have more supervision over their personal data and privacy settings, greater click-through rates occur for advertisements that utilize information that is less publicly available. Accordingly, in order to acquire high click-through rates, it may be helpful to post

highly personalised advertisements on websites that have transparent and accessible privacy settings (Seckelmann, 2011).

According to Sundar and Marathe (2010, as described in Aguirre et al., 2015), when customers are aware about the data collection that is happening, because the company has informed them about it, the company conducts overt information collection. Consent to gather the data is then established by the customer's ongoing usage of the website. Information transparency and consent are very important, however, an overabundance of consent requests could worsen the customer's website experience. Opposed to overt information collection is covert information collection. In this situation, companies gather the customers' personal information without their knowledge. As customers do not know about the data collection, it results in unbiased information which creates a deeper comprehension of the customer's behaviour, according to Verhoef et al. (2010, as described in Aguirre et al., 2015). In addition, it does not affect the customer's website experience. However, the customers' consent to gather the information is not established in this case, mention John, Acquisti, and Loewenstein (2011, as described in Aguirre et al., 2015). The outcome will vary based on the company's choice to perform overt or covert information collection. When a company uses personalised advertisements, it can increase the click-through intentions only when the company engages in overt formation collection (Aguirre et al, 2015).

#### *2.1.5 Artificial Intelligence*

Online advertising is not done manually. Instead, Artificial Intelligence (AI) is used. Brynjolfsson and McAfee (2017, as described in Rosário, 2021) define AI as a part of computer science which aims to create intelligent systems that are capable of performing certain activities for which normally human intelligence is needed. According to them, four characteristic have been used to describe AI, namely rational action, humanly action, rational thinking, and humanly thinking, which in turn have established two classifications, called weak AI and strong AI. Weak AI mimics human intelligence while it functions in limited circumstances, while strong AI can be used for any challenging task as it consists of AI-powered devices with human-level intellectual abilities (Rosário, 2021). Recently, AI has been applied to online advertising to convert the massive data flows, which originate from customers expressing what they want, need, and value through a variety of channels, into insightful knowledge about the customers and their behaviour. AI processes both structured and unstructured data. Data which are derived from conventional datasets create the standardized datasets. For example, these are datasets with demographics, transaction histories, and previous online surfing behaviour. Unstructured data is presented as spoken words, visuals, or written text. AI then prepares this unstructured data to make it ready for the following phases, which are called building blocks. Natural language processing (NLP) is one of these building blocks. NLP enables AI to interpret textual content by analysing subtleties of the

language. Next is image recognition, with which AI can decipher posted images and videos which accurately depict their actual purchasing patterns. Advertisers can obtain information about contextual consumption, as these visuals show what sorts of goods and brands a person purchases. Another building block is speech recognition. With this, AI is able to analyse spoken language and determine the meaning of it. When these building blocks are combined, patterns can be found in the data which can contribute to the forecasts of future customer behaviour. Nonetheless, individuals' personalities affect the way they communicate and speak. How AI analyses and interprets posts and the responses on these posts could identify individuals' characteristics, wants, and principles. These can be used to create personality profiles, which describe an individual in terms of the Big Five personality traits (conscientiousness, agreeableness, openness, neuroticism, and extraversion). Future marketing decisions can then be affected by these profiles (Kietzmann, Paschen and Treen, 2018).

With the identified patterns, AI can thus comprehend customers' wants and needs and provide the best plan to fulfil these. Additionally, as AI saves all information in a knowledge base, it preserves all computations it has made. Consequently, AI employs machine learning and therefore draws information from these past computations. As a result, AI becomes more and more intelligent the more unstructured data it examines, which allows it to assist in predicting customers' lifetime value and the conversion likelihood. The next task of AI is to create content, which it can do in a number of ways. With NLG, it can create humanlike sounding content such as creating customised messages or promotional material. This is followed by image generation, what is used to create realistic images and animated films based on text descriptions. At last, speech generation is used to produce convincing voiceovers (Kietzmann, Paschen and Treen, 2018).

#### 2.1.5.1 Applying Artificial Intelligence to the Consumer's Decision Journey

The application of AI to marketing has created new chances for marketers. However, in order to take advantage of these changes, one must comprehend how traditional communications function throughout the customer's decision-making process. This process begins with the need recognition, during which AI can identify new wants and needs the minute they arise. Machine learning repeatedly updates the customers' profiles whenever these customers upload pictures, make online purchases, adjust their profile information, or write comments. By using these updated customer profiles, AI can express customers' demands, which allows companies to respond effectively. The next step is called initial consideration. During this step, advertisers focus on enhancing the brand's exposure, while also highlighting the brand's main advantages and why the customer should consider the company's products. Then, utilizing AI-powered search, the results that will probably satisfy the customers' desires at that particular moment in time are then found, ranked, and presented. During the next step, called the

active evaluation phase, customers refine their selection of preferred brands and companies. Next, with the help of AI, the company uses advertising to convince the customers that the company's product is the best option. Machine learning, and the use of predictive lead scoring, enables advertising to accurately forecast customers' purchase intentions. Robust profiles are generated by an algorithm that sorts through the customer database. After this profile creation, real-time adjustments are made to these profiles with the use of machine learning, NLP, and image and speech generation, while at the same time content is created and adapted to these profile adjustments. At last, emotion AI is utilized to interpret customers' feedback and opinions on the company and its products. The next step is the purchase. AI has the ability to totally change this process. For example, purchasing systems can be altered or dynamic pricing can be implemented, which allows for real-time modifications of the price of the product, based on customers' behaviour, demand, competition, and seasonality. The post-purchase phase, which comes last in the customer's decision-making process, is the phase during which the customers assess their level of contentment and decide whether or not to buy the product again in the future. AI can also be used in this step. For instance, AI-enabled chatbots facilitate interaction and communication with customers. Thereby, AI can be utilized for propensity modelling, with which AI determines which customers are most valuable. At last, big data is used by AI to evaluate important performance metrics, including the probability of reengagement and a customers' lifetime value. Knowing these performance metrics allows for the creation of personalised communication, which encourage the desired customer behaviour and is modified based on the customers' reaction, all meant to maintain a long-lasting company-customer relationship (Kietzmann, Paschen and Treen, 2018).

#### 2.1.5.2 Privacy & Invasiveness

The application of AI to the consumer's decision journey can create privacy concerns and feelings of invasiveness for the customer. For instance, research indicates that customers find it very astonishing to see their private information in a company's advertisement, when that company has failed to disclose the data collection to them. Customers become aware that their data has been gathered without their consent. These situations can damage the company's reputation and future as it elicits negative feelings towards the company (Milne, Bahl and Rohm, 2008). Learmonth (2010, as described in Girona and Korgaonkar, 2018) concludes that customers occasionally find personalised advertisements annoying and intrusive. Furthermore, as customers are unable to avoid being constantly monitored by companies, personalised advertisements make them feel as though their freedom is in jeopardy. Customers who feel helpless and lack control over a situation are susceptible of becoming vulnerable (Baker, Gentry and Rittenburg, 2005). In addition, if a customer finds out a company has been collecting his or her data without consent (so the company has been practicing covert information collection), the customer is likely to feel vulnerable and may perceive this as if he or she has lost all control over his or her own personal information. However, had the customer been informed about the data collection (so overt

information collection had been used), then it would have been less likely for the customer to have these negative feelings (Aguirre et al, 2015). Furthermore, Piao et al. (2016, as described in Girona and Korgaonkar, 2018) and Tucker (2014, as described in Girona and Korgaonkar, 2018) have demonstrated that customers who feel more powerless over their own personal data, also show higher levels of fear. In contrast, Awad and Krishnan (2006, as described in Girona and Korgaonkar, 2018) and Lee and Cranage (2011, as described in Girona and Korgaonkar, 2018) found that customers worry less about their privacy when they feel like they do have control. These findings demonstrate that between customers' perceived privacy control and the amount that they worry about their privacy, there exists a negative correlation (Girona and Korgaonkar, 2018).

Thereby, Aguirre et al. (2015, as described in Girona and Korgaonkar, 2018) and Awad and Krishnan (2006, as described in Girona and Korgaonkar, 2018) found that there appears to be a so-called 'personalisation-privacy paradox'. While customers might like personalised advertisements, they may find the processes that have to be undertaken to create these advertisements rather bothersome, adds Kobsa (2007, as described in Girona and Korgaonkar, 2018). Taylor et al. (2011, as described in Girona and Korgaonkar, 2018) mention that this occasionally has a negative effect on customers' opinions about personalised advertisements. Culnan and Armstrong (1999, as described in Girona and Korgaonkar, 2018) propose a theory that explains this paradox, called the privacy calculus theory. According to this theory, a customer's privacy choice may be viewed as a cost-benefit analysis, where the advantages and disadvantages of different choices are weighed against each other. The disadvantages of this analysis can be thought of as the hazards associated with the data gathering and the intrusiveness. The advantages that can be considered are that the advertisements are more relevant, the more inventive customers, and the perceived control over one's privacy. Xu et al. (2011, as described in Girona and Korgaonkar, 2018) conclude that if customers might find that the advantages supersede the disadvantages, they will keep receiving the personalised advertisements and thus keep participating in the data collection.

Though the two negative consequences previously discussed are closely linked, it is crucial to understand that, in theory, the feelings of invasiveness and the privacy concerns are two different concepts. Liao et al. (2011, as described in Girona and Korgaonkar, 2018) state that privacy concerns comprise the issue of the possible loss of privacy. Lukaszewski et al. (2008, as described in Girona and Korgaonkar, 2018) state that the feelings of invasiveness are based on the idea that companies intrude on the customers' privacy. The privacy concerns are thus the fear of intrusion of a customer's privacy, while the invasiveness would be the actualisation of this fear (Girona and Korgaonkar, 2018). This demonstrates that the privacy concerns come before the actual invasiveness (Paschal, Stone and Stone-

Romero, 2009). The more a customer worries about a company's certain behaviour, the greater the likelihood that the customer believes it violates the privacy. When this conclusion is applied to personalised advertisements, it can be concluded that customers are more likely to see the advertisements as intrusive when they have higher levels of privacy concerns (Girona and Korgaonkar, 2018).

## 2.2 Conclusion & Take-Aways

In conclusion, two main negative consequences of personalised advertisements for a company's customers are the privacy concerns and the feelings of invasiveness (Girona and Korgaonkar, 2018). These two factors also affect the company. A lot of articles have been written about these negative consequences. These negative consequences mostly affect the customer, as it is their information that is being used for the personalisation, and their feelings that are affected. On the other hand, there are three concepts which are key factors that contribute to the success of a company, and thus could have positive consequences for the company. These are the company's image from the customers' perspective (Kotler, Kartajaya and Setiawan, 2019), the customers' likelihood to purchase products from the company (Esmeli, Bader-El-Den and Abdullahi, 2020), and the customers' loyalty to the company (Reiccheld and Schefter, 2003). Thereby, it has been shown that the personalisation of an online advertisement has several influences on each one of these factors. Therefore, these three key factors will be investigated during this research, In addition, it was shown in the literature review that the click-through rate of an advertisements is a determinant of the effectiveness of an online (personalised) advertisement (Seckelmann, 2011). Therefore, this concept will also be investigated to see whether the personalisation of the online advertisements has an effect on the success of the advertisement, and thus has a positive consequence for the company.

### 3. Research Question & Sub-Questions

As stated in the end of the literature review, there have already been written a lot of academic articles about the negative consequences of personalised advertisements, and how these advertisements affect the customers. However, the research about the positive consequences is still ill-found. In addition, most research has been about the consequences for the customers, not for the company. Therefore, the purpose of this thesis will be to investigate the positive consequences for a company of using personalised advertisements. The main research question will be:

*What are the positive consequences for a company of using Artificial Intelligence to create personalised advertisements for its customers?*

In order to answer this research questions, sub-questions will be investigated. First, it will be important to understand what it is that will be talked about. Therefore, it will be important to understand the phenomenon that enables the personalisation. In the literature review, it is explained what Artificial Intelligence is, and how it can be applied to the consumers' decision journey. However, it has to be clear how Artificial Intelligence is applied to digital marketing in order to create the personalised advertisements. Therefore, the first sub-question is:

1. *How is Artificial Intelligence applied to the digital marketing?*

Consequently, the research will focus more on the customer and the customer behaviour. As customers eventually determine the company's results, it is important to investigate what they think of personalised advertisements and whether these advertisements affect their behaviour towards the company. In the literature review, it was concluded that there are three concepts that are key factors which contribute to make a company a success. These were the company's image from a customer's perspective, the customer's likelihood to purchase at the company, and the customer's loyalty to the company. Therefore, the effect of the personalisation of online advertisements on these three factors will be investigated. This gives the following three sub-questions:

2. *What is the impact of the personalisation of advertisements on the image of a company from a customer's perspective?*

3. *What is the impact of the personalisation of advertisements on the likelihood that potential customers will purchase at the company?*

4. *What is the impact of the personalisation of advertisements on the customers' loyalty to the company?*

At last, as it was concluded in the literature that the click-through rate of an advertisement tells something about its success, this factor will also be investigated. This creates the last sub-question:

5. *What is the impact of the personalisation of advertisements on the click-through rate of an advertisement?*

## 4. Research Methodology

In order to answer the main research question, it is important to first answer all the sub-questions. In this chapter, it will be explained how each sub-question will be answered. Summarizing all strategies, a survey will be conducted and desk research will be done. The data from the survey will be analysed, so quantitative research will thus be done. It was decided to conduct quantitative research as tests can then be done which show whether the results of personalised advertisements are statistically significant different compared to the results of non-personalised advertisements. With the results of these tests, it will be possible to answer the sub-questions, and subsequently answer the main research question.

### 4.1 Survey

In order to answer the sub-questions, a survey will be conducted. The purpose of the survey is to find out what customers think of personalised advertisements, whether the customers' perceptions of the company change when they receive personalised advertisements, if they are more likely to click on personalised advertisements compared to non-personalised advertisements, whether they would be more or less likely to purchase products at a company from which they receive personalised advertisements, and whether customers will become more loyal to a company that uses personalisation. The survey will be designed in the following way. First, the respondent is asked questions about his or her demographic information. This information will be used later in the survey to imitate personalised advertisements. Namely, in the second part of the survey the respondent will see an advertisement for a water bottle. It is decided to use advertisements of a water bottle, as almost everyone can use this (people of all ages and genders). There will be three different degrees of advertisement; one non-personalised, one a bit personalised, and one completely personalised. They will all be about the water bottle. The non-personalised advertisement will have a standard text without any personalised information about the respondent, and a picture of a white water bottle. The advertisement that is a bit personalised will contain information about the respondent's gender, and the water bottle that is shown will be in the respondent's favourite colour. At last, the completely personalised advertisement contains the same information as the advertisement that is a bit personalised, and thereby includes information in the text about whether the respondent is a scholar, student, is working, or is retired. The design of the advertisements will be in such a manner that it resembles real-life online advertisements. Every respondent will get randomly assigned an advertisement with a certain degree of personalisation. Questions will be asked in order to retrieve information about the respondent's perception of the product and advertisement, and whether he or she would take action if he or she saw this advertisement online in real-life (meaning not during the survey). After this part of the survey, the respondent will have to answer some questions about what he or she thinks about the use of Artificial Intelligence and personalisation in online advertisements. This is the third and last part. This will be done deliberately after the part where the advertisements are



imitated, as the respondents will then be least influenced by the questions asked and will react to the advertisement most like they would in real-life.

#### 4.1.1 Population & Sample Size

The population of this research are customers who use the internet and social media. As the research is about online advertisements, the people in the population are the customers who visit internet websites and / or use social media, or receive online advertisements via email. According to Petrosyan (2023), there are 5.18 billion internet users worldwide. This equals 64.6% of the world population, and is thus also the population for this research. Using this data to determine the needed sample size, with a 95% confidence level, we get the following:

$$Sample\ Size = \frac{\frac{z^2 \cdot p(1-p)}{e^2}}{1 + \frac{z^2 \cdot p(1-p)}{e^2 N}} = \frac{\frac{(1,96^2) \cdot 0,05(1-0,05)}{e^2}}{1 + \frac{((1,96^2) \cdot 0,05(1-0,05))}{e^2 \cdot 5180000000}} = 385$$

Therefore, in order for the results to be considered reliable, at least 385 respondents have to fill out the survey. However, as there is limited time to conduct the survey and finish the thesis, it is not very likely that this amount of responses will be collected. Therefore, it is important to collect as much responses as possible; the more people fill out the survey, the more reliable the ultimate conclusions are.

#### 4.1.2 Analysing Survey Results

In order to use the gained information, the survey data have to be analysed. This will be done by looking at the descriptive statistics and by performing one-way ANOVA-tests. It is decided to perform ANOVA-tests as with these tests it can be tested whether there is a statistically significant difference between the results of the three different groups of personalisation degree.

## 4.2 Data Analysis Strategy

### 4.2.1 Sub-Question 1

*How is Artificial Intelligence applied to the digital marketing?*

For this first question to be answered, desk research will be done. There is enough information available on what Artificial Intelligence is and how Artificial Intelligence is implemented in the digital marketing to answer this sub-question. The search terms that will be used in order to gather the information are Artificial Intelligence, digital marketing, personalisation, and personalised advertisements. Mostly, the information from the literature review will be used. A short summary of this information will be made, which will answer the Sub-Question.

#### *4.2.3 Sub-Question 2, 3, 4 & 5*

In order to answer the other four sub-questions, the qualitative information from the survey will be used again. For some of the survey questions, descriptive statistics will be created. For other survey questions, one-way ANOVA-tests will be done in order to see whether the outcomes from the different personalisation degree groups differ significantly. Before performing the ANOVA-tests, it has to be tested whether the variances of the three different groups are similar, as this is an assumption for the ANOVA-test. For this, Tests of Homogeneity of Variances will be done. With the descriptive statistics and the one-way ANOVA-test results, it will become clear whether the personalisation of advertisements has an effect on the company's image, the customers' likelihood to buy, the customers' loyalty, and the click-through rate. Therefore, the sub-questions will be answered.

## 5. Results

### 5.1 Descriptive Statistics of Sample

In total, there were 48 valid responses that can be used for the analysis. Most respondents are women, as can be seen in Table 5.1. However, this men/women ratio does not correctly represent the society. Thereby, it can be seen that most respondents are working, and second to most respondents are students.

Table 5.1 Descriptive Statistics of Sample

	<b>Amount</b>	<b>Percentage (%)</b>
<b>Total</b>	48	100,00
<b>Women</b>	35	72,92
<b>Men</b>	13	27,08
<b>Scholar</b>	6	12,50
<b>Student</b>	17	35,42
<b>Working</b>	20	41,67
<b>Retired</b>	5	10,42

### 5.2 Analysis Survey Results

#### 5.2.1 Sub-Question 1

*How is Artificial Intelligence applied to the digital marketing?*

This sub-question can be answered by summarizing the information in the literature review. Firstly, AI helps advertisers to manifest customers' needs and wants by creating and updating customer profiles using their data. Companies can then target specific customer profiles and react to the profile updates. Machine learning is used to perform these updates. Thereby, as AI learns from its previous data and problem-solving experiences when using machine learning, it finds patterns in the customers' past behaviour, and uses these patterns to predict future customer wants and needs. Again, companies can react to these predictions. In addition, AI is also used in the customers' search for products as it can identify, rank, and present the results that will most likely meet the customers' needs. At last, AI is used to develop advertisements, ranging from personalised advertisements and mails to completely build advertising content. For this, image, speech, and natural language generation are used (Kietzmann, Paschen and Treen, 2018).

#### 5.2.2 Sub-Question 2

*What is the impact of the personalisation of advertisements on the image of a company from a customer's perspective?*

To answer this sub-question, the results of survey questions 8 and 9 will be used. First, the results of survey question 8 are analysed, which asked the respondents to indicate whether they thought the message in the advertisement appealed to them. As the data gained from the three different groups of different personalisation degrees have to be compared, a one-way ANOVA test is used. However, for an ANOVA test to be executed, it must be assumed that the variances of the groups are equal. To investigate this, the Test of Homogeneity of Variances is performed. The results,  $F(2, 45) = 0,205$  and  $p = 0,816 >$

0,050, are shown in Table A.8 in the Appendix, and conclude that the variances can be assumed equal. In Table 5.2, the results of the ANOVA test are presented. These results,  $F(2, 45) = 0,107$  and  $p = 0,899 > 0,05$ , show that there is no statistically significant difference between the means of appealing degree of the different groups. At last, the post-hoc Turkey test results shown in Table A.9 in the Appendix, show all p-values higher than 0,050. Therefore, there is also no statistically significant difference between two certain groups.

Table 5.2 One-Way ANOVA Test Results of Survey Question 8

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0,389	2	0,194	0,107	0,899
Within Groups	81,611	45	1,814		
Total	82,000	47			

In Table 5.3, the descriptives of survey question 9 are shown. This question asked whether the respondents would rather receive personalised or non-personalised advertisements. For the analysis, this has become a binary variable. The answer ‘non-personalised advertisements’ is represented by the number zero, and the answer ‘personalised advertisements’ is represented by the number one. As can be seen in Table 5.6, the mean of this variable is equal to 0,480. This shows that a slight majority prefers non-personalised advertisements over personalised advertisements.

Table 5.3 Descriptive Statistics of Survey Question 9

	N	Mean	Standard Deviation	Variance
Non-Personalised (0) / Personalised (1)	48	0,480	0,505	0,255
Valid N (Listwise)	48			

### 5.2.3 Sub-Question 3

*What is the impact of the personalisation of advertisements on the likelihood that potential customers will purchase at the company?*

For sub-question 3, the data of survey question 6, 7, and 11 will be researched. First, the data of survey question 6 will be investigated, which asked the respondents to rate the likelihood of them buying the product, on a scale of 1-100. Again, the Test of Homogeneity of Variances is performed to see if equal variances can be assumed. Table A.4 in Appendix A shows these results. It can be concluded, due to the results  $F(2, 45) = 1,036$  and  $p = 0,363$ , that there is no statistically significant difference in the variances. Therefore, equal variances can be assumed and the one-way ANOVA test can be performed. The results of the test, as shown in Table 5.4,  $F(2, 45) = 1,413$  and  $p = 0,254 > 0,050$ , show that there is no statistically significant difference between the means of the respondents’ likelihood to purchase the water bottle. Thereby, the post-hoc Turkey test results in Table A.5 in the Appendix show that there is also no statistically significant difference between the means of two groups with the different personalisation degrees, as again all p-values are higher than 0,050.

Table 5.4 One-Way ANOVA Test Results of Survey Question 6

	Sum of Squares	df	Mean Square	F	Sig.
<b>Between Groups</b>	1619,001	2	809,501	1,413	0,254
<b>Within Groups</b>	25775,478	45	572,788		
<b>Total</b>	27394,479	47			

The seventh survey question asked the respondents to indicate whether they would probably buy something from this firm in the future, based on the advertisement. The variances are again first tested with the Test of Homogeneity of Variance. The results shown in Table A.6 in the Appendix,  $F(2, 45) = 1,722$  and  $p = 0,190 > 0,050$ , show that there is no statistically significant difference between the variances. Equal variances can thus be assumed and the one-way ANOVA test will be performed. Table 5.5 presents the results  $F(2, 45) = 1,445$  and  $p = 0,247 > 0,050$ . It can thus be concluded that there are no statistically significant differences between the means of the three groups. Therefore, there is no statistically significant difference between the respondents' purchasing likelihood in the future from the same firm. Looking at Table A.7 in the Appendix, it can also be concluded that there are no statistically significant differences between the means of two groups with the different personalisation degrees.

Table 5.5 One-Way ANOVA Test Results of Survey Question 7

	Sum of Squares	df	Mean Square	F	Sig.
<b>Between Groups</b>	3,468	2	1,734	1,445	0,247
<b>Within Groups</b>	54,011	45	1,200		
<b>Total</b>	57,479	47			

Survey question 11 asked the respondents to indicate whether they would be more likely at a company that sends personalised advertisements instead of non-personalised advertisements. Table 5.6 shows the descriptive statistics of this last survey questions. Here, the categorical variable from 1 till 5 is used, representing the answers strongly disagree (1), somewhat disagree (2), neither agree nor disagree (3), somewhat agree (4), and strongly agree (5). As can be seen in Table 5.6, the mean value is equal to 3,020. This shows that the mean answer to this survey question is 'neither agree nor disagree'. In addition, Table 5.7 shows that 21 respondents answered 'somewhat agree', which is 43,8% of the sample. Therefore, it can be concluded that most people from the sample are more likely to purchase products at a company that sends personalised advertisements instead of non-personalised advertisements.

Table 5.6 Descriptive Statistics of Survey Question 11

	N	Mean	Standard Deviation	Variance
<b>Loyalty</b>	48	3,02	1,263	1,595
<b>Valid N (Listwise)</b>	48			

Table 5.7 Frequency Statistics of Survey Question 11

	Frequency	Percent (%)	Cumulative Percent (%)
<b>1</b>	8	16,700	16,700
<b>2</b>	10	20,800	37,500
<b>3</b>	6	12,500	50,000
<b>4</b>	21	43,800	93,800
<b>5</b>	3	6,300	100,000
<b>Total</b>	48	100,000	100,000

#### 5.2.4 Sub-Question 4

*What is the impact of personalisation on the customers' loyalty to the company?*

To answer Sub-Question 4, the data from survey questions 7 and 10 are used. As the data from survey question 7 has just been analysed, only the data from survey question 10 will be analysed here. This question asked the respondents to indicate whether they would be more loyal to a company that saves personal information and past purchases, and uses that data to send personalised advertisements. A categorical variable, from 1 to 5, is used to investigate this question, representing the answers strongly disagree (1), somewhat disagree (2), neither agree nor disagree (3), somewhat agree (4), and strongly agree (5). Table 5.8 shows that the mean of the categorical variable is 2,900, which is closest to answer 3 which is 'neither agree nor disagree'. Table 5.9 shows that most respondents answered 'somewhat agree', namely 18 respondents, which is 37,5% of the total sample. However, the respondents who answered either 'strongly disagree' and 'somewhat disagree' form together 39,600% of the total responses. Therefore, the opinions about this subject are widely spread.

Table 5.8 Descriptive Statistics of Survey Question 10

	N	Mean	Standard Deviation	Variance
<b>Loyalty</b>	48	2,900	1,292	1,670
<b>Valid N (Listwise)</b>	48			

Table 5.9 Frequency Statistics of Survey Question 10

	Frequency	Percent (%)	Cumulative Percent (%)
<b>1</b>	10	20,800	20,800
<b>2</b>	9	18,800	39,600
<b>3</b>	8	16,700	56,300
<b>4</b>	18	37,500	93,800
<b>5</b>	3	6,300	100,000
<b>Total</b>	48	100,000	100,000

#### 5.2.5 Sub-Question 5

*What is the impact of the personalisation of advertisements on the click-through rate of an advertisement?*

At last, to answer sub-question 5, the data from survey question 5 are used, which asked the respondents to indicate whether they would click on the advertisement to gain more information about the product. Again, the Test of Homogeneity of Variances is performed. In Table A.2 in the Appendix, the results of

this test are shown. With these results ( $F(2,45) = 0,364$ ,  $p = 0,697 > 0,050$ ), it can be concluded that it can be assumed that the variances for the three groups are equal. Therefore, a one-way ANOVA can be done. Table 5.10 presents the results of this one-way ANOVA test. This survey question investigates the respondents' click-through intentions. It can be seen that  $F(2, 45) = 0,514$  and  $p = 0,602$ . As  $p = 0,602 > 0,050$ , it can be concluded that there is not a statistically significant difference between the means of click-through intention of the different degrees of personalisation. The post-hoc Turkey test, shown in Table A.3 in the Appendix, shows that there is also no statistically significant difference between the means of two of the groups with the different personalisation degrees, as all p-values are higher than 0,050.

*Table 5.10 One-Way ANOVA Test Results of Survey Question 5*

	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
<b>Between Groups</b>	1,783	2	0,892	0,514	0,602
<b>Within Groups</b>	78,133	45	1,736		
<b>Total</b>	79,917	47			

## 6. Conclusion & Discussion

### 6.1 Conclusions for Sub-Questions

#### 6.1.1 Sub-Question 1

*How is Artificial Intelligence applied to the digital marketing?*

The summary in the analysis part of the thesis answers this sub-question. Firstly, AI helps advertisers to manifest customers' needs and wants by creating and updating customer profiles using their data. Companies can then target specific customer profiles and react to the profile updates. Machine learning is used to perform these updates. Thereby, as AI learns from its previous data and problem-solving experiences when using machine learning, it finds patterns in the customers' past behaviour, and uses these patterns to predict future customer wants and needs. Again, companies can react to these predictions. In addition, AI is also used in the customers' search for products as it can identify, rank, and present the results that will most likely meet the customers' needs. At last, AI is used to develop advertisements, ranging from personalised advertisements and mails to completely build advertising content. For this, image, speech, and natural language generation is used (Kietzmann, Paschen and Treen, 2018).

#### 6.1.2 Sub-Question 2

*What is the impact of the personalisation of advertisements on the image of a company from a customer's perspective?*

The analysis of survey question 8 concluded that there was no statistically significant difference between the means of the appealing degree between the three personalisation degree groups. However, the analysis of survey question 9 showed that a slight majority of the sample prefers to receive non-personalised advertisement instead of personalised advertisements. This implies that overall, non-personalised advertisement are more appreciated. Therefore, using non-personalised advertisements could lead to a relatively better image compared to using personalised advertisements. However, as there was only a slight majority observed, and as the analysis of survey question 8 concluded that the respondents did not feel that the advertisement appealed differently when using the different personalisation degrees, a change in the customer's perspective about the company's image is not observed. Therefore, it can be concluded that there is no impact of the personalisation of advertisements on the company's image.

#### 6.1.3 Sub-Question 3

*What is the impact of the personalisation of advertisements on the likelihood that potential customers will purchase at the company?*

In order to answer sub question 4, the results of survey questions 6, 7, and 11 are used. With the results of survey question 6, it was shown that there is no statistically significant difference between the means of the respondents' likelihood to purchase the water bottle which was displayed in the advertisements in the survey. The analysis of survey question 7 showed that there is no statistically significant difference



between the respondents' likelihood to purchase something at the same company in the future. Therefore, by combining these two results, it can be concluded that the personalisation of advertisements has no impact on the customers' likelihood to purchase at a company. However, the results of survey question 11 conclude that most people are more likely to purchase products at a company that sends personalised advertisements instead of non-personalised advertisements. This contradicts the combined conclusion from the analysis of survey question 6 and survey question 7. Combining all these observations, in conclusion it can be said that overall customers prefer to receive personalised advertisements, and they think they will purchase the products from personalised advertisements sooner than those from non-personalised advertisements. However, this situation is not observed in the customers' behaviour. On the contrary, the customers' behaviour tells us that the personalisation of advertisements has no effect on the likelihood that they will purchase at the company.

#### *6.1.4 Sub-Question 4*

*What is the impact of the personalisation of advertisements on the customers' loyalty to the company?*

To answer this sub-question, the results from survey question 7 and 10 are used. The analysis of the data from survey question 7 concluded that there is no statistically significant difference between the respondents' likelihood to purchase something at the same company in the future. This would imply that the personalisation of advertisement has no effect on the customers' loyalty to the company. However, the results of survey question 10 are a bit contradictory. The mean response to the question that asks whether the personalisation of advertisement changes the respondent's loyalty, was closest to 'neither agree nor disagree'. Thereby, the respondents' opinions about this subject were widely spread. Combining these finding of both survey questions, it can be concluded that there is no clear impact on the customers' loyalty when a company uses personalised advertisements instead of non-personalised advertisements.

#### *6.1.5 Sub-Question 5*

*What is the impact of the personalisation of advertisements on the click-through rate of an advertisement?*

To answer sub-question 5, the analysis of survey question 5 will be used. In this analysis, it was concluded that there is no statistically significant difference between the means of click-through intention between the different degrees of personalisation. In other words, the personalisation of advertisements has no impact on the click-through rate of the advertisements.

### **6.2 Conclusion for Main Research Question**

By combining all the conclusions from the sub-questions, the main research question can be answered. In short, by using the survey results, it was concluded that the personalisation of the advertisements has no impact on the company's image, on the customers' likelihood to purchase, on the customers' loyalty,

and on the click-through rate of the advertisements. Therefore, it can be concluded that these factors are not the positive consequences for the company when using Artificial Intelligence to create personalised advertisement.

### 6.3 Discussion & Recommendations

As stated in the conclusion, no positive consequences are found from the survey results. However, this conclusion contradicts the existing literature that is discussed in the literature review. For example, it was stated that personalised online experiences are more valuable than non-personalised experiences, and could contribute to a company's image from a customer perspective (Page and Lepkowska-White, 2002). However, as the results found that there is no difference in the company's image when using personalised advertisements instead of non-personalised advertisement, the conclusion of this thesis contradicts the existing literature. Thereby, it was found that there is an enormous difference between the amount of customers that visit a website, and the amount of customers that end up purchasing products via that same website. A considerable amount of abandoned visits comes from customers with a strong purchase intention. For these customers, it was said that personalised marketing strategies, such as personalised advertisements, could be very effective (Esmeli, Bader-El-Den and Abdullahi, 2020). Here again, the thesis conclusion about the customers purchase intention contradict the literature. For the customer's loyalty, it was stated that when customers trust a company, they are more likely to share their personal information. This creates more intimate relationships between a company and its customers. The company can use these relationships to offer personalised experiences, which increases the customers' trust and strengthens their loyalty (Reichheld and Scheffer, 2003). This conclusion therefore implies that the personalisation of advertisements strengthens the customers' loyalty to the company. Again, this is contradictory with the thesis results. At last, in the review it was found that a higher click-through rate for an advertisement is observed when the advertisement mentions some personal information, like the customer's name and specific interests (Seckelmann, 2011). Therefore, the conclusion of the thesis again contradicts the information from the existing literature.

These contradictory conclusions cast doubt on the correctness of the thesis results and conclusions. The contradictions could be the result of the relatively small amount of survey respondents. In order for the survey results to be reliable, 385 people had to fill out the survey. However, in reality, due to the limited time and resources, only 48 responses were recorded. When using too small of a sample, it could cause results that are not significant, which create unreliable conclusions. This is probably the case in this thesis. As there was too little time and resources to reach the minimum amount of respondents, the results of the data analysis became not significant. This has caused the conclusions to be contradictory

to the existing literature. Therefore, the same research could be done using more time and resources, creating significant results and more reliable conclusions.

Thereby, another limitation of this research is the advertisement that was used in the survey. It was decided to use a water bottle in the advertisement as this is a relatively neutral object that almost everyone uses. However, the object choice could have had an effect on the survey outcomes. Therefore, in order to gain information about whether personalisation of advertisements is useful in certain markets, it would be more useful to show advertisements concerning those markets. Thereby, three different personalisation degrees were investigated. However, there are different personalisation methods, degrees and information that can be used to personalise advertisements. If other information about the respondents had been used to personalise the advertisements, or if other sentences had been used in the advertisement text, it could have resulted in totally different outcomes. Therefore, it might be useful to investigate what personal information could best be used in advertisements, and what wording in the advertisement creates the most desired outcomes.

As discussed, there are some limitations. However, the research methodology is not one of them, as the internal validity is high. By conducting a survey, and subsequently performing one-way ANOVA tests and looking at the descriptive statistics, the sub-questions could be answered correctly. Therefore, the research methodology did what it was intended to do. On the other hand, the external validity is relatively low. As discussed in the results chapter of the thesis, the sample does not represent the population that well. For example, most respondents were women. However, in society, the men/women ratio is approximately 50/50. Therefore, the results and conclusions can not be generalized, resulting in low external validity.

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## A. Appendix

Table A.1 Survey Questions & Instructions

<b>Introduction</b>				
<p>Hello! Thank you for taking the time to fill out this survey for my bachelor thesis.</p> <p>For this research, your personal information and your answers to the questions will be collected. You will stay totally anonymous. The data will only be processed in the context of this research. After the research is done, the data will be deleted.</p> <p>You can exercise various rights regarding the processing of personal data, namely the right to information, rectification, deletion, restriction of processing, data portability, and the right to object. If you want to exercise your rights, or have any other questions, please contact me at <a href="mailto:silviabar2001@outlook.com">silviabar2001@outlook.com</a>. In addition, if you have a complaint, please contact me at the same mail address so we can solve the problem together. You also have the right to submit a complaint to the supervisory authority, which is Erasmus University Rotterdam ESE.</p> <p>By participating in this research, you give me permission to use your data. You can withdraw your permission by stopping the survey or by sending me an email.</p> <p>Thank you again for taking the time.</p> <p>Sincerely, Silvia Barendse</p>				
<b>Question number</b>	<b>Question</b>	<b>Kind of question</b>	<b>Possible answers</b>	<b>Motivation</b>
1	What is your year of birth?	Open Question		As respondents could dislike filling out their age, their age is asked indirectly by asking the year of birth.
2	To which gender identity do you identify?	Multiple Choice Question	Male / Female / Other	The gender information will be used further in the survey for the personalisation of the shown advertisement
3	What is your situation?	Multiple Choice Question	Scholar / Student / Working / Retired	The situation information will be used further in the survey for the personalisation of the shown advertisement
4	What colour do you like the most from the following options?	Multiple Choice Question	Blue / Green / Red / Purple	The favorite colour will be used further in the survey for the personalization of the shown advertisement
<b>Instructions</b>				
<p>For the following questions, an online advertisement of a water bottle will be shown. Imagine that you are in need of a water bottle and have looked some bottles up on the internet during the last few days. Now, you happen to come across this advertisement on the internet. With this in mind, answer the next few questions.</p>				
<b>Note</b>				
<p>For the next four questions (question 5-8), the respondents will receive an advertisement. There are three different sorts of advertisements with different personalisation degrees. It will be randomly selected which respondent receives which personalisation degree. The advertisement text and the colour of the water bottle will be different for each respondents, and will be based on the answers of the four questions that were just asked.</p>				
5	Indicate what you think about the following statement: 'I would click on this advertisement to gain more information about the product.'	Multiple Choice Question	Strongly Disagree / Somewhat Disagree/ Neither Agree Nor Disagree / Somewhat Agree / Strongly Agree	Sub-Question 5
6	Please rate the likelihood of you buying the product, on a scale of 1-100, based on the advertisement.	Bar	1 - 100	Sub-Question 3
7	Indicate what you think about the following statement: 'I would probably purchase something from this firm in the future, based on the advertisement.'	Multiple Choice Question	Strongly Disagree / Somewhat Disagree/ Neither Agree Nor Disagree / Somewhat Agree / Strongly Agree	Sub-Question 3 & 4



8	Indicate what you think about the following statement: 'The message in the advertisement appeals to me.'	Multiple Choice Question	Strongly Disagree / Somewhat Disagree/ Neither Agree Nor Disagree / Somewhat Agree / Strongly Agree	Sub-Question 2
9	Would you rather receive personalised or non-personalised advertisements?	Multiple Choice Question	Personalised Advertisements / Non-Personalised Advertisements	Sub-Question 2
10	Indicate what you think about the following statement: 'I would become more loyal to a company that saves my information and past purchases, and uses this data to send me personalized advertisements.'	Multiple Choice Question	Strongly Disagree / Somewhat Disagree/ Neither Agree Nor Disagree / Somewhat Agree / Strongly Agree	Sub-Question 4
11	Indicate what you think about the following statement: 'I would be more likely to buy at a company that sends me personalized advertisements instead of advertisements that are not personalized.'	Multiple Choice Question	Strongly Disagree / Somewhat Disagree/ Neither Agree Nor Disagree / Somewhat Agree / Strongly Agree	Sub-Question 3

Table A.2 Results of Tests of Homogeneity of Variances of Survey Question 5

	Levene Statistic	df1	df2	Sig.
<b>Based on Mean</b>	0,364	2	45	0,697
<b>Based on Median</b>	0,186	2	45	0,831
<b>Based on Median and adjusted df</b>	0,186	2	39,630	0,831
<b>Based on trimmed</b>	1,354	2	45	0,704

Table A.3 Results of Multiple Comparisons Turkey Tests of Survey Question 5

Personalisation Degree (I)	Personalisation Degree (J)	Mean Difference (I – J)	Standard Error	Sign.	95% Confidence Interval	
					Lower Bound	Upper Bound
<b>1</b>	2	-0,467	0,461	0,573	-1,580	0,650
	3	-0,200	0,461	0,902	-1,320	0,920
<b>2</b>	1	0,467	0,461	0,573	-0,650	1,580
	3	0,267	0,481	0,845	-0,900	1,430
<b>3</b>	1	0,200	0,461	0,902	-0,920	1,320
	2	-0,267	0,481	0,845	-1,420	0,900

Table A.4 Results of Tests of Homogeneity of Variances of Survey Question 6

	Levene Statistic	df1	df2	Sig.
<b>Based on Mean</b>	1,036	2	45	0,363
<b>Based on Median</b>	0,554	2	45	0,578
<b>Based on Median and adjusted df</b>	0,554	2	44,632	0,578
<b>Based on trimmed</b>	1,007	2	45	0,373

Table A.5 Results of Multiple Comparisons Turkey Tests of Survey Question 6

Personalisation Degree (I)	Personalisation Degree (J)	Mean Difference (I – J)	Standard Error	Sign.	95% Confidence Interval	
					Lower Bound	Upper Bound
<b>1</b>	2	-13,789	8,367	0,236	-34,070	6,490
	3	-3,789	8,367	0,893	-24,070	16,490
<b>2</b>	1	13,789	8,367	0,236	-6,490	34,070
	3	10,000	8,739	0,492	-11,180	31,180
<b>3</b>	1	3,789	8,367	0,893	-16,490	24,070
	2	-10,000	8,739	0,492	-31,180	11,180

Table A.6 Results of Tests of Homogeneity of Variances of Survey Question 7

	Levene Statistic	df1	df2	Sig.
Based on Mean	1,722	2	45	0,190
Based on Median	0,804	2	45	0,454
Based on Median and adjusted df	0,804	2	41,077	0,454
Based on trimmed	1,786	2	45	0,179

Table A.7 Results of Multiple Comparisons Turkey Tests of Survey Question 7

Personalisation Degree (I)	Personalisation Degree (J)	Mean Difference (I – J)	Standard Error	Sign.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-0,611	0,383	0,258	-1,540	0,320
	3	-0,478	0,383	0,432	-1,410	0,450
2	1	0,611	0,383	0,258	-0,320	1,540
	3	0,133	0,400	0,941	-0,840	1,100
3	1	0,478	0,383	0,432	-0,450	1,410
	2	-0,133	0,400	0,941	-1,100	0,840

Table A.8 Results of Tests of Homogeneity of Variances of Survey Question 8

	Levene Statistic	df1	df2	Sig.
Based on Mean	0,205	2	45	0,816
Based on Median	0,140	2	45	0,869
Based on Median and adjusted df	0,140	2	44,749	0,869
Based on trimmed	0,191	2	45	0,827

Table A.9 Results of Multiple Comparisons Turkey Tests of Survey Question 8

Personalisation Degree (I)	Personalisation Degree (J)	Mean Difference (I – J)	Standard Error	Sign.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-0,144	0,471	0,949	-1,290	1,000
	3	-0,211	0,471	0,895	-1,350	0,930
2	1	0,144	0,471	0,949	-1,000	1,290
	3	-0,067	0,492	0,990	-1,260	1,130
3	1	0,211	0,471	0,895	-0,930	1,350
	2	-0,067	0,492	0,990	-1,130	1,260

*Table A.10 Planning*

Date	Action
<b>26-06-2023</b>	Hand in Definite Proposal
<b>27-06-2023</b>	Get Approval
<b>16-07-2023</b>	Finish Literature Review
<b>23-07-2023</b>	Finish Survey
<b>07-08-2023</b>	Distribute Survey
<b>19-08-2023</b>	End Survey & Download Data
<b>27-08-2023</b>	Finish Results
<b>01-09-2023</b>	Finish Conclusion
<b>04-09-2023</b>	Finish Discussion & Appendix
<b>05-09-2023</b>	Finish Abstract & References
<b>05-09-2023</b>	Hand in Draft Thesis
<b>08-10-2023</b>	Hand in Definite Thesis
<b>01-11-2023</b>	Deadline