



Understanding E-Mail Pressure: Exploring Consumer Behaviour and Identifying Consumer Segments

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ABSTRACT

Commercial businesses desire to send out as many advertising e-mails as possible as with each e-mail sent revenue can be generated. This approach can lead to consumers experiencing e-mail pressure, which refers to the stress and frustration consumers experience when receiving an overload of e-mails. Previous work on e-mail pressure has studied either consumers' behaviour or general attitudes towards advertising e-mails. This thesis contributes to the current understanding of e-mail pressure by bridging the gap between consumers' perceptions of e-mail pressure and consumer behaviour. The first study consisted of a focus group study about consumers' perspectives on e-mail pressure. Study 1 explored consumer behaviour with e-mail pressure and how different types of advertising e-mails affect consumers' perceptions of e-mail pressure. The results demonstrate that consumers who experience e-mail pressure show it by opening fewer and reading fewer advertising e-mails from a single sender, and eventually by unsubscribing from future advertising e-mails from the sender. The second study was a data analysis study and investigated how consumer segments can be identified based on consumer behaviour related to advertising e-mails and e-mail pressure. Four consumer segments were identified using K-means clustering. The findings demonstrate that there exist differences between consumer segments in their behaviour with advertising e-mails and e-mail pressure. In particular, new customers and passive repeat customers show more signs of experiencing e-mail pressure and display lower engagement with advertising e-mails compared to high-engaging repeat customers. In addition, Study 1 and Study 2 demonstrate the existence of differences in how distinct types of advertising e-mails affect consumers' perception of e-mail pressure. Consumers were found to be more likely to unsubscribe from automatic, retention, retargeting, and browser abandonment than other e-mails. Furthermore, a post-purchase effect was identified, indicating a notable increase in consumers unsubscribing during the period following purchase. The findings of the thesis research enable commercial businesses to recognize e-mail pressure occurring among their customers by monitoring consumer engagement, providing them with the opportunity to proactively act upon this. Recommendations for commercial businesses on how to prevent e-mail pressure by adjusting the frequency and content of advertising e-mails for different consumer segments were given.

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1 INTRODUCTION

1.1 Problem Statement and Research Motivation

Direct advertising messages are sent by commercial businesses at low cost via e-mail. Commercial businesses send advertising e-mails to consumers to encourage them to engage with the brand and to buy products. With each advertising e-mail sent, revenue can be generated. From the perspective of commercial businesses, every advertising e-mail that is not sent to consumers is a missed opportunity to generate direct sales in the short term. However, this could lead to commercial businesses spamming consumers with advertising e-mails. Consumers may experience "e-mail pressure" which refers to the pressure caused by numerous advertising e-mails being sent to consumers over a period of time by the same sender (Micheaux, 2011). When consumers perceive e-mail pressure this can result in negative consequences. These include a sense of frustration, a tendency to avoid future advertising e-mails sent by the same sender, and an increased likelihood of unsubscribing from receiving advertising e-mails from the sender (Micheaux, 2011). The presence of e-mail pressure among consumers demonstrates the need for commercial businesses to recognize the potential harm that sending too many advertising e-mails to consumers can have on their relationship with consumers. A trade-off exists for commercial businesses as advertising e-mails can generate profits in the short term, but can lead to e-mail pressure and harm the relationship with consumers in the long term. This trade-off raises the question of how commercial businesses can act from a consumer-first perspective and balance the frequency of advertising e-mails without losing out on profit and adhering to consumers' preferences in order to prevent e-mail pressure.

In previous studies on e-mail pressure, the relevance of advertising e-mails and the relationship with the advertising business were found to affect the desired e-mail frequency by consumers (Micheaux, 2011)(Wattal, Telang, Mukhopadhyay, & Boatwright, 2012). These findings imply that the optimal advertising e-mail frequency can differ between consumers. In order to determine the optimal consumer contact frequency, commercial businesses need to be able to recognize e-mail pressure occurring among their own consumers. If e-mail pressure can be recognized, commercial businesses can adjust the e-mail frequency to consumers' needs and lower consumers' perceived e-mail pressure.

Furthermore, the effects of different types of advertising e-mail content have not been taken into account by previous work investigating advertising e-mail frequency. There exist multiple types of advertising content including but not limited to standard newsletters, personalized newsletters, and exclusive offers. It is necessary to investigate the role different types of advertising e-mails play, as differences between consumers' experience of e-mail pressure for different types of advertising may exist.

Currently, there is a lack of synthesis between analyses of consumer behaviour and the general understanding of consumers' perception of e-mail pressure in a broader context. Previous work has studied either consumers' behaviour or general attitudes towards advertising e-mails. As a result, there is an opportunity for mixed-methods research to bridge the gap between the

consumers' experiences, reasoning, attitudes, and behaviour by combining both quantitative insights into consumers' behaviour and qualitative insights into consumers' experiences and attitudes.

There is an opportunity for research addressing current research's limitations and the trade-off faced by commercial businesses sending out advertising e-mails to generate immediate profits which can harm consumer relationships in the long term. Therefore, this study aims to investigate consumer behaviour and responses related to e-mail pressure, with a focus on differences between consumers and types of advertising e-mails. More specifically, the research in this thesis aims to investigate indicators of consumer e-mail pressure, examine consumers' responses to e-mail pressure, and identify consumer groups based on variations in consumer behaviour regarding e-mail pressure. The research provides recommendations for commercial businesses on the e-mail frequency and types of advertising e-mails for different consumer groups.

1.2 Research Questions

The aim of this thesis is to investigate how e-mail pressure can be identified, understand consumers' perception of e-mail pressure by exploring their behaviour and responses to e-mail pressure and different types of advertising e-mails, and identify different consumer segments based on their behaviour with e-mail pressure. This research enables commercial businesses to recognize and prevent e-mail pressure by providing recommendations for commercial businesses on adjusting the e-mail frequency and types of advertising e-mails for different consumer groups. The following research questions will be addressed in this thesis:

- 1. What consumer behaviour indicates consumers are experiencing e-mail pressure?*
- 2. How do different types of consumers respond to e-mail pressure, such as by unsubscribing or ignoring e-mails?*
- 3. How do different types of e-mails affect consumers' perception of e-mail pressure?*
- 4. How can advertising firms measure consumers' experience of e-mail pressure?*
- 5. What are the consumer segments that can be identified based on consumers' behaviour with e-mail pressure?*
- 6. What recommendations on the types and frequency of advertising e-mails can be given to these identified consumer segments?*

1.3 Research Plan

The research focuses on synthesizing qualitative and quantitative research on e-mail pressure, using a mixed-methods approach. The research consists of two phases. In the first research phase, qualitative research in the form of a focus group is conducted in order to understand and explore consumers' behaviour, attitudes, and previous experiences with e-mail pressure. The findings and insights gained from the first research phase form the basis of the data analysis of consumers' behavioural data in the second research phase. Consumers' behavioural and e-mail data from a Dutch e-commerce business were analysed during the second research phase. The data consist of e-mail data, including but not limited to e-mail open and click data, the types of e-mails sent (e.g. promotional e-mails, newsletters, personalized e-mails), and consumers' purchase behaviour. The findings of the focus group and the data analysis are combined to answer the research questions.

1.4 Research Outcome

This thesis will contribute to the current understanding of e-mail pressure by bridging the gap between consumers' perceptions of e-mail pressure and consumer behaviour and by investigating the role of different types of advertising e-mails in e-mail pressure. The outcomes of the thesis are recommendations for commercial businesses on how to identify e-mail pressure occurring among their consumers, how to manage e-mail pressure, and by laying the basis for future work to determine the optimal consumer contact frequency for sending out advertising e-mails.

1.5 Outline of the Thesis

The outline of the thesis is as follows. Firstly, the theoretical background on e-mail pressure is presented in Chapter 2. The theoretical background conducted in Chapter 2 identifies factors relevant to e-mail pressure and establishes the foundation for the thesis research. The related work includes the historical perspective on e-mail pressure, the conceptual framework of e-mail pressure, the factors affecting consumers' perception of e-mail pressure, and the effects of e-mail pressure. In order to provide an answer to the research questions two studies were conducted: a qualitative focus group study and a quantitative data analysis study, Study 1 and Study 2 respectively. Chapter 3 presents the method and findings of the focus group in Study 1, in which research questions 1, 2. and 3 are examined and answered. Following in Chapter 4, the method and findings of the quantitative data analysis in Study 2 are presented and research questions 4 and 5 are addressed. Chapter 5 discusses the findings of the thesis by providing an overview of the answers to research questions 1 to 6 which were addressed during Study 1 and Study 2. In addition to the general discussion of the results of Study 1 and Study 2 combined, Chapter 5 discusses the limitations of the study, implications for the industry and future work. Lastly, the thesis is concluded in Chapter 6.

2 RELATED WORK

In this chapter, the previous findings related to e-mail pressure are discussed to illustrate the current knowledge of e-mail pressure. The contents of this chapter are based on the previous literature study *Exploring the Influences on Consumers' Perception of Contact Pressure via Digital Mediums* (Van Gent, 2023) which was written during Research Topics. Firstly, the history of e-mail advertising is addressed. Secondly, the conceptual framework of perceived e-mail pressure by Micheaux (2011) is discussed. Following, the factors affecting consumers' perception of e-mail pressure, including privacy, timing, frequency, and perceived usefulness are presented. Lastly, the effects of e-mail pressure on consumers and advertisers are discussed. The chapter concludes with a discussion and conclusion.

2.1 Historical Perspective of E-Mail Pressure

Before electronic e-mails were invented, mail advertising campaigns already existed in 1947 which were referred to as junk mail (Rogers, 1996). From then on, postal mail advertising grew to be one of the largest advertising media. In the 1990s, postal mail advertising was viewed as the most dominant medium in direct advertising (Rogers, 1996). Postal advertising became successful because purchases could be matched to the addresses of consumers, allowing the effectiveness of the mail campaigns to be measured (Rogers, 1996). By matching consumer characteristics with their purchases, advertisers were able to detect patterns and improve their campaigns (Rogers, 1996). A segmentation study by Milne & Gordon (1994) found that consumers can be grouped based on their attitudes toward direct postal mail advertising. The results demonstrated that consumers differ in their attitudes towards postal mail advertising and argued that the efficiency of marketing can be improved if consumer attitudes were addressed (Milne & Gordon, 1994). Furthermore, a study by Rogers (1996) found that as the volume of postal advertising mail grew, consumers wanted to receive less advertising mail (Rogers, 1996). Additionally, it was found that consumers were more receptive to postal advertising mail from senders they recognized than from senders they did not know (Rogers, 1996). These findings highlight the existence of mail pressure well before the invention of electronic mail.

After the invention of electronic mail, the advertising industry changed. In addition to sending postal mail to consumers' homes, it became possible to send electronic advertisement mail directly to consumers via the Internet. E-mail advertising gained popularity due to its cost-effectiveness compared to postal advertising mail and its potential for interactive engagement with consumers (Morimoto & Chang, 2006). As the advertising industry moved from postal direct mail to e-mail advertising, Chang & Morimoto (2003; 2006) investigated how consumers' attitudes towards postal mail and e-mail advertising differed. Between consumers' attitudes towards e-mail advertisements and postal mail advertisements, no differences were found (Morimoto & Chang, 2006). However, consumers were found to be more likely to experience annoyance or irritation from e-mail advertising than from postal advertising (Morimoto & Chang, 2006). Furthermore, it was found that consumers consider postal advertising to be less intrusive than e-mail advertising, as spam e-mails take up more place in the e-mail inbox

which makes it more difficult to find the relevant e-mails (Chang & Morimoto, 2003). Regarding perceived e-mail pressure, unsolicited advertising e-mails were considered to be more intrusive than unsolicited postal direct mail (Morimoto & Chang, 2006). The findings of Chang & Morimoto (2003; 2006) show that consumers may experience more mail pressure when targeted by e-mail advertising than postal mail advertising.

2.2 Conceptual Framework of E-Mail Pressure

In this section, the conceptual framework of the value evaluation by consumers when receiving advertising e-mails by Micheaux (2011) is discussed. The framework is shown in Figure 2.1 and consists of three routes: Route A, Route B, and Route C. Upon receiving advertising e-mails, consumers assess the e-mails' relevance by examining visible components such as the sender's e-mail address or name and the subject line. When consumers receive an advertising e-mail and decide the e-mail is not relevant to them, or when not interested in the content, Route A is taken and consumers simply ignore or delete the e-mail. Consumers taking Route A do not feel agitated because they did not need to provide cognitive effort into reading the e-mail (Micheaux, 2011). In Route A, consumers generally do not unsubscribe from the e-mails and will evaluate future e-mails from the same advertiser neutrally. Thus, consumers do not experience e-mail pressure from one specific advertiser in Route A.

When consumers decide to open the advertising e-mail as it may contain interesting content, they are at the start of Route B and Route C. Consumers follow Route B if consumers evaluate the content of the advertising e-mail as personally relevant or entertaining after reading the e-

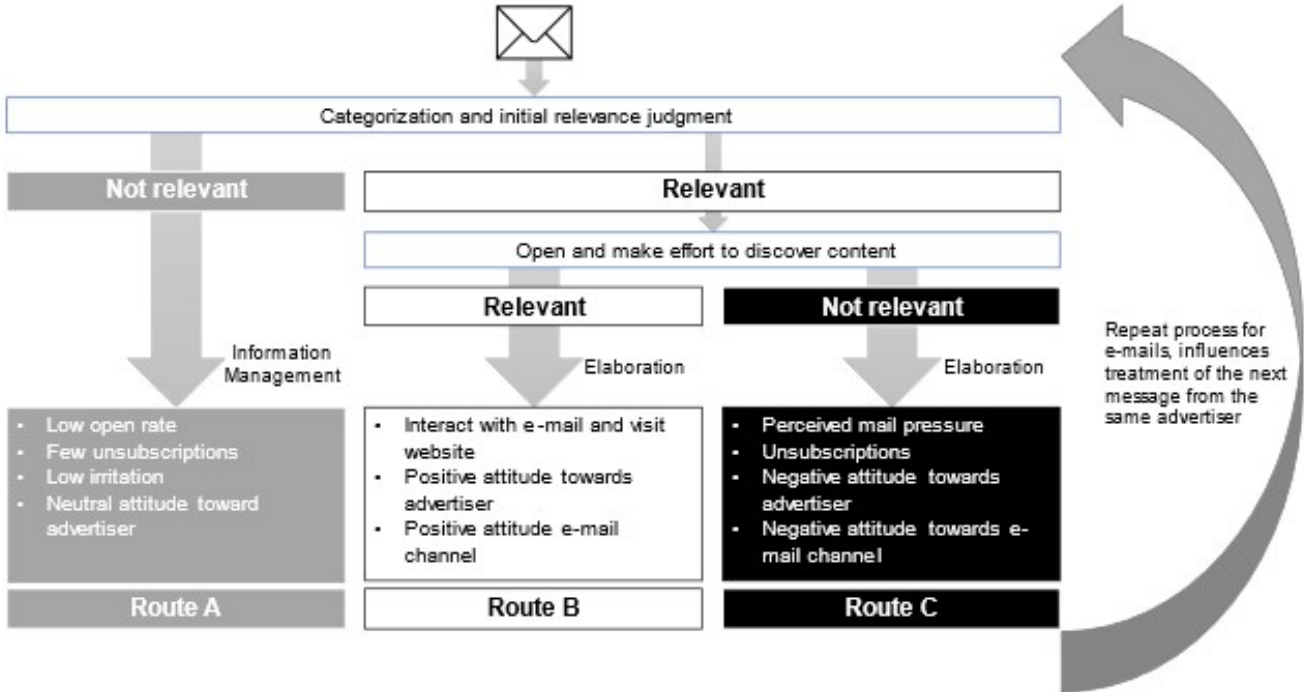


Figure 2.1: Conceptual Framework of E-Mail Pressure by Micheaux (2011)

Note. This figure was produced by Micheaux in 2011. It shows the conceptual framework regarding e-mail pressure. Adapted from “Managing e-mail advertising frequency from the consumer perspective”, by A. L. Micheaux, 2011, *Journal of Advertising*, 40(4), 47.

mail (Micheaux, 2011). Following, consumers interact with the e-mail. It is argued by Micheaux (2011) that consumers in Route B have a more positive disposition towards future advertising e-mails from the same advertiser. Therefore, consumers in Route B do not experience e-mail pressure and may hold a positive attitude towards the advertiser.

Consumers experiencing e-mail pressure and annoyance occur in Route C. Consumers take Route C when they find out an advertising e-mail is not relevant to them after deciding to open the advertising e-mail as it was perceived as possibly interesting or relevant (Micheaux, 2011). Consumers develop a negative attitude towards the advertiser and e-mail as a medium because they made an unrewarded cognitive effort (Micheaux, 2011). The larger the effort that went unrewarded, the stronger the negative attitude of consumers. This lost effort can result in a negative bias towards future e-mails of the same advertiser and can lead to consumers unsubscribing or marking e-mails as spam.

Overall, the conceptual framework of e-mail pressure by Micheaux (2011) shows that advertisers should avoid Route C by not only focusing on the open rates of e-mails but also by considering how the advertisement e-mails they send can increase the consumer's perception of e-mail pressure.

2.3 Factors Affecting Consumers' Perception of E-Mail Pressure

This section discusses how privacy, timing, frequency, and perceived usefulness affect consumers' perception of e-mail pressure. The perceived usefulness of advertising e-mails is divided into the subsections of relevance, personalization, design, and persuasion.

2.3.1 Privacy

One of the constructs that plays a role in consumers' attitudes towards advertising is the perceived ad intrusiveness. Ad intrusiveness is defined as "the degree to which an unwanted marketing communication interferes with an individual's cognitive process and tasks, as well as the interference with media contents including offensive materials" (Morimoto & Chang, 2006, p.10). Previous work by Morimoto & Chang (2006) demonstrated for both postal mail and e-mail advertising that when consumers' feeling of ad intrusiveness increases, consumers' attitude towards the communication medium is more likely to decrease (Morimoto & Chang, 2006).

Privacy is an important aspect of perceived ad intrusiveness. If consumers receive unwanted advertising messages through postal or electronic mail, they may feel that their privacy is being invaded. When the privacy of consumers is violated, consumers are less likely to positively respond to e-mail advertising overall (Haq, 2009). In order to prevent consumers' privacy from being invaded by advertisers, permission-based marketing is enforced by law in Europe to ensure the privacy of consumers is not violated. Ackerman et al. (Ackerman, Darrell, & Weitzner, 2001) argue a trade-off between the loss of privacy experienced by consumers and the benefit of the advertising messages for consumers occurs. This implies that consumers tolerate the invasion of privacy only when there is sufficient benefit in it for them.

2.3.2 Timing

Advertising e-mails can be sent by advertisers to consumers at any given moment. Whether consumers open advertising e-mails depends on the timing of the e-mails as well as consumers' mood, attention span, and free time available (Ellis-Chadwick & Doherty, 2012). From the advertiser's perspective, timing is crucial to the effectiveness of advertising e-mails as it affects

the open rates (Chaparro-Peláez, Hernández-García, & Lorente-Páramo, 2022). According to a study by Chaparro-Peláez et al. (2022), e-mails sent on Mondays have the highest open rates compared to e-mails sent on the other days of the week, whereas e-mails sent on Wednesdays have the lowest open rates. Another study by Biloš et al. (2016) found no significant differences in open rates for e-marketing campaigns between e-mails sent on Tuesday and Wednesday at the same time of the day. The effectiveness of the timing of advertising e-mails can depend on the specific industry or the consumers individually (Van Gent, 2023). For instance, within the retail industry, advertisements during the fall and winter seasons may exclude summer clothing since it does not align with consumers' needs at that moment in time. Similarly, in the travel industry, the time frame for booking holidays can depend on individual consumers' preferences.

In a comparison study in which e-mail campaigns over four years were reviewed, a seasonality pattern was identified where the advertising e-mails sent between November and January had the highest open rates (Biloš, Turkalj, & Kelić, 2016). This seasonality pattern can be explained by multiple instances, such as being linked to the domain of industry or consumers' interest in advertisements during that time of the year due to the Christmas holidays (Van Gent, 2023).

Furthermore, in an e-mail inbox, consumers have the option to categorize incoming e-mails which can decrease their experienced cognitive load (Micheaux, 2011). When consumers have limited time available, they may open only a restricted number of e-mails in their mailbox. Conversely, if consumers have free time available, they may be more likely to open more e-mails. As consumers' attention is limited, the most relevant e-mails are prioritized and the others may remain unopened (Haq, 2009)(Chaparro-Peláez et al., 2022). The consumer determines the actual time the advertising e-mail is opened if opened at all. In addition, consumers' moods and free time fluctuate during the day and week and can influence whether the consumer evaluates the advertising e-mail as worth opening (Ellis-Chadwick & Doherty, 2012). Thus, consumers' limited attention and time available can diminish the likelihood of an advertising e-mail being opened among competing e-mails (Van Gent, 2023).

E-mail advertising communication can be viewed as asynchronous as advertising e-mails can be read at a different moment in time than when advertisers send them out (Van Gent, 2023). However, in the last decade, e-mail inboxes have become available on smartphones and smartwatches in addition to desktops. As a result, some consumers will receive notifications on their smartphones or watches upon receiving new e-mails, increasing the synchronicity of the communication process (Van Gent, 2023). In 2021, 41% of e-mail views came from smartphones and 39% via desktop (Iskiev, 2022). This development enables consumers to decide immediately whether they wish to engage with their incoming e-mails. When it comes to receiving notifications, consumers may have a positive attitude towards push notifications if the delivery moment is relevant to them (Gavilan & Martinez-Navarro, 2022). When receiving a notification, consumers' attention can be interrupted which may lead to a situation where the consumers' attention is divided (Okoshi, Tsubouchi, & Tokuda, 2019). Consumers have a low tolerance for irrelevant notifications as the content of these messages is pushed rather than actively pursued by consumers (O'Brien et al., 2022). Therefore, the timing and content of advertising e-mails may be even more important for consumers who receive push notifications about incoming e-mails from their e-mail inbox.

2.3.3 Frequency

Advertisers wish to convince consumers to buy more products, which frequently sending out advertising e-mails to consumers may help. A study by De Paauw (2023) demonstrated that a high-frequency e-mail strategy leads to more engaged behaviour by consumers in terms of

clicks in the short term, whereas it can lead to a decrease in transactions in the short and long term (De Paauw, 2023). In addition, multiple studies (Micheaux, 2011)(Chaparro-Peláez et al., 2022) have demonstrated that an increase in the number of advertising e-mails sent by a single advertiser leads to a negative effect on the open rate of those e-mails. In other words, if a single advertiser sends out more advertising e-mails, consumers are less likely to open the e-mails. The increase in the frequency of advertising e-mails can be visualized by an inverted U-shaped curve (Wattal et al., 2012). This implies that when the frequency of advertising e-mails exceeds the accepted threshold set by consumers, there occurs a decline in open rates.

The first explanation of why an increase in the frequency of advertising e-mails has a negative influence on the open rate is the decline in perceived value. When consumers are exposed to unvaried or similar information in each advertisement by the same advertiser, consumers become too familiar with the advertisement's content and therefore get less informed (Ducoffe, 1995). In other words, consumers' perceived value of the advertisements may decrease if the content of the advertising e-mails is not deemed as informative, entertaining, or relevant by the consumer. A study by Haq (2009) found that the frequency of advertising e-mails negatively correlates with the perceived value of the advertising e-mails, which is in line with Ducoffe's theory. The research did not support the claim that frequency of exposure to advertising e-mails has a negative influence on consumers' attitudes towards advertising e-mails (Haq, 2009).

The second explanation of why an increase in the frequency of advertising e-mails has a negative influence on the open rate is the marketing intensity, which is the total number of advertising e-mails a consumer receives from all advertisers (Van Gent, 2023). The marketing intensity consumers experience is negatively related to the likelihood that consumers will subscribe to advertising e-mails (Kumar, Zhang, & Luo, 2014). When consumers who experience high marketing intensity choose to subscribe to advertising e-mails, they are more likely to unsubscribe if they receive an excessive number of advertisement e-mails within a short time frame after subscribing (Kumar et al., 2014).

The relationship between advertising frequency and the number of e-mails opened by consumers suggests that for each e-mail an advertising firm sends an opportunity cost occurs (Chaparro-Peláez et al., 2022). Opportunity cost can be described as the value of the alternative action not chosen when deciding between two options (Van Gent, 2023). In this case, the opportunity cost arises when a firm sends out more advertising e-mails, potentially lowering the open rates and thus the effectiveness of the advertising e-mails.

In general, the frequency of advertising e-mails plays an important role in consumers' perception of e-mail pressure. It is important to determine the optimal frequency of advertising e-mails, such that consumers are not spammed.

2.3.4 Perceived Usefulness

2.3.4.a Relevance

When consumers receive advertising e-mails, the relevance of the content to them may influence the perceived usefulness of the e-mail to consumers (Van Gent, 2023). Relevancy is of importance in all communication steps, from when consumers receive an advertising e-mail, during the decision of whether to open it, after opening it, and when engaging with the content (Hartemo, 2016). The content of the advertising e-mail influences whether consumers will notice the offers presented in the e-mail and will make a purchase (Vriens, Van der Scheer, Hoekstra, & Roelf Bult, 1998) (Haq, 2009). This is of importance, as consumers may not want to be shopping or wanting to shop at the moment of receiving the e-mail (Ducoffe, 1996). When

consumers perceive an advertisement e-mail's content as relevant, they are more likely to engage with it. Conversely, when the content is perceived as irrelevant, consumers may become frustrated with the message. Therefore, Micheaux (2011) argues that relevancy of the advertising e-mails should be managed instead of frequency as an increase in the number of e-mails that are accepted by consumers depends on if the content of the e-mails is personally relevant.

According to Haq (2009), consumers' attitude towards advertising e-mails is affected by the entertainment, informativeness, irritation, and credibility of the advertising e-mails. The informativeness of the message can be defined as "relevant to a purchase situation" (Haq, 2009, p.209). When advertising e-mails are entertaining and humorous, they can help capture the attention of the consumer. Entertainment and informativeness of advertising e-mails are positively related to consumers' attitudes towards e-mail advertisements (Jamalzadeh, Behravan, & Masoudi, 2012). This finding is in line with Haq's (2009) study that found entertainment and informativeness to have a positive relationship with the value of the advertisement to the consumer.

Moreover, relevancy plays an important role in the conceptual framework of e-mail pressure by Micheaux (2011), which is shown in Figure 2.1. According to this framework, whether or not advertising e-mails are opened is determined by the potential relevancy the e-mails have to the consumers. If advertising e-mails seem to be relevant to consumers but turn out not to be after having taken the effort to interact with them, consumers can become irritated (Micheaux, 2011). This irritation occurs because the cognitive effort of consumers was left unrewarded and, therefore, consumers develop a negative attitude towards the advertiser. Nowadays, consumers do not need to remain subscribed to advertisement e-mails as a primary source of information. If advertising e-mails are not relevant to consumers, consumers can easily search for relevant information elsewhere online (Hartemo, 2016).

The relevancy of incoming e-mails can be determined by the title of the e-mail and the sender's e-mail address (Chaparro-Peláez et al., 2022). If consumers find an e-mail to be relevant based on this information, but after opening the e-mail find out that it is not relevant to them, consumers will experience pressure and may develop a negative attitude towards the advertiser (Micheaux, 2011). If consumers determine advertising e-mails to be not relevant to them based on the subject line, Micheaux (2011) claims that consumers do not experience pressure.

As discussed before in Section 2.3.2, consumers can enable push notifications to notify them via a smartphone or watch that consumers have received a new e-mail. Consumers are interested in notifications if they suit their taste, needs, and interests (Gavilan & Martinez-Navarro, 2022). Similarly to e-mail, the relevancy of push notifications is evaluated by a glance at the information that is available, in this case, the heading, text, sender, and optionally image (Van Gent, 2023). Consumers appreciate the content of push notifications if they are relevant to them (Wohllebe, 2020). If consumers receive notifications that are not relevant to them, they may disable the notifications, hindering future notifications to be sent (O'Brien et al., 2022).

2.3.4.b Personalization

Personalization is the act of tailoring forms of content to fit individual consumers. Personalization can be applied in many ways, including personalizing e-mails to include personalized greetings and recommending products to consumers based on their previous purchases and activities (Van Gent, 2023). Personalization of advertising e-mails is closely related to their perceived usefulness, as it may increase by tailoring the content of advertising e-mails towards consumers' tastes and interests.

A study by Wattal et al. (2012) proved that consumers respond positively to personalization that is based on their previous activity or orders, even when the usage of personal information for these recommendations is not explicitly evident to them. As mentioned before, personalization of advertising e-mails is closely related to the perceived usefulness and relevance of the advertising e-mails as personalization helps tailor the content to the interests of consumers. Personalization can increase the likelihood of consumers opening advertising e-mails as it can increase the relevance of them to consumers (Chaparro-Peláez et al., 2022). However, not all content of advertising e-mails should be personalized. The explicit usage of personally identifiable information, for example, personalized greetings, can yield negative responses by consumers (Wattal et al., 2012). Furthermore, there exists a relationship between the consumers' engagement and familiarity with the brand and the level of personalization accepted by consumers. The explicit usage of personally identifiable information is more positively accepted by consumers who are familiar with the advertiser than those who are not (Wattal et al., 2012). Similarly, consumers respond more positively to generic content that may not contain products of interest, such as generic newsletters, when consumers are more familiar with a brand than those who are not (Wattal et al., 2012).

In general, consumers are more likely to actively engage with the content of personalized advertising messages than with generic advertising messages (Tam & Ho, 2006). Thus, personalization has the potential to recommend consumers products and services that are more fitting to consumers' needs and preferences (Vesonen, 2007). In addition, personalized content can be useful to consumers by helping them with decision-making and, therefore, decreasing their cognitive load (Tam & Ho, 2006).

2.3.4.c Design

Consumers evaluate the relevance of the content by a glance at the information available. The design of e-mails, in particular the subject line, signals the expected usefulness of the communication to consumers (Van Gent, 2023). The only information available on which to decide to open an e-mail or not are the e-mail's subject line and the sender's name or e-mail address. Subject lines are a summary and preview of the advertising e-mail's content and need to spark consumers' interest (Chaparro-Peláez et al., 2022). Consumers are unlikely to open the e-mail if the subject line fails to capture their attention (Ellis-Chadwick & Doherty, 2012). Some advertisers include emoticons or special characters in the subject line of advertising e-mails to stand out. However, there is no evidence that the usage of emoticons and special characters in the subject line of advertising e-mails affects the open rates (Biloš et al., 2016). Furthermore, it was discovered that using generic subject lines results in higher open rates compared to using subject lines that are specific to newsletters (Biloš et al., 2016). Although generic subject lines result in a higher open rate to the study of Biloš (2016), from the consumers' perspective the usage of specific subject lines is preferred as it can decrease e-mail pressure by immediately showing whether an e-mail is relevant to you (Micheaux, 2011).

The sender's name or e-mail address is immediately visible to consumers in the inbox before having to open e-mails. A study by Biloš et al. (2016) did not find any evidence for the existence of differences between the open rates of advertising e-mails when comparing the usage of full names versus shortened names in the sender's address. A survey study conducted in 2019 found that 45% of the respondents avoid opening e-mails from unknown e-mail addresses (Centre for International Governance Innovation, 2019). This finding suggests that how the sender's address is displayed can influence whether consumers open advertising e-mails.

A study on the effects of link placements in e-mail newsletters found that consumers' click-

through behaviour in e-mails follows a U-pattern, where the responsiveness gradually decreases (Kumar & Salo, 2018). These findings indicate that the links placed in the left region of e-mail newsletters are more effective than those placed in the right region, where hyperlinks in the top-left of the e-mail have the highest impact (Kumar & Salo, 2018). The design and layout of the e-mail, including the redirection to the website need to be carefully considered to ensure a smooth user experience. When engaging with advertising e-mails, consumers may not return to the advertising e-mail after navigating to the web page via a hyperlink (Cheung, 2011). Therefore, a smooth redirection from the advertising e-mail to the advertiser's website is needed. The design and layout of the website should also be considered such that consumers do not get disappointed or irritated if the transition from the e-mail environment to the advertiser's web environment does not operate smoothly.

2.3.4.d Persuasion

Persuasion is a form of communication that can be used in advertising e-mails to convince consumers to buy products or services (Van Gent, 2023). In marketing, an e-mail can be seen as a communication tool where the advertiser attempts to convince consumers to believe in buying and to buy products (Cheung, 2011). Persuasion can be used in these e-mails to guide consumers into buying more products. An example of this is providing a match between what is claimed in the message and the context of the advertisement. If this match exists, the advertiser seems 18 credible to users and consumers are more prone to believe the benefits of the product advertised (Cheung, 2011). A study by Sigurdsson & Foxall (2013) investigated the differences between utilitarian ("2-1") and informational advertising ("You buy we give") stimuli in advertising e-mails. The informational message was found to have a higher opening rate, whereas the utilitarian reinforcement message yielded higher sales (Sigurdsson, Menon, Sigurdarson, Kristjansson, & Foxall, 2013).

Six principles of persuasion exist: reciprocity, social proof, commitment and consistency, liking, scarcity, and authority (Cialdini & Sagarin, 2005). These six principles of persuasion can be applied to e-mail advertising strategies to encourage consumers to buy products or services. Reciprocity is the situation in which consumers receive something and they feel the need to return the favour (Fraser, Yousuf, & Conlan, 2019). The principle of social proof explains that consumers are influenced by the behaviour and opinions of those people they look up to. When consumers are consistent in their behavior they are more likely to be persuaded to perform actions that are consistent with their beliefs, which is the principle of commitment and consistency. The principle of liking exists as consumers are more likely to be persuaded when they like the topic or persuader. The principle of scarcity explains that when a product has a limited supply, consumers start valuing the product more as it is scarce. Lastly, the principle of authority explains that consumers are more trusting towards people or institutions that show authority.

A study found all six principles of persuasion to increase the effectiveness of convincing consumers to buy products via digital marketing in the furniture industry (Naruoeei, Hakimpour, Mahmoodzadeh Vashshan, & Mohammadi, 2023). These findings indicate that by applying the principles of persuasion in digital marketing advertisers can increase their sales. In addition to applications in the digital marketing field, Fraser, Yousuf & Conlan (2019) studied the application of the six principles of persuasion to push notifications. The study found personalized persuasive push notifications to increase consumers' engagement with the notifications. The principles of liking and reciprocity were found to be the most important influencing principles out of all six principles of persuasion (Fraser et al., 2019).

Personalized persuasive push notifications, based on the six principles of persuasion, can in-

crease consumers' engagement (Fraser et al., 2019). Although the usage of persuasion in advertising e-mails does not affect the actual content of the message, previous research has shown that it affects the perceived usefulness of the communication as consumers are encouraged to buy more products or services. Despite the promising effects of applying the six principles of persuasion to e-marketing, advertisers should act ethically and avoid using persuasive communication tactics that can be manipulative or deceitful (Van Gent, 2023).

2.4 Effects of E-Mail Pressure

E-mail pressure can affect consumers and their engagement with the advertisers (Van Gent, 2023). According to Micheaux (Micheaux, 2011), consumers may experience annoyance or frustration caused by e-mail pressure. Consumers have a specific goal in mind when they open their mailbox (Morimoto & Chang, 2006). Irritation occurs when consumers are interrupted and distracted from this goal by advertising e-mails. When this interruption occurs, consumers' attention is divided by the specific goal and by the advertising e-mails. Even if consumers do not wish to engage with the advertising content at that moment the consumers' cognitive load increases, because of a switching cost that occurs when consumers need time to restart their original task (Okoshi et al., 2019).

This raises the question of why consumers remain subscribed to advertising e-mails. Consumers may experience FOMO, also known as a fear of missing out. This fear occurs when consumers perceive the possible loss of future benefits or information to be greater than the cost of staying subscribed, hindering consumers from unsubscribing from the advertising e-mails (Van Gent, 2023). Unsubscriptions may occur when consumers perceive the cost of staying subscribed to be greater than the value of future benefits or information.

In Section 2.2, it was discussed how consumers experiencing e-mail pressure may develop a negative attitude towards the brand sending them advertisements, impacting consumers' brand loyalty and long-term engagement. An understanding of when and why consumers perceive e-mail pressure is needed for advertisers to build long-term relationships between consumers and the brand (Van Gent, 2023).

A study by Merisavo & Raulas (Merisavo & Raulas, 2004) found that brand loyalty can be increased by e-mail campaigns and that consumers are more likely to recommend the brand to others when receiving regular e-mail contact from the brand. These findings show that e-mail advertising can be used to strengthen the relationship between consumers and the brand (Van Gent, 2023). Consumers familiar with the brand are more likely to respond positively to an increased frequency of e-mails (Wattal et al., 2012). Consumers with high brand loyalty to the advertiser value regular e-mail contact more than consumers with low brand loyalty (Merisavo & Raulas, 2004). This suggests that advertisers can send a greater quantity of e-mails to loyal or familiar consumers than to consumers who are not that familiar yet with the advertiser. Furthermore, consumers who are familiar with the advertiser are more likely to respond favourably when receiving generic e-mails featuring products that are not of consumers' interests (Wattal et al., 2012). Therefore, personalization of the content of advertising e-mails and low frequency is important to prevent e-mail pressure from being perceived by new consumers (Van Gent, 2023).

The findings above show that the usage of e-mail as an advertising channel can help strengthen the relationship between a brand and consumers. However, a study found that the positive attitudinal changes consumers experienced after subscribing to advertising e-mails only lasted the first three weeks after subscribing (DuFrene, Engelland, Lehman, & Pearson, 2005). Consumers felt an increase of trust in the brand and expressed more interest in the website of the

brand in the first three weeks after subscribing (DuFrene et al., 2005). The time frame of these attitudinal changes suggests that e-mail advertising campaigns to strengthen the relationship with consumers may only be effective in the short term.

For advertisers, the practice of using e-mails as an advertising channel comes with benefits. However, advertisers should be aware of possible pitfalls, such as managing the timing and frequency of the advertising e-mails to ensure the e-mail comes at a pleasant time and to prevent consumers from being spammed. In Section 2.3.4, it was discussed the relevancy of the content to consumers should be managed with the intention of creating and maintaining advertisement value for consumers. If not managed correctly, consumers may start to perceive e-mail pressure and make a negative association with the advertiser (Van Gent, 2023). Consumers have coping strategies such as ignoring the e-mails, deleting the e-mails, marking them as spam, or unsubscribing from the e-mails when experiencing e-mail pressure from a single advertiser. In other words, there is a loss of contact between the advertiser and the consumer. In the long term, the relationship between the consumer and the brand may have been harmed by the e-mail pressure, causing consumers to avoid making future purchases with them.

2.5 Discussion and Conclusion

This chapter discussed the existing literature and previous work related to e-mail pressure, including the conceptual framework of e-mail pressure, the factors affecting consumers' perception of e-mail pressure, and how the content of advertising e-mails relates to e-mail pressure. Finally, the main implications of the related work on the thesis research are discussed.

2.5.1 The Conceptual Framework of E-Mail Pressure and Consumer Behaviour

The conceptual framework of e-mail pressure by Micheaux (2011) presented three routes for the evaluation of incoming e-mails and how e-mail pressure is initiated. According to this framework, consumers experience e-mail pressure when evaluating an e-mail as relevant but then finding out it is not relevant after having put cognitive effort into engaging with the content. The three routes of the conceptual framework, as visualized in Figure 2.1, include illustrations of consumer behaviour with e-mail pressure, which relate to research question 1:

1. What consumer behaviour indicates consumers are experiencing e-mail pressure?

Consumers in Route A do not experience e-mail pressure from a single advertiser but may experience e-mail pressure based on the market intensity. These consumers do not unsubscribe from the advertiser, they do not open the advertising e-mails if evaluated as irrelevant to them and, therefore, do not show any interaction with the e-mails. Consumers in Route B show behaviour opposite to when experiencing e-mail pressure, as they are positively engaging with the advertising e-mails from the sender. These consumers actively engage with advertising e-mails by opening them, clicking on links, and demonstrating a higher likelihood of opening following e-mails. In Route C, consumers experience e-mail pressure from a single advertiser. According to the conceptual framework, consumer behaviour in Route C consists of opening one e-mail and then withholding from opening the following e-mails or unsubscribing.

From the descriptions of consumer behaviour in Micheaux's (2011) framework, it can be concluded that consumers unsubscribing from receiving advertising e-mails and reducing consumer engagement with advertising e-mails indicate consumers are experiencing e-mail pressure. Active consumer behaviour with advertising e-mails, such as opening the e-mails or clicking on links provided in the e-mails, indicates consumers are not experiencing e-mail pressure. Whereas a lack of interaction with the advertising e-mails is a sign of e-mail pressure which is

caused either by the general marketing intensity or by a single advertiser.

Based on the descriptions of consumer behaviour in Micheaux's (2011) framework, two key indicators of e-mail pressure were identified: unsubscribing from advertising e-mails and reduced consumer engagement with advertising e-mails. On the other hand, active consumer behaviour with advertising e-mails, such as opening the e-mails or clicking on links provided in the e-mails, indicates consumers are not experiencing e-mail pressure. Conversely, a lack of interaction with the advertising e-mails is a sign of e-mail pressure which is caused either by the general marketing intensity or by a single advertiser.

While the study of Micheaux (2011) made valuable contributions to the understanding of e-mail pressure, it can be argued that this framework is in need of being updated due to the changes in the usage of e-mail since the introduction of the framework. Over the last years, there has been a shift in usage of e-mail via desktop towards other media such as smartphones and watches (Iskiev, 2022). Though the routes presented may remain similar regardless of the changes in the usage of e-mail, the usage of notifications for e-mail may increase consumers' perception of e-mail pressure and may affect the threshold consumers have for e-mail pressure.

2.5.2 Factors Relevant to E-Mail Pressure

Multiple factors affecting consumers' perception of e-mail pressure were identified. When it comes to consumers' privacy, consumers' attitude towards e-mail advertising decreases when their privacy is violated (Morimoto & Chang, 2006)(Haq, 2009). Although the invasion of privacy may be accepted if there is a benefit for consumers (Ackerman et al., 2001). These findings show that consumers may lose their trust in e-mail as a communication channel when feeling their personal information is misused in marketing campaigns. Prioritizing consumers' privacy is not only legally required but also contributes to the relationship between the advertiser and consumers by avoiding spamming consumers and preventing e-mail pressure.

The timing of advertising e-mails has been shown to affect consumers' perception of e-mail pressure. By sending advertising e-mails at a relevant or convenient time to the consumer, e-mail pressure can be prevented. Consumers have limited attention and prioritize reading the most relevant e-mails (Haq, 2009). This shows that relevancy plays an important role in the timing of advertising e-mails. Furthermore, when consumers organize their e-mail inbox this can help decrease their cognitive load (Micheaux, 2011). Thus, e-mail organization and management are strategies used by consumers to cope with numerous incoming advertising e-mails and e-mail pressure.

As discussed earlier, there has been a shift from e-mail usage via desktops towards smartphones in recent years. Consumers can receive notifications from e-mails on their smartphones or watches. Consumers have been shown to have a positive attitude towards these notifications when the timing is relevant to them (Gavilan & Martinez-Navarro, 2022), but are less tolerant of receiving irrelevant notifications as these can interrupt consumers' activities and divide their attention (O'Brien et al., 2022) (Okoshi et al., 2019).

Multiple studies have demonstrated that an increase in the number of advertising e-mails sent by a single advertiser leads to a negative effect on the open rate of those e-mails (Micheaux, 2011)(Chaparro-Peláez et al., 2022). Although there are multiple possible explanations for the negative relationship between frequency and the open rates of e-mails, there is currently no explanation that is not based on assumptions. When consumers receive a large number of advertising e-mails, they may start to perceive a general feeling of e-mail pressure (Micheaux,

2011). Currently, there has been no research about determining the ideal frequency of advertising e-mails for consumers. Advertisers should avoid sending an excessive amount of advertising e-mails to consumers to prevent e-mail pressure, but the threshold for excessive frequency and relevancy of the content may differ between consumers.

2.5.3 Contents of Advertising E-Mails and E-Mail Pressure

The theoretical background showed that relevance, personalization, design, and persuasiveness affect the perceived usefulness of advertising e-mails which relates to consumers' perceived e-mail pressure. The relevance, personalization, design, and persuasiveness vary for different types of advertising e-mails, aligning with the focus of research question 3:

3. How do different types of e-mails affect consumers' perception of e-mail pressure?

Consumers decide to engage with advertising e-mails by evaluating whether the content is relevant to them based on the subject line (Hartemo, 2016)(Micheaux, 2011). Consumers mainly experience e-mail pressure when they evaluate an e-mail as relevant but it turns out not to be relevant to them (Micheaux, 2011). The relationship between relevancy and e-mail pressure is established, but this raises the question of how one can measure the relevancy of advertising e-mail for consumers on an individual level such that e-mail pressure can be prevented.

Previous studies have shown that explicit usage of personalization of the content of advertising e-mails, based on consumers' previous online activity orders, can increase the relevance of the e-mails and, therefore, decrease e-mail pressure (Wattal et al., 2012)(Chaparro-Peláez et al., 2022). The usage of personalization can assist consumers with decision-making, thus, decreasing consumers' cognitive load (Tam & Ho, 2006). Personalization can have positive effects for both consumers and advertisers by providing the opportunity to recommend more fitting products (Vesänen, 2007). Although the previous findings are promising about personalization, privacy concerns can arise when e-mails include explicit personalization based on personal information or when consumers are less familiar with the advertiser (Wattal et al., 2012). Thus, the usage of personalization in advertising e-mails should be tailored to consumers based on their relationship with the advertiser. An overuse of personalization or poorly executed personalization may overwhelm consumers with too many advertising e-mails with repetitive and irrelevant information. This may lead to a feeling of intrusion of privacy, which can increase consumers' experience of e-mail pressure. Overall, the previous work related to personalization in advertising e-mails notes that advertisers should only personalize aspects of advertising e-mails that have direct value to consumers.

When it comes to the design of advertising e-mails, previous work has confirmed that subject lines need to show the content of the e-mails to users and to spark their interest for consumers to open them (Chaparro-Peláez et al., 2022) (Ellis-Chadwick & Doherty, 2012). Although a study found that generic subject lines yield higher open rates than specific subject lines (Biloš et al., 2016), subject lines including a preview of the specific content of the advertising e-mails should be used instead of generic subject lines to prevent e-mail pressure (Micheaux, 2011). The design of e-mails, in particular the subject line, has been found to signal the expected usefulness of the communication to consumers.

Furthermore, none of the previous studies included more detailed findings about the design of advertising e-mails, such as, for example, the layout and inclusion of visual imagery of e-mails. The lack of studies on the visuals in advertising e-mails leaves us unable to conclude how to design advertising e-mails such that consumers' engagement increases and how the design of advertising e-mails could help lower consumers' perception of e-mail pressure. In addition,

apart from previous studies on the effects of personalization in advertising e-mails, the different types of e-mail content were not taken into account in previous work although there exist multiple types of advertising content, such as newsletters, exclusive offers, cart abandonment e-mails, and more.

Lastly, previous studies have shown that the application of the principles of persuasion by Cialdini & Sagarin (2005) can increase consumers' engagement with the content, and thus, the perceived usefulness of the communication to consumers (Naruoeti et al., 2023)(Fraser et al., 2019). Although the usage of persuasion in advertising e-mails can encourage consumers to make purchases, advertisers should avoid using unethical persuasive communication tactics that manipulate or deceive consumers.

2.5.4 Implications for the Thesis

The related work validated the presence of e-mail pressure among consumers and confirmed the importance for advertisers who contact consumers via e-mail to be aware of how their relationship with consumers can be harmed when consumers perceive e-mail pressure, to the extent that consumers stop the advertiser's communication via e-mails. The findings of the previous research as discussed in this chapter form the starting point of the thesis research. These findings have the following implications for the thesis research.

Firstly, previous research showed there exists a lack of synthesis between analyses of consumers' behaviour and the general understanding of consumers' perception of e-mail pressure in a broader context. Previous work has studied either consumers' behaviour or general attitude towards advertising e-mails, overlooking the bridge of the notable gap between insights into consumers' attitudes and behaviour. Studies 1 and 2 address this gap by investigating how e-mail pressure can be identified, by exploring consumers' behaviour and responses to e-mail pressure and by identifying different consumer segments based on this perception, so that advertisers can recognize, act upon, and prevent e-mail pressure.

Secondly, from the conceptual framework of e-mail pressure (Micheaux, 2011) two key indicators of e-mail pressure were identified: unsubscribing from advertising e-mails and reduced consumer engagement with advertising e-mails. In the upcoming Study 1, consumers' previous experiences with unsubscribing are examined such that an understanding of when and why consumers unsubscribe from the consumers' perspective can be developed, building upon the conceptual framework by Micheaux (2011).

The previous work showed a gap in research about determining the ideal frequency of advertising e-mails for consumers. Therefore, in Study 1 consumers' perceptions of the ideal e-mail frequency are investigated. Furthermore, the threshold for excessive frequency was found to be related to the relevancy of the e-mail content (Micheaux, 2011), which may differ between consumers. As a result, differences in the relevance of the content between consumer groups are considered by examining the different types of e-mails in the data analysis and consumer segmentation in Study 2.

Lastly, previous studies on e-mail pressure did not consider the different types of e-mail content. However, previous work demonstrated that the factors relevance, personalization, design, and persuasiveness are related to e-mail pressure, and these factors may vary for different types of advertising e-mails. There exist multiple types of advertising content, such as newsletters, exclusive offers, cart abandonment e-mails, and more. Consumers' perceptions of different types of advertising e-mails are investigated in Study 1. Moreover, the usage of personalization in ad-

vertising e-mails was found to be accepted based on consumers' familiarity with the advertiser (Wattal et al., 2012). As consumers' preferences for types of content can thus depend on how familiar they are with the advertiser, consumers' preferences for types of advertising e-mails for their most favourite brand and least favourite brand are investigated in Study 1. In addition, in Study 2, the types of e-mails that consumers have received from the advertiser are included in the data analysis.

3 STUDY 1: FOCUS GROUP

Chapter 3 presents Study 1, a focus group study conducted with consumers who receive advertising e-mails from multiple brands. This study aims to answer research questions 1, 2, and 3:

1. *What consumer behaviour indicates consumers are experiencing e-mail pressure?*
2. *How do different types of consumers respond to e-mail pressure, such as by unsubscribing or ignoring e-mails?*
3. *How do different types of e-mails affect consumers' perception of e-mail pressure?*

The chapter starts with a description of the method used for Study 1 in Section 3.1, including the descriptions of the sampling method, participants, procedure, materials, and analysis. The method is followed by the results of the thematic analysis and sorting task of the types of advertising e-mails in Section 3.2 which present the findings of the focus group study. Lastly, the results of Study 1 are discussed and research questions 1, 2, and 3 are answered and the chapter is concluded in Section 3.3.

3.1 Method

3.1.1 Sampling Method

Convenience sampling, a non-probability sampling method, was used to select participants for this study. During a pitch given to other interns at the internship company, the public was asked if they would want to participate in this study. If interested, the public was able to scan a QR code with the contact information of the researcher so they could reach out to the researcher. In addition to the recruiting of participants via the pitch, fellow students at the University of Twente and interns at the thesis internship company were contacted via group chats and asked via a message if they would like to participate in the study.

3.1.2 Participants

3.1.2.a Selection Criteria

In order to participate in this study, participants were required to speak adequate English, as the focus groups were held in this language. There were no requirements for the ages of the participants, apart from being at least 18 years old. The gender of the participants was aimed to be close to an even distribution in order to avoid gender bias in the research findings. Another criterion that participants had to meet was that they had to be currently receiving advertisement e-mails, including but not limited to newsletters, personalized product recommendations, and re-stock e-mails. Fellow students or interns who were aware of the precise content of the thesis research were excluded from participating in the study.

3.1.2.b Demographics

Seven participants took part in the focus group sessions. Six out of the seven participants were students enrolled at university, of which three were enrolled at an applied university and three were enrolled at the University of Twente. The ages of the participants ranged from 22 to 38 years with an average of 25.6 years ($SD= 5.65$). Among the participants, four (57.1%) were male and three (42.9%) were female. A more detailed overview of the distribution of these demographics can be found in Figures D.1 and D.2 in Appendix D.

3.1.3 Procedure

Before the start of the sessions, the study was approved by the Ethics Committee of Computer & Information Science of the University of Twente, with application number 230175. The sampling of the participants is described in Section 3.1.1.

After agreeing to participate in the focus group sessions, participants were sent the information letter and informed consent form. These can be found in Appendix A and Appendix B respectively. Participants were asked to read and sign the consent form before the start of the focus group session. Participants were given the option to ask questions about the research, information letter, and informed consent form before the focus group session took place.

Two focus group sessions were held, one session with four participants and one session with three participants. Each participant took part in one session. The focus group sessions took approximately 60 minutes each and were moderated by the main researcher. The moderating researcher was the only researcher present and took notes during the sessions. The focus group sessions took place via Microsoft Teams meetings, which allowed participants to remotely participate in the research. The audio and video of the focus group session were recorded with the permission of the participants and used for transcribing the sessions.

The guide that was followed during the focus group sessions is shown in Appendix C. At the start of the focus group, the research topic and an overview of the session were introduced to the participants, see Appendix C.1, C.2, and C.3. After providing participants with the opportunity to ask questions after the introduction of the focus group, the recording was started. First, participants were asked two demographic questions about their age and gender. The demographic questions posed to participants are shown in Appendix C.4. Next, the focus group officially began and participants were first asked an icebreaker question. Participants answered all the following questions and discussed them among themselves whilst the moderating researcher guided the session. An overview of the questions posed to and discussed by participants is given in Appendix C.6.

The last part of the focus group session consisted of a sorting task participants were asked to perform. Participants ranked multiple different types of advertising e-mails individually for both their most favourite and least favourite brands they receive advertising e-mails from. After ranking the different types of advertising e-mails, each participant was requested to present and explain their rankings of the different types of advertising e-mails and the reasoning behind their rankings. The sorting task used in the focus group is presented in more detail in Appendix C.7.

After the participants had answered all questions and completed the tasks, the researcher gave a short debriefing, see Appendix C.8. After the session, participants could still reach out to the researcher to ask questions about the research and the usage and storage of the collected data. Participants could opt out of the research until 24 hours after the focus group session was

conducted.

In the first focus group session, all questions and tasks as presented in Appendix C were asked. In the second focus group session, the last task of ranking the types of advertising e-mails for participants' least favourite brands, as described in Appendix C.7, was not completed due to a limitation in time.

3.1.4 Materials

The focus group sessions were held via Microsoft Teams meetings. The sessions were recorded and automatically transcribed via Microsoft Teams. The questions were presented on separate slides in a PowerPoint presentation. For the sorting task, eight answer options with explanations were shown. These answer options are included in Appendix C.7. The sorting task was completed by participants via a ranking poll created with the Microsoft Teams Polls extension. The answers were collected via the poll and participants were able to only view their own answers to the questions.

ATLAS.ti, a computer-assisted qualitative data analysis software program, was used to code the transcripts. The Artificial Intelligence (AI) Coding Tool function was used on the transcripts of the sessions and these automatic codes were compared to the codes of the researcher. After the coding was completed, a MIRO board was used to create an overview of the collected data and to make an affinity diagram for the thematic analysis.

3.1.5 Analysis

The recordings and automatic transcripts were used to create transcripts of the focus group sessions. After the transcripts were created, the thematic analysis started. The transcripts of the sessions were coded using the open coding method, meaning that themes and concepts were identified and categorized without prior assumptions or predetermined categories.

First, the transcripts were read to improve the general understanding of the content of the collected data. The coding process was conducted by a single annotator, the main researcher, who identified key concepts, ideas, and patterns in the data and labeled these with codes. Similarities and differences between the identified codes were analyzed and codes were grouped or categorized based on these similarities and differences. The process of identifying codes, labeling codes, and grouping codes was iterative. During these iterations, the codes were refined and revised. Two iterations of this process were repeated. The automatic AI coding tool by ATLAS.ti was used on the transcripts to create automatic codes of the data. The results of the iterative coding process were compared to the automatic codes and adjustments to the names of the original codes were made based on the suggestions of the automatic codes, which resulted in the final codes. The final codes per theme with the corresponding frequencies per focus group session are shown in Tables E.1 to E.5 in Section 3.2.3. Afterward, an affinity diagram was made of the codes with summaries of the corresponding statements made by the participants. The codes were then merged into overarching key themes and sub-themes. The results of the thematic analysis are reported in Section 3.2.2. A schematic overview of the themes is shown in Figure 3.1 and discussed in Section 3.2.1.

For the sorting task, the average rankings were calculated per type of advertising e-mail from both the most favourite and least favourite advertising brands that participants received advertising e-mails from. In addition to the actual rankings of the types of advertising e-mails, the participants' explanations of why they ranked the advertising e-mails this way were taken into account in the analysis. The results of the sorting task are presented in Section 3.2.4.a.

3.2 Results

3.2.1 Schematic Overview of the Themes

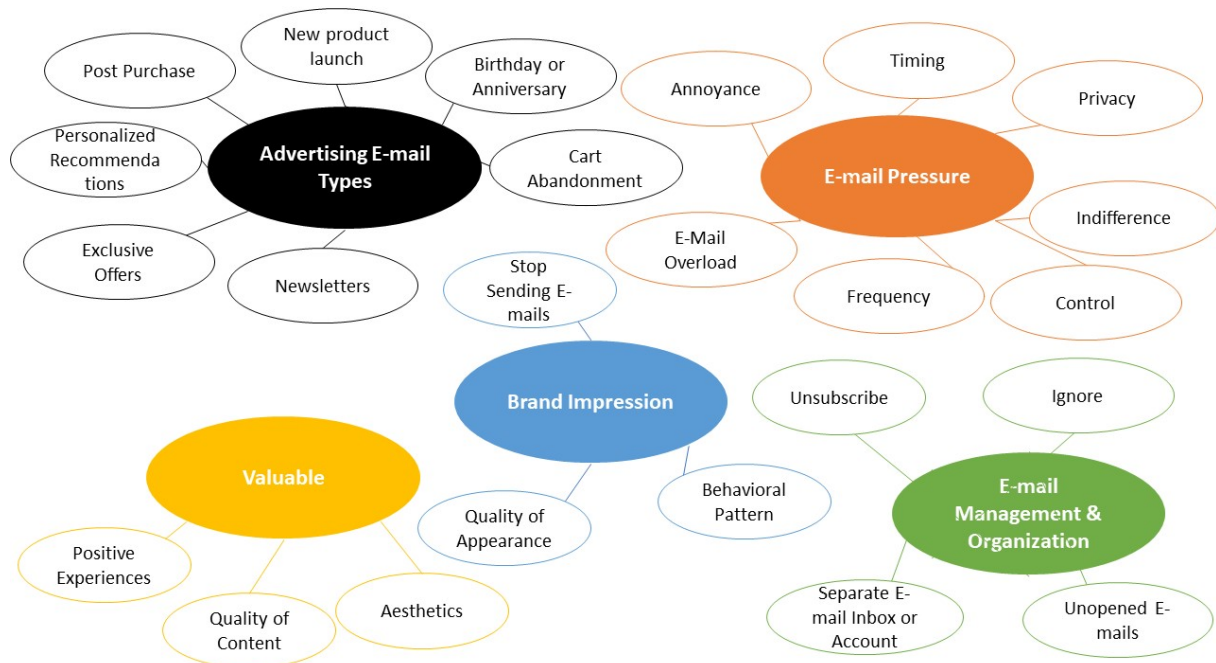


Figure 3.1: Schematic Overview of the Identified Themes and Sub Themes

In Figure 3.1, the schematic overview of the five identified themes and related sub-themes is shown. Each colour indicates the main theme and the sub-themes are linked to the main themes. The identified themes and sub-themes are presented in detail in Section 3.2.2.

3.2.2 Thematic Analysis

Five main themes were found during the thematic analysis. The main themes with their coherent sub-themes and categories are listed below.

3.2.2.a E-mail Management and Organization

The first identified main theme discusses the different ways of managing and organizing the e-mail inbox and incoming advertising e-mails. This theme entails multiple sub-themes, including Unopened E-mails, Separate E-mail Inboxes or Accounts, Ignore, and Unsubscribe.

1 Unopened E-mails

Three participants (P4, P5, P6) keep their e-mails unread, meaning that they leave advertising e-mails unopened in their inbox when they are not interested in reading the content. Two participants (P4, P6) mentioned not being bothered by leaving advertising e-mails unopened as the e-mails arrive in a separate promotion inbox where it is not visible how many e-mails are unread or unopened. P4 explains: *"For me, it also doesn't matter if I have open e-mails. I don't know. Some people cannot handle it. But for me it's like OK if I haven't opened them, that's fine."* P6 mentioned never deleting e-mails, leaving e-mails in their inbox forever and ignoring them all. P5 has over 6070 e-mails unread at this moment. It is routine for this participant to open, ignore, and close the inbox.

II Separate E-mail Inboxes or Accounts

Three participants (P4, P6, P7) mentioned having separate categories for promotional and social advertising e-mails in their inboxes. This is automatically categorized by their e-mail browser Gmail. P4 describes: *"They are in the promotion inbox or whatever. So they're just there. I don't look at them like."* P4 only looks at the separate inbox category when planning to buy something. P4 describes: *"I only open them when I want to see them and normally then the thing I do is I open like the 10 most recent ones because those are the only ones that are probably still valid. It doesn't make sense to look back in an advertisement or whatever from like 2 weeks ago because probably it's already like gone."*

P6 clears and archives incoming e-mails in their primary inbox, but for the separate promotion inbox, the participant does not care to clean and keeps them unread. When asked about how often the participant checks the separate inbox, P6 states: *"Sometimes I get bored because I check the primary and there's nothing there. Maybe I will check the promotions. So not very often. Once a week, I think."*

P2 has a separate e-mail account, which the participant refers to as the *"junkyard graveyard"*, especially for advertising e-mails. The participant uses this e-mail account for *"things that aren't really important"*, such as web stores and festivals. P2 used to check the separate e-mail account every day but does not anymore, explaining: *"I'm pretty sure there is nothing to see that is important."*

III Ignore

Two participants ignore advertising e-mails as a coping strategy. P7 explains going to the e-mail inbox with a goal and getting distracted by advertising e-mails. P7 notes: *"So then it's really annoying spam, and I'll just get to that later because I want to get on with what I was doing. So I kind of forget it."* P7 does not want to get sidetracked by starting the whole deleting process and just ignores the e-mails. P5 has a similar process and ignores advertising e-mails in the inbox. P5 states: *"It's such a daily routine to in the morning, open my e-mail, ignore it, and close my e-mail."* P5 does get annoyed when opening the e-mail inbox app, but the frustration is gone when leaving the app.

IV Unsubscribe

The study showed that not all participants unsubscribe from advertising e-mails they do not want to receive anymore. P1, P3, P6 and P7 unsubscribe from advertising e-mails, while P2, P4, and P5 do not.

P1 does not read the content of advertising e-mails and unsubscribes from incoming advertising e-mails: *"I don't really read the contents, I just unsubscribe without thinking."* Furthermore, unsubscribing can take up quite some work, especially when people have to log in with credentials to unsubscribe. *"I have to unsubscribe with them and then takes quite a lot of time and effort for me to do that, very annoying."* P3 goes through the mailbox every few months and unsubscribes from all things that are not interesting, noting: *"I like don't unsubscribe every day, but once in every like two months, I just go through my entire mailbox and I'm like, OK, I'm gonna unsubscribe like everything."* It took P3 half an hour to unsubscribe from around 40 advertising e-mails. P6 unsubscribes from advertising e-mails when annoyed by them. If not annoyed, P6 leaves the e-mails in the promotion inbox. P6 states: *"I actually need to unsubscribe some of them because I never read them."*

Three participants (P2, P4, P5) mentioned never unsubscribing from advertising e-mails. P5 notes: *"I don't think I ever unsubscribed for an advertisement e-mail."* P2 and P4 feel like they don't need to because they either have a separate mail inbox or account for promotional e-mails. P4 does mention unsubscribing from advertising e-mails in the university environment. It does not bother P4 because *"it takes a minute to unsubscribe, it's not really a big thing"* and *"they give me the software license for free, so I guess I can owe them one or two e-mails."* P4's comments indicate that P4 may be more accepting of advertising e-mails in situations because of reciprocity or a benefit, in this case, a free software product.

Overall, the participants' comments suggest that some participants find unsubscribing from advertising time-consuming and annoying, while others do not see the need to unsubscribe or find it easy to unsubscribe. Furthermore, the comments indicate that the annoyance of unsubscribing is related to the ease of unsubscribing.

3.2.2.b E-mail Pressure

The second main theme that was identified is E-mail Pressure. This theme is divided into the sub-themes: E-mail Overload, Annoyance, Indifference, Frequency, Timing, Privacy, and Control.

I E-mail Overload

Overflow of E-mails Six out of seven (P1, P2, P3, P5, P6, P7) participants described feeling or having felt overwhelmed by the amount of advertising e-mails they receive. P5 explains: *"Some companies send you so many e-mails and you never open them and get annoyed, ugh another e-mail by them."* P7 mentioned not liking the number of advertising e-mails they receive as they cannot keep up with it.

Participants gave multiple past examples of having received an overflow of advertising e-mails. According to P4, *"every morning you can see you have a few at least five to ten."* P6 used to follow courses at an organization, and received more than two recommendation e-mails per week from this organization since then, but *"you don't need that many or have courses that often so you get annoyed."* Further previous experiences of receiving an overflow of advertising e-mails include P1 receiving advertising e-mails from one advertiser every day although having unsubscribed multiple times and e-mails from LinkedIn. Five participants (P1, P3, P4, P6, P7) mentioned LinkedIn as an example of a brand or company they receive a lot of advertising e-mails. Two participants (P6, P7) mentioned that LinkedIn mixes all types of advertising e-mails and that the different e-mails together are too much. P6 was annoyed that one can only unsubscribe from either all LinkedIn e-mails or none.

Repetition Participants experience e-mail overload especially when the advertising messages are repetitive. P3 finds it annoying when advertising e-mails have no new content. This participant receives the same e-mail with the same content from one brand every day and said *"When they're repeating information, then I'm not going to like it either."* According to P2 *"they send too much and the same, they should send less and make sure they don't repeat the information."* P4 agrees *"the e-mail should be different, otherwise you'll stop reading them because they always have the same. That's not effective marketing."* The repetition of the subject line of the advertising e-mail can affect whether participants are excited to look at the e-mail according to P2 *"even the title is always the same. So you don't want to look at it, you don't even excited to look at it."*

II Annoyance

Previous Experiences Five participants described previous experiences with advertising e-mails where they felt annoyed or frustrated. P7 expressed feeling annoyed when being unwantedly automatically subscribed to advertising e-mails when making an online purchase, stating: *"if you buy something and are automatically subscribed to e-mails, it's like fuck you I didn't ask for that."* P1 feels annoyed about receiving advertising e-mails in general, noting: *"I think it's bloody annoying."*

P5 expressed getting annoyed by the amount of advertising e-mails P5 receives from certain brands, describing: *"Some companies send you so many e-mails and you never open them and get annoyed; ugh another e-mail by them."* As an example, P5 mentions travel advertising e-mails as P5 receives many messages from them with both important information about the journey and actual advertising e-mails. P7 describes going to the e-mail inbox for a goal and getting annoyed by spam or advertising e-mails. At that moment, P7 does not want to be distracted and later forgets to check or delete them.

Furthermore, P7 mentioned being annoyed by the misleading headers. P7 stated: *"misleading headers are annoying. Clicked it as I thought it was interesting, but then it's not."* This comment suggests that subject lines should give an honest preview of the content of advertising e-mails.

Overall, these comments suggest that participants experienced annoyance or frustration when interacting with advertising e-mails, especially when feeling overwhelmed by the number of e-mails, when subject lines are misleading, and when receiving unwanted e-mails.

III Indifference

Five (P2, P4, P5, P6, P7) participants expressed feeling indifferent about the amount of advertising e-mails they receive. P5 is not bothered by receiving advertising e-mails, stating: *"I get used to them, don't mind them too much."*

Participants with a separate e-mail account or separate promotion category in their inbox (P2, P4, P6, P7) expressed feeling more indifferent about advertising e-mails than those without (P1, P3, P5). P2 remarked *"It doesn't bother me that much because it's my separate e-mail. They do their job."* P4 explains *"It does not make me angry or frustrated because if I don't want to see them, I don't see them."* P7 expressed *"9/10 times why I don't really care; I get too many and it's like OK, I don't care. it's probably spam or something uninteresting."*

P4 mentioned an example of receiving advertising e-mails on their university e-mail account from a software company. P4 expressed a relatively tolerant attitude towards these advertising e-mails because *"it takes a minute to unsubscribe, it's not really a big thing."* Despite the fact that P4 received these e-mails in a work environment, P4 was not bothered by them. P4 stated: *"They give me the software license for free, so I guess I can owe them one or two e-mails."* These comments suggest P4 does not perceive advertising e-mails as a major inconvenience and that P4 may be more accepting of advertising e-mails in situations due to reciprocity or receiving a benefit, in this case, a free software product.

Unsubscribe Participants (P1, P3) found unsubscribing annoying when unsubscribing did not work or when they had to put more effort into unsubscribing than clicking a button. P3 unsubscribes from advertising e-mails once every two months and mentions the difference in the ease of unsubscribing when having to log in with your credentials, stating: *"very annoying when you*

have to actually put in your e-mail instead of unsubscribing with one button click."

Three participants (P3, P6, P7) described experiencing a "tipping point" where they get so annoyed by advertising e-mails that they unsubscribe. P6 mentions unsubscribing from e-mails when getting annoyed by the frequency, noting: *"It's annoying because I don't need that much. I don't want to spend time to read them."* P3 expresses annoyance for repetitive advertising e-mails because they entail *"no new content, overflowing me with the exact same information. that's quite annoying."* P7 described ignoring advertising e-mails until getting to a tipping point where the e-mails are not interesting anymore, are considered a waste of time, and are perceived as not fun or useful.

P1 describes an experience where P1 was unsuccessful in unsubscribing from the advertising e-mails from an online retail store, describing: *"I bought something once from AliExpress, keep on getting e-mails, keep unsubscribing, but it doesn't work."* P1 expresses feeling frustrated by advertising e-mails in general, stating: *"I have to unsubscribe with them and then takes quite a lot of time and effort for me to do that, very annoying."* These comments show participants felt frustrated when having to unsubscribe from advertising e-mails, and that the easiness to unsubscribe plays a role in the frustration.

IV Frequency

Participants explained that the annoyances that occur can occur based on the frequency of advertising e-mails. According to P3: *"It's not about the content of the e-mail necessarily, but it's how often you get it."* The annoyance occurs on a daily basis, P5 describes: *"Some companies send you so many e-mails and you never open them and get annoyed. Ugh, another e-mail by them."* According to P6, *"Many of the subscriptions from brands they always send more than two e-mails in one week. Then it's annoying because I don't need that much; I don't want to spend time to read them."* These comments show that the frequency of advertising e-mails can affect participants' perception of contact pressure.

Value Multiple participants mentioned that the frequency should depend on the content, brand or company. If there is *"interesting stuff"* -P4 in the advertising e-mails a higher frequency is accepted. P6 describes checking out e-mails if they are sent monthly because then it feels as if there should be something valuable in it. P5 describes preferring monthly e-mails because one cannot skip them, if one skips these then one misses the information for the whole month. According to P5, it is different from brands that send out more advertising e-mails: *"It's not like once a week where you see it and like you skip it cause you see it all the time and every time you open your inbox there's an e-mail from them."*

V Timing

Two participants (P1, P3) mentioned that the timing for advertising e-mails can be perceived as annoying. One participant (P2) receives notifications of some advertising e-mails. This can lead to frustration when the timing is bad and it can make one hate the advertising brand or company, P2 states: *"if it's really late the timing is really frustrating as I sleep light and it makes me wake up a couple of times."* When talking about the preferred timing, P2 mentions: *"During the day should be fine, not even in the morning, but afternoon."* Whereas, P4 expects advertising e-mails to arrive in the morning.

VI Privacy

Three participants (P1, P3, P4) prefer to receive less personalized content of advertising e-mails when receiving content from their least favourite brands. These participants expressed not wanting their least favourite brands to know too much about them. P3 states: *"If I don't like them, then they don't really need to know my information."* P4 agrees, noting: *"It's better that they don't know everything about me."* P1 is on the same page with the previous statements, explaining: *"For brands I don't like ... I don't want to get personalized by them. I'd rather get a very random e-mail than see a special offer for me."* Furthermore, P1 describes that it is annoying when they personalize with the name and *"try to come across as good friends from me, but it's quite annoying and not welcoming because I don't know them."* These comments suggest that personalization should be less common when there is not a good relationship between the brand and the consumer.

VII Control

One participant (P6) expressed enjoying personalization if it gives one the option to control what content in advertising e-mails one can receive. P6 states: *"I would prefer something like you can customize yourself."* P6 explains that, for example, sometimes one wants personalized product recommendations but not all the time. P6 notes: *"Maybe it's better if they can make you can control the frequency you pick."* These comments suggest that P6 would prefer to have more control over the content and frequency of advertising e-mails P6 receives.

3.2.2.c Valuable

The third main theme Valuable entails the experiences and characteristics of advertising e-mails that make them valuable to participants. It consists of the following sub-themes: Positive Experiences, Quality of Content, and Aesthetics.

I Positive Experiences

Five participants (P2, P3, P4, P5, P6) described a time when they became excited when receiving an exclusive offer, discount, or presale code. P2 described enjoying receiving discounts from their favourite brands; *"It's two or three brands that every time I get a discount e-mail, it's bad how good I go on that."* P6 exclaimed *"Every time I see the e-mail I felt excited"* about the biweekly newsletters with discounts P6 received from a brand. On occasion, P5 receives presale codes from a concert organization. P5 states: *"There's one that I quite like from Mojo, a music thing and they give you like a weekly e-mail when around concerts that are coming and you can also because you're signed up you can get presale code sometimes. So I quite like that it happened for a Harry Styles concert. We got a presale code which may be getting tickets really easy. So for stuff like that I really like it. Really appreciate getting the e-mails. And it's nice to know which artists are coming to town so you can watch them."*

Four participants (P2, P3, P5, P7) felt happy or excited when receiving messages about a festival or event coming up. They were excited to see the line-up or to see which artists are coming to town. P3 explains: *"The first thing I think of is one I have like tickets to an festival or something and they send me about that event. Like more advertising about what's gonna be there or the lineup, like, those e-mails are fun to see."* Reminders for the next festival or event are welcomed by the participants when it is about an event they enjoy so the participants know they should register.

Apart from being excited about exclusive offers or events, P7 expressed a preference for receiving informational e-mails that are focused on providing updates and news rather than focusing directly on selling products. P7 specifically enjoyed receiving e-mails from an amusement park that shared information about the changes being made to the park. P7 states: *"They sent two kinds of mails, more informational I'd say. But there's also a more like "ohh come join us" because this is new so I feel like it's kind of a combined situation. But I feel like in those cases I find it more interesting. Because I find it interesting to like know what's happening at the park."* This suggests that the participant values being informed and staying up-to-date, and that e-mail is viewed to be a useful communication channel for receiving this type of information.

II Quality of Content

Three participants (P5, P6, P7) gave examples of being excited about advertising e-mails because of the quality of the content. P5 appreciates a long monthly e-mail with updates on courses and activities from an organization, noting: *"Because it's once a month, but it's quite long, it's quite nice. It's not like once a week where you see it and like you skip it because you see it all the time and every time you open your inbox there's an e-mail from them. P5 takes the effort to read these in full so that P5 does not miss out on the content. P7 mentions that advertising e-mails are a waste of time if one does not perceive them content-wise as useful or fun. P6 unsubscribed from a brand because P6 did not perceive the advertising e-mails as useful anymore. These comments suggest that people enjoy receiving advertising e-mails when they find the content valuable.*

Three participants (P4, P6, P7) explained they do not want to receive advertising e-mails from one brand too often, a maximum of once or twice a month so that the e-mails remain valuable to them. P7 explains: *"The perception of our value of the content of the e-mail, is what we should receive the frequency on"*. The frequency of the advertising e-mails to them depends on the quality or valuableness of the content.

Participants (P5, P6, P7) also mentioned that the quality of the e-mail can signal the quality of the services or goods of a brand. According to P6: *"If they give a good quality e-mail, then you have the feeling they have good quality services"*.

To summarize, according to the participants, the quality of advertising e-mails can signal the quality of the goods or services from a brand and is needed to determine the frequency of the advertising e-mails.

Subject Line The subject line of advertising e-mails was brought up by two participants (P2, P7). Firstly, the effect of repetitive or predictable subject lines was discussed by a participant. P2 explains not even being excited to look at certain advertising e-mails when there are no changes in the subject line. P2 notes *"even the title is always same... so you don't want to look at it, you don't even are excited to look at it. So the content should be different."* About the same topic, P2 expresses that e-mails with similar subject lines do not grab attention, stating: *"standing out around the e-mails, I think it's not working at all."* Secondly, subject lines that are too vague or generic do not help signal the relevance or value of an incoming advertising e-mail. P7 stated that *"If you see five e-mails with basically the same happy emoji, that's attention-grabbing but not descriptive. Like, what do I do with this?"* Lastly, P7 mentioned being annoyed by misleading subject lines. The participant opens e-mails thinking from the subject line that they are interesting, but then they turn out not to be. P7 stated: *"If I clicked on it, I thought it was interesting. But then, hey, the joke is on you, it's not. It's like, fuck you. So yeah, that's just the annoying bit about it."* This suggests that P7 appreciates subject lines that accurately

display the content of advertising e-mails, such that P7 is able to determine whether to engage with the e-mails or not.

Personalized Content It depends on the participant whether the personalized content of advertising e-mails is valued or appreciated. P6 views personalization as a method to offer more value, stating: *"If it's personalized, it's much more targeted. So I feel like they are more valuable"*. In contrast, P4 expressed not needed personalized advertising content and prefers generic content because: *"if you have like the always like the personalized ones, then maybe you're stuck in like one bubble with one type of products and you don't even know about the other products that are there because you don't see them"*. These comments suggest that P4 just wants to see the whole product offering in advertising e-mails, not necessarily only personalized content.

III Aesthetics

Five participants (P2,P3,P5,P6,P7) thought about the aesthetics of the e-mails and that the looks of the e-mails matter. According to these participants, the aesthetics of the advertising e-mails can change one's impression of the brand. A poorly designed e-mail can create the impression that a brand does not care about its customers, P7 explains: *"If it looks cheap and uncared for. You're gonna be like you don't care about me"*. Participants appreciated effort for the design or aesthetics of the advertising e-mails as it makes them feel appreciated as recipients. According to P5, *"if it has nice design graphics and looks nice, that can also add value of the e-mails and the brand"*. P7 mentions *"You feel appreciated as a consumer if you get 'a nice one'. Then you feel special."*

P3 highlighted the importance of differences in the format of advertising e-mails. P3 enjoyed fashion e-mails from one brand the most because every e-mail looked different. P3 explains: *"I think for me the format is kind of important as well though because I if I look or take an example like NA-KD the clothing brand, I get their e-mails like a lot, but I enjoy them because every time they're different pictures and it's like up to date with their new clothing line and that every, every e-mail looks different as well."*

In contrast, P4 attaches less value to the format or aesthetics of advertising e-mails. P4 explains: *"The formats can be similar every time, I would say maybe you can add some pictures or some, I don't know, like at least, so it's a bit attracting but the content, that's what matters for me. The format I don't really care about."* This comment suggests that the value of advertising e-mails for P4 lies in the content of the e-mail, not the design.

3.2.2.d Brand Impression

The fourth main theme, Brand Impression, presents the findings related to how advertising e-mails can influence the customer's perception and association with the brand. This theme is divided into several sub-themes: Behavioural Patterns, Quality of Appearance, and Stop Sending E-mails.

I Behavioural Patterns

One participant (P7) described a behavioural pattern that they notice from their own behaviour where they start associating advertising e-mails with the brands or companies. P7 stated: *"With different companies, I feel like you kind of start recognizing a pattern rather quickly"*. According to P7, these can be *"good patterns"* or *"bad patterns"*. For a bad pattern, P7 mentions: *"I just*

don't read or instantly delete without reading them. You kind of start associating that with the brand or company". P5 agreed with this, stating that "because there's some companies that send you so many e-mails and because you just know you never open them, you get annoyed by it. Like ohh another e-mail by them. I'm not going to read it." These comments suggest that participants recognize patterns with the advertising e-mails companies send and can start associating these patterns themselves and how they feel about with patterns with the brand or company. In addition, the pattern can influence whether participants will open the brand's e-mails in the future. P7 explains that one already expects whether a new advertising e-mail is interesting or not based on the previous ones, stating: *"If it's a lot then you probably open it once and see, OK, it's not very interesting and they send you keep on sending you, so you already expect, OK, this is just annoying."*

II Quality of Appearance

Four participants (P1, P5, P6, P7) noted how advertising e-mails that appear low-effort or cheap can change the perception of the brand. P7 explains that the appearance of the e-mail says something about the attitude of the company towards customers, stating *"If it looks cheap and uncared for. You're gonna be like you don't care about me. So I don't care about you. Then it feels like they want me to go to the website and spend money."* In line with P7's explanation, P5 described that if advertising e-mails look like they put in a lot of effort, it can add to the value of the e-mail and brand. P5 noted: *"I think you feel like, oh, yeah, somebody did this on their work break and 10 minutes and turns out instead of about somebody put actually effort in to make the design graphics and make sure it looks nice and your phone or on your laptop or whatever. I think that can also add to the value of the e-mails and the brand that you get."*

Not only the appearance can affect one's perception of the brand, according to P6 the frequency of the messaging can also affect one's perception of the brand. P6 explained: *"It can change your impression of the brand. If they give a good quality e-mail, then you have the feeling they have good quality services. But if it's too many then it's kind of cheap."*

Furthermore, the ease of unsubscribing can also affect one's perception of the brand. P1 expressed disliking a brand that frequently sent advertising e-mails despite having unsuccessfully tried to unsubscribe from it.

In summary, the findings suggest that the content quality, aesthetics, ease of unsubscribing, and frequency of advertising e-mails can significantly influence the participants' perception of the brand.

III Stop Sending E-mails

Two participants (P2, P7) expressed their dissatisfaction about receiving advertising e-mails from brands and suggested that brands can stop sending them advertising e-mails by themselves. P2 explained preferring brands to stop sending advertising e-mails altogether if not having made a purchase from them in a while. P2 states: *"If I don't buy anything from you, just stop it for a while."* Upon asking if P2 would like to receive content after a while, P2 answered that they would forget the brand after a few months, then if the brand would send an e-mail in a different format they would check it out to see who it is.

P7 would appreciate it if brands or companies would follow the approach of Duolingo, which sends you a final notification such as *"we're going to leave you since you are not interested"*. According to P7, brands could send an e-mail with *"Hey we have seen you haven't used our*

services in a while and we don't want to bother you. We'll stop sending e-mails." P7 would consider using the service again in the future as it would leave a better impression of the company, stating *"it's more respectful to me as a customer"*. P7 argues that brands know they are spamming people and have never heard anyone say they love it, stating: *"I don't think I've ever heard somebody say when the topic of advertisements e-mails brought up: Ohh boy, I love them so much"*.

3.2.2.e Advertising E-mail Types

The fifth main theme focuses on the different types of advertising e-mails that were discussed. These include Exclusive Offers, Newsletters, Personalized Recommendation E-mails, Cart Abandonment E-mails, Post Purchase E-mails, New Product Launch E-mails, and Birthday or Anniversary E-mails.

I Exclusive Offers

Usage Five participants mentioned the joy and value of discounts and other exclusive offers from advertising e-mails. P3 expressed a fondness for discounts from their favourite brands, stating *"I like discounts a bit too much, especially from my favourite brands."* P2 mentioned receiving exclusive offers as a regular customer for festivals and clubs with special events. P5 enjoys Mojo's presale codes as they make getting tickets for concerts easier. P6 enjoys exclusive offers from a brand that sends e-mails with offers every two weeks. P6 describes: *"I have the membership. So they will promote you with like discount of every month like every two weeks they will send you an e-mail and I was excited about that because most of the time I found something I need."* These findings highlight the importance of including exclusive offers in advertising e-mails and that participants appreciate and enjoy receiving these offers.

Quality Participants appreciated receiving high-quality exclusive offers with discounts or pre-sale codes to loyal customers. Such e-mails made them feel valued. According to P5, *"Quality depends on what they offer. The offer is appreciated if it's something you care about"*. P3 mentioned that the amount of discount affects how joyful the e-mail makes P3, stating: *"If it's like a 40% discount that makes me very happy"*. P5 appreciates exclusive offers for loyal customers, such as presale or early access codes for ticket sales of concerts. P5 further explained that whether P5 wants to receive exclusive offers depends on the offers brands send her, stating: *"If it's like a presale code or like early access to a sale or something, then I can see the use in them. And then I like them. But if they're just a generic one, then you don't care. So it depends on what they offer."* Furthermore, the quality of the offer also reflects whether the brand has good quality services. P6 explains: *"If they give a good quality e-mail, then you have the feeling they have good quality services"*.

When offers have low value to participants, they are less likely to appreciate them. P5 mentioned that brands often offer a discount that *"you do not want to see"* and that *"a 5% discount is not going to make me want to buy the product"*, indicating that the amount of discount plays a role in the valuation of the e-mail. P6 made a similar statement, remarking that different brands give different discounts and that some of them are a *"real discount"* that is useful, but others *"keep giving you things but it's every time you click it just feel like you were cheat by them because it's that it's never a good discount."* P7 expressed not liking exclusive offer e-mails as they have *"shitty value"* because the offers *"just suck"* and were not helpful.

In general, participants appreciated exclusive offers e-mails if they found the offers to be valuable to them. However, low-quality exclusive offers with small or generic discounts were not

appreciated by participants.

Frequency There were different opinions of participants about the optimal frequency of exclusive offers. P3 wished to receive exclusive offers weekly from her favourite brands, stating: *"I do enjoy these. I think from my favourite brand, I like them weekly."* P4 mentioned that the frequency depends on the quality of the offer, noting: *"It also depends on their offers. If it's like shitty offers."* P2 expressed the preference of receiving a variety of offers one could choose from. According to P6, the frequency of exclusive offers should depend on the type of brand. P6 explains: *"if they offer a collection of different things, I mean then once a month or twice a month is acceptable. But if it's just the specific brand for like clothes or something like that. So I think seasonal like 3 months it's more suitable because you really don't need that much"*. These comments show that preferences for the number of exclusive offers participants want to receive differ on a personal level and depend on the brand that sends them.

II Newsletters

Informational Four participants (P3, P5, P6, P7) gave examples of newsletters they receive and enjoy, such as from Mojo, the Efteling, NAKD, and KICKS. Participants value the information and possibly included discount codes in these newsletters. P7 enjoys the newsletters from an amusement park, as it is more about informing the customer and less about selling products. P7 values these e-mails *"because I find it interesting to like know what's happening at the park"*. P5 receives newsletters from Mojo and is happy with them, explaining: *"Really appreciate getting the e-mails. And it's nice to know which artists are coming to town so you can watch them"*. These comments suggest that newsletters can be of value to participants when they are informative.

Preferences It differed per participant whether they had a preference for personalized newsletters or generic newsletters. P2 did not see much of a difference between the two, as the goal of the e-mail was similar. P4 expressed a preference for the standard newsletters as these show the whole product offering and are not targeted to smaller product groups. P4 states: *"If you always have the personalized ones, you're stuck in a bubble with one type of products you don't even know about the products that are there because you don't see them."* In contrast, P3 and P1 preferred the personalized newsletters. P3 stated: *"I like the personalized ones better but I don't know why"*. Although P1 spoke out his preference for personalized newsletters, P1 expressed a lack of interest in receiving newsletters altogether. P1 noted: *"Maybe it's better if it's more tailored to online preferences, but not really waiting for that honestly"*. The comments suggest that participants do not have a strong preference for personalized or generic newsletters.

Frequency Participants agreed that the frequency of e-mail newsletters depended on the specific brand and content of the e-mails. There was a consensus that weekly newsletters were too frequent, with most participants suggesting that monthly or bi-weekly newsletters were more appropriate. P3 noted that *"it also depends on the content. I think not more often than monthly. Less could be better, depends on if there's interesting stuff in there or not."* P5 explained once a month, once every two weeks would be optimal. If the e-mails are shorter than once every two weeks, if longer then once every month. P6 agreed with this. P2 also mentioned wanting to receive them monthly, noting they want to receive newsletters: *"as less as possible. Depends on the brand and the company and the content. Let's say monthly, you don't want to see them more."* According to P7, *"weekly is too much. It depends on the service. Between 2 weeks and one month. Two times a month for standard, and if there's something especially interesting,*

you can send another one, it needs to be a really signification thing though; big discount". This comment suggests that P7 values the content of e-mail newsletters and is willing to receive a higher frequency of e-mails when they contain relevant information.

In contrast, P3 expressed a lack of interest in receiving newsletters altogether, stating: *"I don't really need to receive them"*. P1 had a similar disinterest in receiving frequent newsletters by preferring to receive them once a year if the content is interesting.

Overall, participants mentioned that the frequency of newsletters should be based on the brand, content, and informativeness of the advertising e-mail. Opinions varied on the exact frequency, but participants agreed that receiving newsletters once a week was too often. Most participants suggested that monthly or bi-weekly newsletters were more appropriate.

III Personalized Recommendation E-mails

The opinions on personalized recommendation e-mails differed from participant to participant. P1 described a time being happy with a personalized recommendation e-mail. P1: *"I like good wines and whiskey and sometimes they have a special thing for you of a brand that you really like, or special vintage. That's interesting, so a personal offer."* Furthermore, P6 discussed not wanting to receive personal recommendations all the time, stating: *"Sometimes I want recommendations, but not all the time"*. There were no further comments or remarks specifically about personalized recommendation e-mails.

IV Cart Abandonment E-mails

All participants disliked cart abandonment e-mails. Participants mentioned not buying and leaving their online shopping carts for a reason. They were annoyed by the reminder and thought them to be unnecessary. P5 described the process as follows: *"They are really annoying. You're bored, put stuff for fun in your cart, close the tab. If I was going to buy it, I would have"*. P1 and P4 have made similar comments. P4 described: *"If it's still in my cart and I didn't buy it, of course I didn't buy it."* According to P1, cart abandonment e-mails are a waste of time: *"I also didn't buy it for a reason because I don't want it. So and then they keep sending information about it. So that I think is absolutely a waste of time"*. Furthermore, P6 feels as if advertisers are continuing to target them when abandoning a filled online shopping cart. P6 explains: *"During shopping, you decide what you want, and if I leave I'm happy. It's something you do not need, but they just keep knocking you and that's not very comfortable."* These comments indicate that participants are deliberately choosing to abandon their online shopping cart, making the reminder e-mails unnecessary and unwelcome.

Moreover, the timing of the cart abandonment e-mails can be frustrating to consumers. P6 gets annoyed when companies send out the cart abandonment e-mails too late when P6 has already forgotten about it. P6 describes *"I think it's the worst when they send you like an abandoned cart e-mail that's two days later when you completely forgot about it. And then you're like OK."*

Overall, the discussion of cart abandonment e-mails by participants showed that participants become annoyed when receiving cart abandonment e-mails when they have intentionally left the full online shopping cart.

V Post Purchase E-mails

The three participants that discussed post-purchase e-mails were not enthusiastic about receiving them from brands. P5 only opens e-mails after a purchase that have the tracking code of

the delivery in the subject line, stating: *"it is to be polite and to leave a positive impression. But you only open them if it has your checking code in it. We see when your parcel gets delivered"*. P5 sees no use in them but is also not bothered by them. P5 expresses *"I get to used them, but don't mind them too much. I don't like them too much"*. P7 prefers not to receive post-purchase e-mails with product recommendations. P7 explains: *"If I just bought something from you, you don't go and recommend something new for me to buy. Don't care for it."* These comments suggest that participants do not perceive post-purchase e-mails to be of value to them.

VI New Product Launch E-mails

Three participants (P1, P4, P7) viewed new product launch e-mails to be informative and interesting. P7 values product launch e-mails about trial versions of software or services that can be used for research and thinks they are good to know about. For P4, new product launch e-mails about software were the most exciting to receive. P4 notes: *"My favourite is product launch when software has a new functionality then it's good to know about it and see if I can actually use it."* In contrast, participant P6 found them to be annoying. P6 stated: *"That's not very interesting because it's too much and you do not really care."* These comments suggest that new product launch e-mails may be valuable to participants who engage with software, but less valuable for different products or participants.

VII Birthday or Anniversary E-mails

Only two participants (P3, P7) mentioned birthday and anniversary e-mails. P7 saw the value of receiving birthday e-mails, which were interpreted as birthday reminders. P7 stated: *"That's maybe quite nice as a reminder. Because it's like an always clear when somebody's birthday is like, Oh yeah, I bought something for that person here"*. Out of all types of advertising e-mails, P3 preferred receiving birthday or anniversary e-mails from her least favourite brand *"because you know it's only once a year"*. There were no further comments or remarks about birthday or anniversary e-mails, indicating that it was not the most important topic for the participants to discuss.

3.2.3 Theme and Code Frequencies

In Appendix E the frequencies of the codes per main theme are presented. Table E.1 shows the codes with corresponding frequencies that are a part of the first theme: E-mail Management & Organization. Similarly, Table E.2 to E.5 show the codes with corresponding frequencies that are a part of the second theme E-mail Pressure, the third theme Valuable, the fourth theme Brand Impression, and the fifth theme Advertising E-mail Types, respectively.

3.2.4 Sorting Task: Advertising E-mail Types

3.2.4.a Ranking

The results of the sorting task, as described in Appendix C.7, are shown in Table 3.1 and 3.2. The tables include the results of the sorting task per participant and the mean, standard deviation, lowest position, highest position, and final position of the ranking types of advertising e-mail.

3.2.4.b Advertising E-mails from Most Favorite Brands

Participants' clarifications for the rankings of the different types of advertising e-mails for their most favourite brands are discussed in detail in the Advertising E-mail Types theme in Sec-

tion 3.2.2.e. In Figure 3.1, an overview of the results of the preferred types of advertising e-mails is shown with the final positioning. It can be observed that product launch e-mails and exclusive offer e-mails were the most popular, followed by personalized newsletters and personalized recommendation e-mails, newsletters and birthday or anniversary e-mails, and lastly, post-purchase and cart abandonment e-mails.

In Section 3.2.2.e VI and I, a detailed overview of participants' positive experiences with and preferences for new product launch and exclusive offer e-mails is shown. These positive experiences are in line with the top rankings of new product launch and exclusive offer e-mails. In Section 3.2.2.e V and IV, participants' expressed their disliking for post-purchase and cart abandonment e-mails, which is in line with their bottom ranking. Participants' experiences with and preferences for (personalized) newsletters, personalized recommendation e-mails, and birthday or anniversary e-mails are discussed in Section 3.2.2.e II, III, and VII respectively.

As for the frequency, participants preferred receiving advertising e-mails in the form of newsletters, personalized newsletters, or personalized recommendation e-mails once or twice every month, depending on the brand, length of the e-mail, and on the significance of the content for the participants. If the content of the e-mail would be very relevant to them or would announce a significant event, such as a once-a-year sale, participants would accept receiving additional e-mails. For exclusive offers e-mails, the amount of e-mails participants wished to receive dif-

Table 3.1: Overview of the Positioning of the Types of Advertising E-mails for Most Favorite Brand

E-Mail Type	P1	P2	P3	P4	P5	P6	P7	Mean	SD	Lowest	Highest	Position
New Product Launch	1	2	2	1	3	5	5	2.71	1.70	5	1	1
Exclusive Offer	2	1	1	7	1	1	7	2.86	2.85	7	1	2
Personalized Newsletters	3	5	3	5	2	3	1	3.14	1.46	5	1	3
Personalized Recommendations	4	3	5	6	5	2	4	4.10	1.35	6	2	4
Newsletters	5	4	6	2	4	7	2	4.29	1.89	7	2	5
Birthday or Anniversary	7	7	4	4	7	4	3	5.14	1.77	6	2	6
Post-Purchase	6	6	8	3	6	6	8	6.14	1.68	8	3	7
Cart Abandonment	8	8	7	8	8	8	6	7.57	0.79	8	6	8

(a) Question: Which types of advertising e-mails do you prefer to receive from your most favourite brand?

Table 3.2: Overview of the Positioning of the Types of Advertising E-mails for Least Favorite Brand

E-Mail Type	P1	P2	P3	P4	Mean	SD	Lowest	Highest	Position
Newsletters	1	8	2	2	3.25	3.20	8	1	1
Post-Purchase	2	5	3	3	3.25	1.26	5	2	2
Exclusive Offer	5	1	5	4	3.75	1.89	5	1	3
New Product Launch	3	6	6	1	4.00	2.45	6	1	4
Birthday or Anniversary	8	3	1	5	4.25	2.99	8	1	5
Personalized Newsletters	6	2	8	6	5.50	2.52	8	2	6
Cart Abandonment	4	7	4	8	5.75	2.06	8	4	7
Personalized Recommendations	7	4	7	7	6.25	1.50	7	4	8

(a) Question: Which types of advertising e-mails do you prefer to receive from your least favourite brand?

ferred per person. One participant (P3) expressed wishing to receive these weekly, whereas other participants only wanted to receive these offers if they were of significant value, i.e. a big enough discount. Participants did not wish to receive cart abandonment e-mails.

3.2.4.c Advertising E-mails from Least Favorite Brands

As discussed in Section 3.1.3, only the participants of the first session were asked to complete the sorting task for their least favourite brands. The main differences between the types of advertising e-mails participants want to receive from their favourite brand and least favourite brands lie in the personalization of content. Personalized newsletters and personalized recommendation e-mails were ranked lower for their least favourite brands than for their favourite brands. In Table 3.2, it is shown that personalized newsletters and personalized recommendation e-mails were on average ranked sixth and eighth place respectively for participants' least favourite brands. Whereas in Table 3.1 the average positions of personalized newsletters and personalized recommendation e-mails for participants' most favourite brands were on average ranked third and fourth respectively. Participants explained why they sorted personalized advertising e-mails lower for their least favourite brand than for their favourite brand. P3 explained ranking the personalized e-mails lower for P3's least favourite brands, because *"If I don't like them, then they really don't need to know my information."* P1 would prefer to receive generic content than personalized content from their least favourite brand, stating: *"I'd rather get a very random e-mail than see a special offer for me."*

In contrast, P4 sorted the types of advertising e-mails based on the content P4 wished to receive, stating: *"I tried to keep it kind of the same because of content preferences. If it's my least favourite or most favourite brands, then the type of content I want to receive is still the same."*

All four participants from the first focus group session mentioned not wanting to receive advertising e-mails from their least favourite brands. P4 explained: *"If it's my least favourite brand, then probably I don't even need to receive e-mails from them."* Participants preferred frequency for all types of advertising e-mails from their least favourite brands was zero.

Overall, participants rated the personalized types of advertising e-mails lower for their least favourite brands. This shows that participants were less open towards receiving content that is based on their behavioural data, such as previous purchases, and personal data, such as one's name. When discussing the frequency of advertising e-mails for their least favourite brands, participants preferred not to receive advertising e-mails at all.

3.3 Discussion and Conclusion

3.3.1 Discussion of the Results

In this study, it was investigated what behaviour by consumers indicate e-mail pressure, how consumers respond to e-mail pressure, as well as how different types of advertising e-mails affect consumers' perception of e-mail pressure.

3.3.1.a Experience of E-Mail Pressure

The first research question addressed by this study is:

1. *What consumer behaviour indicates consumers are experiencing e-mail pressure?*

Study 1 found that consumers who experience e-mail pressure demonstrate this by opening and reading fewer advertising e-mails, and eventually by unsubscribing from the advertising e-mails. In this study, consumers were found to be aware of behavioural patterns when it comes to advertising e-mails from different advertisers. Consumers who view advertising e-mails from an advertiser as irrelevant or repetitive start to ignore or delete the future e-mails from this advertiser and start to create a negative association with the advertiser.

Overall, the two main behaviours by consumers when experiencing e-mail pressure are not opening the e-mails and unsubscribing from the e-mails. These findings correspond to Route A and Route C in the conceptual framework of e-mail pressure, as visualized in Figure 2.1 in Section 2.2 (Micheaux, 2011). Consumers either ignore or delete unwelcome advertising e-mails without opening them. Consumers unsubscribe from advertising e-mails when they have had enough of advertising e-mails from a certain advertiser. Thus, unsubscribing from advertising e-mails from an advertiser reflects the moment when consumers have had enough of the e-mail pressure caused by the advertiser they are experiencing and are actively trying to reduce their experienced e-mail pressure. Nevertheless, some consumers unsubscribe directly from receiving advertising e-mails out of habit as they prefer not to receive advertising e-mails at all.

During this study, no consumers mentioned navigating from advertising e-mails to the offers or website of the advertiser when experiencing e-mail pressure. This could imply that clicking on hyperlinks in e-mails and navigating to the advertiser's website is behaviour that indicates consumers are not experiencing e-mail pressure from that e-mail. Further research on this topic can investigate this hypothesis by either examining click-through e-mail data or by discussing consumers' experiences in more depth.

The second research question that was examined in this study is:

2. How do different types of consumers respond to e-mail pressure, such as by unsubscribing or ignoring e-mails?

Consumers can receive an overwhelming amount of advertising e-mails on a daily basis, leading to feelings of e-mail pressure. The study showed consumers have their own strategies for their e-mail management and organization, as well as when dealing with experiencing e-mail pressure.

Among the study's participants, it was noted that a few participants felt unbothered by the advertising e-mails they received. They expressed not experiencing irritation, frustration, or stress when receiving an overload of advertising e-mails. Thus, not all consumers experience e-mail pressure and this is related to their e-mail management or organization. Consumers who have a separate e-mail account or inbox, such as the Gmail promotional inbox, experience less to no e-mail pressure as they are in control of when to open and view the total advertising e-mail content. Whereas consumers who have one e-mail account are confronted with advertising e-mails when opening their e-mail with a different goal. Consumers with a separate e-mail account or inbox are not constantly confronted with advertising e-mails. As a result, these consumers deal with advertising e-mails in a different way than other consumers.

Consumers who do experience e-mail pressure either ignore or unsubscribe from advertising e-mails when having had enough of advertising e-mails from a certain advertiser. Consumers can have their own personal strategy for dealing with e-mail overload, such as intensively cleaning their inboxes, ignoring all e-mails, immediately unsubscribing from them, or unsubscribing from all advertisers once a month. Consumers who clean their inboxes do so to keep their inboxes clutter-free and to be able to part advertising e-mails from the more relevant e-mails.

Furthermore, consumers have behavioural patterns for coping with e-mail pressure. Consumers may fall into a pattern of ignoring e-mails from a particular advertiser after having opened previous e-mails and established them as not interesting. Consumers immediately categorize the incoming advertising e-mail from the advertiser as not relevant, do not open the e-mail, do not unsubscribe, and experience low irritation. This behavioural pattern corresponds to Route A of the conceptual framework of e-mail pressure, shown in Figure 2.1 (Micheaux, 2011).

The study found that consumers prefer advertising companies to stop sending advertising e-mails themselves if consumers have not been active with the advertising e-mails for some time. This would prevent consumers from creating negative associations with the advertising company caused by the number of advertising e-mails they unwantedly received. An approach such as the notifications from the Duolingo app can be taken, notifying the consumer that the brand will stop sending advertising e-mails when the consumer has not been actively engaging with them. According to this study, consumers appreciate this strategy and would be open to buying something from the brand in the future, as this type of communication shows the consumer's well-being is of importance to the brand.

3.3.1.b Types of Advertising E-Mails

The third research question that was answered in this study is:

3. How do different types of e-mails affect consumers' perception of e-mail pressure?

The findings of the fifth theme and the sorting task show that differences exist between types of advertising e-mails that affect consumers' perception of e-mail pressure and the preferred frequency of these e-mails.

The preferences for which advertising e-mails to receive for people's most favourite brands were mostly personal, although general patterns were detected. New product launch and exclusive offer e-mails were found to be the most preferred types of advertising e-mails to receive from consumers' favourite brands, indicating that participants feel less e-mail pressure with these types of advertising e-mails. Product launch e-mails were viewed to be of value to participants as, for example, they inform consumers about new products or functionalities for software that could come of use. However, the software functionalities example is an isolated use case and considering multiple participants in this study use software for their studies, the preference for receiving new product launch e-mails may not exist for all consumers. Thus, some consumers may experience e-mail pressure when receiving new product launch e-mails, whereas others may not.

The inclusion of exclusive offers in advertising e-mails is a good method to reduce consumers' perception of e-mail pressure when the offer is of value to the consumer. The quality of the offer was found to be of importance in determining the value of the advertising e-mail including exclusive offers. When exclusive offers e-mails contain low-quality offers, such as a low discount for a product consumers are not particularly interested in, but consumers expected a high-quality offer, consumers may feel experience a sense of deception and betrayal from the advertiser. Therefore, in order to prevent e-mail pressure among consumers, advertisers should only include high-quality offers that are of value to the consumer in advertising e-mails and refrain from sending extra advertising e-mails with offers that are perceived by consumers as low-quality. Consumers' preferences for the frequency of exclusive offers can differ on a personal level. Consumers who are discount shoppers prefer to receive multiple exclusive offers so they have multiple offers to choose from. Whereas consumers who are less keen on receiving exclusive offers prefer to receive offers once or twice a month for standard offers, but

when there is a significantly big offer to be announced, such as a birthday or anniversary sale, these consumers are willing to receive an extra advertising e-mail.

Post-purchase e-mails were found to increase consumers' perception of e-mail pressure, as these advertising messages are received in addition to regular e-mail messaging about the order. This makes it more difficult for consumers to distinguish advertising post-purchase e-mails from e-mails containing updates and information about the order. Therefore, consumers wish to not receive post-purchase offers directly after having made a purchase from the same brand as these e-mails increase the e-mail pressure in addition to the regular e-mail messaging about the order.

Furthermore, cart abandonment e-mails and post-purchase e-mails were found to be the least popular type of advertising e-mail to receive from participants' most favourite brands. Cart abandonment e-mails were viewed as unnecessary and annoying. Consumers may deliberately leave the online shopping website whilst having a full cart, which makes the cart abandonment e-mails unnecessary and unwelcome. Thus, cart abandonment e-mails can increase e-mail pressure as consumers feel targeted by the advertiser. Therefore, consumers do not want to receive cart abandonment e-mails when they have deliberately left the online shopping cart.

Consumers prefer personalized newsletters over generic newsletters when personalization increases the value of the content to the consumer by tailoring the content to previous preferences or online behaviour. In other words, if newsletters are personalized to the consumers' interests, consumers are more likely to engage with the content and find it valuable. However, when personalization entails being limited to a certain range of product offerings, some consumers may prefer to receive generic newsletters about the whole product offering of the advertiser. For (personalized) newsletters the preferred frequency is around once to twice a month, depending on the brand, content, and the length of the e-mail. However, some consumers may wish to receive no newsletters at all, personalized or generic. Personalized recommendation e-mails are another type of e-mail where personalization can be effective. For the personalized recommendation e-mails there is no advice for the fixed frequency, as personalized recommendations can be included in other e-mails as well and do not have to be sent in.

In addition, this study indicates that people are more protective about the usage of their personal and behavioural data by their least favourite brands than by their most favourite brands. This finding is in line with Wattel et al.'s (Wattal et al., 2012) previous study, which proved that consumers who are more familiar with a brand are more likely to respond positively to the explicit usage of personally identifiable information than consumers who are not as familiar with the brand. Thus, advertisers should not send personalized advertising e-mail content, especially not personalization based on personally identifiable information such as names, to consumers who are not that familiar with the brand yet.

Overall, consumers' preferences for receiving advertising e-mails differ by type of advertising e-mail. General trends among the preferred types of advertising e-mails were established. The general consensus of the findings is that for each type of advertising e-mail, consumers on average wanted to receive a maximum of one or two e-mails per month per brand. Advertisers should be aware of consumers' expectations of the number of advertising e-mails they wish to receive in order to avoid and prevent e-mail pressure occurring to the consumers caused by the advertiser.

3.3.1.c Additional Findings

In addition to examining research questions 1, 2, and 3, the study gained additional insights into consumers' attitudes, experiences, and behaviour with advertising e-mails. Firstly, the study showed that consumers experience e-mail overload when advertising e-mails are repetitive content-wise. This finding is in line with both the studies of Haq (2009) and Jamalzadeh et al. (2012) who found that entertainment and informativeness have a positive relationship with the value of the advertisement to consumers and the theory of Ducoffe (1995) who argued that consumers' perceived value of the advertisements may diminish if the content of the advertising e-mails is not deemed as informative or relevant to consumers. Thus, it is important that advertisers adjust the content and frequency of advertising e-mails such that there is no unnecessary repetition for consumers and e-mail pressure can be avoided.

Secondly, the findings highlight that consumers are aware of the effort advertisers put into their advertising e-mails. Consumers notice the differences between advertisers who send out e-mails to generate clicks and revenue and advertisers who emphasize sending good quality content with, for example, high-quality aesthetics. This shows that advertisers cannot just send advertising e-mails out to generate clicks, but actually need to put in effort in the content they are presenting to consumers as it otherwise can negatively affect consumers' image of the advertiser.

Furthermore, the study confirmed that consumers value subject lines that provide a summary of the e-mail's content over generic or repetitive subject lines. These findings are in line with the conceptual framework of e-mail pressure by Micheaux (2011). Consumers experience a lack of enthusiasm when subject lines are repetitive and irritation occurs when subject lines can be viewed as misleading. This confirms consumers take Route C, as visualized in Figure 2.1, when generic subject lines are misleading consumers to open them and the e-mails turn out not to be relevant. Another theory by Micheaux (2011) was that consumers who categorize their e-mail inbox lower their cognitive effort and, therefore, experience less e-mail pressure. In this study, no unequivocal evidence for this theory was presented. Consumers who actively organized their e-mail inboxes showed the same signs of experiencing e-mail pressure as consumers who did not. A possible explanation of why Micheaux's (2011) theory does not hold is that organizing the e-mail inbox takes consumers a lot of time which, as a result, causes an increase in consumers' general perception of e-mail pressure due to the market intensity. Further research should investigate how e-mail management and organization strategies can affect consumers' perception of e-mail pressure.

The study confirmed the findings of O'Brien et al. (2022), demonstrating that consumers have a low tolerance for irrelevant push notifications. Thus, when consumers receive notifications from advertising e-mails this can increase the e-mail pressure they experience.

Finally, this study confirmed that consumers do not wish to receive advertising e-mails from their least favourite brands. This implies that consumers are not waiting to receive advertising e-mails from every advertiser and that the medium should only be used for e-mail traffic that may be relevant to the consumer.

3.3.2 Limitations of the Study

The first main limitation of the study was that the focus group sessions were conducted via online sessions, which made for a more difficult set-up for the participants and moderator. The online environment made it challenging to see who was about to talk due to the small delay in conversation. This prevented a natural conversational flow from occurring during the sessions

and the moderator had to ask participants to contribute to the sessions actively.

Furthermore, in one of the focus group sessions, there was a participant dominating the group discussion. This participant often started talking first after the moderator introduced a topic or question and steered the conversation towards a discussion of advertising e-mails in the workplace. The moderator had to intervene several times during the focus group session to clarify that the subject of the focus group session was not advertising e-mails in the workplace but advertising e-mails in a broader context including personal situations and to ensure other participants were given room to participate and express their opinions. Despite the moderator's attempts to balance the participation, the participant's input may have influenced the topics that were discussed during the focus group session which limited the exploration of other relevant themes.

During the sorting task, participants from the first focus group were asked: *"Which types of advertising e-mails do you prefer to receive from your least favourite brand that sends you advertising e-mail?"* and *"How often would you like to receive these types of e-mails from your least favourite brand that sends you advertising e-mails?"*. Unfortunately, some participants interpreted these questions as *"Which types of advertising e-mails do you prefer to receive from your least favourite brand?"* and *"How often would you like to receive these types of e-mails from your least favourite brand?"*. This misinterpretation has no direct effect on the answers to the research questions provided by this study. In the second focus group session, the sorting task for participants' least favourite brand was not completed and the topic was not discussed due to time constraints. This limited the depth of the current findings regarding participants' least favourite brands. Thus, the findings regarding consumers' least favourite brands should be interpreted with caution.

Lastly, a limitation of the content of the study was the type of advertising e-mails that were discussed and ranked in the sorting task. The list of different types of advertising e-mails was limited to eight e-mail types so that participants were not overwhelmed by the number of choices. As a result, certain types of advertising e-mails were not included, such as thank-you e-mails, welcome e-mails, and more. By selecting eight types of advertising e-mails, the full range of types of advertising e-mails was not captured by this study. Therefore, the results of this study regarding the types of advertising e-mails may not be a full representation of all advertising e-mails.

3.3.3 Implications for the Thesis

Despite the limitations discussed above, this study provides valuable insights into participants' experiences and perceptions of advertising e-mails and e-mail pressure. This study investigated consumers' perceptions and experiences with advertising e-mails and e-mail pressure in order to investigate what consumer behaviour indicates e-mail pressure, how consumers respond to e-mail pressure, and how different types of advertising e-mails affect consumers' perceptions of e-mail pressure. The findings of this study form the starting point of the data analysis in Study 2.

Although the strategies for coping with e-mail pressure and responses to e-mail pressure were found to differ between consumers on an individual level, general patterns were identified. The findings of this study are based on the experiences that consumers themselves have shared. As a result, it is necessary to investigate how these patterns in responding to e-mail pressure hold and can be identified from the advertiser's perspective via an analysis of e-mail and behavioural data of consumers. It is important for advertisers to be aware of how their advertising e-mails can increase consumers' e-mail pressure. Advertisers need to take steps to avoid over-

whelming consumers with too many messages. In future research, it should be explored how advertisers can stop sending advertising e-mails, as described in the paragraph above, to increase consumers' perception of the brand and to decrease consumers' e-mail pressure. By doing so, advertisers can build trust and long-term consumer relationships whilst avoiding negative behavioural patterns and associations with their brand due to e-mail pressure and coping strategies. In addition, future work needs to determine the optimal advertising e-mail frequency for different groups of consumers.

The results of this study have the following implications for the thesis. Firstly, this study highlighted the diversity of preferences, expectations, and behaviour consumers have when it comes to advertising e-mails. The findings underscore that consumers' behaviour in coping with advertising e-mails and e-mail pressure differs because of individual differences in consumers' behaviour and based on the e-mail provider they use. Consumers can have their own personal strategy for dealing with e-mail overload, such as intensively cleaning their inboxes, ignoring all e-mails, immediately unsubscribing from them, or unsubscribing from all advertisers once a month. Therefore, consumers' behaviour with advertising e-mails and e-mail pressure is analyzed and consumers are grouped based on their behaviour in Study 2.

Furthermore, the findings of this study show that consumers have different experiences with e-mail pressure based on whether their e-mail provider filters incoming advertising e-mails into different categories. This implies there may be differences in consumers' behaviour regarding advertising e-mails and e-mail pressure based on the e-mail provider consumers use. These insights are taken into consideration for the data analysis of Study 2 by analyzing how consumer behaviour differs for consumers with a Gmail account and consumers with other e-mail accounts.

Lastly, it was shown that the different types of advertising e-mails can affect consumers' perception of e-mail pressure. Consumers showed more interest in certain advertising e-mail types than others. The accepted frequency of the e-mails by consumers was related to the e-mail type and the content of the e-mails. For this reason, it is important to analyze the different types of advertising e-mails that have been sent to consumers and how these relate to e-mail pressure in Study 2.

4 STUDY 2: QUANTITATIVE DATA ANALYSIS

Chapter 4 presents Study 2, a data analysis study conducted on a data set containing e-mail and consumer data. By analyzing e-mail and consumer data, this study aims to address the following research questions 4 and 5:

4. *How can advertising firms measure consumers' experience of e-mail pressure?*
5. *What are the consumer segments that can be identified based on consumers' behaviour with e-mail pressure?*

The chapter starts with a description of the data set that was used for this study in Section 4.1, including the raw and processed data. Following, the method used for Study 2 is described in Section 4.2, including the descriptions of the procedure, materials, and data analysis. The method is followed by the findings of the data analysis as presented in Section 4.3. Lastly, the chapter is concluded and the results of Study 2 are discussed by addressing research questions 4 and 5 in Section 4.4.

4.1 Data Set

4.1.1 Description

The data for this study was collected by an e-commerce business that sells various products to consumers via a webshop. The data consisted of consumer, e-mail, transaction, and web data from the e-commerce business over twelve months from January 1, 2022, until December 31, 2022. In 2022, 211.773 customers in the Netherlands were sent advertising e-mails by the e-commerce business. These consumers opted in to receive advertising e-mails from the e-commerce business. In total, 15.213.680 e-mails were sent out over the year 2022.

A sample set was created from the full data set to ensure comparability between consumers as the full data set included consumers with varying levels of activity in terms of recency of purchase and the respective e-mail phases, as discussed in Section 4.1.4. The sample set included consumers who were all active customers, i.e. consumers who made a purchase during the same time period and received advertising e-mails after their purchase. More precisely, from the full data set a sample set was created consisting of all consumers who made a purchase in the first two weeks of 2022, between 03-01-2022 and 16-01-2022. In total, 11.231 customers made a purchase during the first two weeks of 2022 and agreed to receive advertising e-mails from the e-commerce business.

The raw data set consisted of three smaller data sets including the user, e-mail, and transaction data of the e-commerce business. First, the individual data sets are presented in more detail in Section 4.1.2. Following in Section 4.1.3, the processed variables of the final data set are presented.

4.1.2 Raw Data

Table 4.1, 4.2, and 4.3 show the variables, data types, and descriptions of the raw User, E-mail, and Transaction data from the data set as described in Section 4.1. These data sets were combined into one data set and combined to create the data set on the consumer level, of which the variables are described in Section 4.1.3.

Table 4.1: Raw User Data

Variables	Data Type	Description
<i>mainCustomerId</i>	object	customer identification number
<i>gender</i>	categorical	customers' gender
<i>age</i>	integer	customers' age
<i>firstOrderDate</i>	date	date of customers' first order
<i>optInEmail</i>	categorical	indicates whether consumers agreed to receive e-mails from the company
<i>email</i>	e-mail address	customers' e-mail address
<i>customerGroup</i>	categorical	customer group that the customer is a part of (General, B2B, or B2C)

Table 4.2: Raw E-mail Data

Variables	Data Type	Description
<i>clicks</i>	numerical	denotes if a customer has clicked on a link in the e-mail
<i>opens</i>	numerical	denotes if a customer has opened the e-mail
<i>unsubscribes</i>	numerical	denotes if a customer unsubscribed after receiving this e-mail
<i>dateTime</i>	date	date and time of when the e-mail was sent
<i>latestInteractionDate</i>	date	date and time of the latest interaction date of the consumer with the e-mail
<i>mainCustomerId</i>	object	customer identification number
<i>utmCampaign</i>	string	Urchin Tracking Module (UTM) campaign description

Table 4.3: Raw Transactional Data

Variables	Data Type	Description
<i>customerId</i>	object	customer identification number
<i>utmId</i>	object	Urchin Tracking Module (UTM) identification number
<i>transactionId</i>	object	transaction identification number
<i>dateTime</i>	date	date and time of the purchase
<i>couponCode</i>	boolean	denotes if the consumer used a discount code during the purchase
<i>utmCampaign</i>	string	Urchin Tracking Module (UTM) campaign description

4.1.3 Processed Data

Table 4.4 shows the descriptions of the variables without formulas of the processed data. Below, the descriptions of the variables of the processed data with formulas are described in more detail.

Table 4.4: Processed Data Variables Descriptions

Variables	Data Type	Description
<i>Gmail Address</i>	boolean	indicates whether a consumer receives the advertising e-mails on a Gmail address
<i>Total E-Mails Received</i>	integer	indicates the total number of e-mails a consumer has received from the e-commerce business over a period of time
<i>Total Opens</i>	integer	indicates the total of times a consumer opened the e-mail received from the e-commerce business over a period of time
<i>Total Clicks</i>	integer	indicates the total of times a consumer clicked on a hyperlink in an e-mail received from the e-commerce business over a period of time
<i>Unsubscribed</i>	boolean	denotes whether a consumer unsubscribed from receiving advertising e-mails from the e-commerce business
<i>Total Purchases</i>	integer	indicates the total number of purchases made by a consumer during the year
<i>Total Purchases Before</i>	integer	the total number of purchases made by a consumer before 2022
<i>Days Subscribed</i>	integer	indicates the total number of days a consumer was subscribed to the receiving of advertisement e-mails
<i>New Customer</i>	boolean	denotes whether a customer has made their first purchase between 3-1-2022 and 16-1-2022

Coupon Ratio The Coupon Ratio (CR) indicates the number of times a consumer has made a purchase using a coupon code divided by the total number of purchases made by the consumer. The Coupon Ratio formula is as follows:

$$CR = \frac{Coupons}{Purchases}$$

where *Coupons* denotes the total number of times a consumer has used a coupon code during a purchase and *Purchases* denotes the total number of purchases.

Average Open Rate The Open Rate (OR) measures the performance and effectiveness of e-mail marketing by computing the ratio of the unique total recipients who opened the e-mails to the total number of recipients who received the e-mails successfully (Kumar & Salo, 2018). The formula for the Average Open Rate per consumer is:

$$OR = \frac{Opens}{Emails}$$

where *Opens* denotes the total number of opens, i.e., the total number of times a consumer opened an e-mail and *Emails* denotes the total number of e-mails that were delivered.

Corrected Average Open Rate The Corrected Average Open Rate (COR) computes the OR without including the last e-mail from which consumers unsubscribed. The last e-mail consumers who unsubscribed received is excluded from the Corrected Average Open Rate (COR) calculation as consumers who unsubscribed opened the last e-mail to unsubscribe, which can affect the Open Rates for consumers who unsubscribed. The Corrected Average Open Rate is calculated as follows:

$$COR = \frac{Opens - 1}{Emails - 1} \quad \text{if } Unsubscribed = True$$

$$COR = \frac{Opens}{Emails} \quad \text{if } Unsubscribed = False$$

where *Opens* denotes the total number of opens, i.e., the total number of times a consumer opened an e-mail and *Emails* denotes the total number of e-mails that were delivered. In the case where *Opens* = 0 or *Emails* = 1 the *COR* = 0.

Average Clickthrough Rate The Clickthrough Rate (CTR) measures the performance and effectiveness of e-mail marketing by calculating the ratio of the total number of clicks to the total number of recipients who received it successfully (Kumar & Salo, 2018). This is expressed in the formula for the Average Clickthrough Rate per consumer as follows:

$$CTR = \frac{Clicks}{Emails}$$

where *Clicks* denotes the total number of clicks, i.e., the total number of times a consumer clicked on a link in the e-mail and *Emails* denotes the total number of e-mails that were delivered. In the case where *Clicks* = 0 or *Emails* = 1 the *COR* = 0.

Corrected Average Clickthrough Rate The Corrected Average Clickthrough Rate (CCTR) computes the CTR without including the last e-mail from which consumers unsubscribed. The last e-mail consumers who unsubscribed received is excluded from the Corrected Average Clickthrough Rate (CCTR) calculation as consumers who unsubscribed clicked on a link in the last e-mail to unsubscribe, which can affect the Clickthrough Rates for consumers who unsubscribed. The Corrected Average Clickthrough Rate is calculated as follows:

$$CCTR = \frac{Clicks - 1}{Emails - 1} \quad \text{if } Unsubscribed = True$$

$$CCTR = \frac{Clicks}{Emails} \quad \text{if } Unsubscribed = False$$

where *Clicks* denotes the total number of clicks, i.e., the total number of times a consumer clicked on a link in the e-mail and *Emails* denotes the total number of e-mails that were delivered.

Proportion Newsletters The Proportion Newsletters (PN) calculates the proportion of newsletters sent to a consumer out of the total number of e-mails that were delivered.

$$PN = \frac{Newsletters}{Emails}$$

where *Newsletters* denotes the total number of newsletters sent to a consumer and *Emails* denotes the total number of e-mails that were delivered.

Proportion Automatic E-Mails The Proportion Automatic E-Mails (PA) calculates the proportion of automatic e-mails sent to a consumer out of the total number of e-mails that were delivered.

$$PA = \frac{Automatic}{Emails}$$

where *Automatic* denotes the total number of automatic e-mails sent to a consumer and *Emails* denotes the total number of e-mails that were delivered.

Proportion Retention E-Mails (over Automatic E-mails) The Proportion Retention E-Mails (over Automatic E-mails) (PR) calculates the ratio of retention e-mails sent to a customer to the total number of automatic e-mails sent to that consumer.

$$PR = \frac{Retention}{Automatic}$$

where *Retention* denotes the total number of retention e-mails sent to a customer and *Automatic* denotes the total number of automatic e-mails sent to a consumer.

Proportion Reactivation E-Mails (over Automatic E-mails) The Proportion Reactivation E-Mails (over Automatic E-mails) (PRC) calculates the ratio of reactivation e-mails sent to a customer to the total number of automatic e-mails sent to that consumer.

$$PRC = \frac{Reactivation}{Automatic}$$

where *Reactivation* denotes the total number of reactivation e-mails sent to a customer and *Automatic* denotes the total number of automatic e-mails sent to a consumer.

Proportion Retargeting E-Mails (over Automatic E-mails) The Proportion Retargeting E-Mails (over Automatic E-mails) (PRT) calculates the ratio of retargeting e-mails sent to a customer to the total number of automatic e-mails sent to that consumer.

$$PRT = \frac{Retargeting}{Automatic}$$

where *Retargeting* denotes the total number of retargeting e-mails sent to a customer and *Automatic* denotes the total number of automatic e-mails sent to a consumer.

Proportion Loyalty E-Mails (over Automatic E-mails) The Proportion Loyalty E-Mails (over Automatic E-mails) (PL) calculates the ratio of loyalty e-mails sent to a customer to the total number of automatic e-mails sent to that consumer.

$$PL = \frac{Loyalty}{Automatic}$$

where *Loyalty* denotes the total number of loyalty e-mails sent to a customer and *Automatic* denotes the total number of automatic e-mails sent to a consumer.

4.1.4 Types of Advertising E-Mails

In Figure 4.1, a tree diagram of the different types of advertising e-mails that were sent to customers is shown. In Table 4.5, the types of advertising e-mails that were sent to customers in the data set are described. There were two main types of advertising e-mail in the data set, namely newsletters and automatic e-mails. In the complete data set, 81.2% of the e-mails sent were newsletters and 18.2% were automatic e-mails. The main difference between these two main categories of e-mails was that newsletters are campaigns or standard newsletters that were sent by a marketer, whereas automatic e-mails were e-mails that were sent automatically after being triggered by a specific event, such as a customer being inactive for a certain amount of days.

Figure 4.2 shows the timeline with the corresponding e-mail phases of the advertising e-mails sent to consumers after purchase. The e-commerce business sent out different types of advertising e-mails based on the phase the customer was classified in. In the period between having

Table 4.5: Descriptions of the Types of Advertising E-Mails

Advertising E-Mail Type	Description
Newsletter	regular e-mail that contains offers, updates, news, and information about the company and its products or services
Automatic E-Mail	e-mail sent automatically to consumers by a trigger of an event, for example by consumers' web activity or inactivity
Retention E-Mail	automated e-mail sent to customers to encourage them to re-engage with the advertiser and to become active again and make a purchase
Reactivation E-Mail	automated e-mail sent to inactive customers who did not become active after receiving retention e-mails to encourage them to make a purchase
Loyalty E-Mail	automated e-mail sent to consumers to reward them for their engagement and loyalty, these e-mails include discount codes and birthday e-mails
Retargeting E-Mail	automated e-mail sent to consumers who have been active on the website but did not make a purchase, aimed to encourage consumers to purchase
Cart Abandonment	automated retargeting e-mail sent when a consumer has abandoned their online shopping cart on the website, reminding them of the items they have left and offering incentives to complete the purchase
Browser Abandonment	automated retargeting e-mail sent when a consumer has left the website without a purchase, reminding the consumer of their activity and offering incentives to make a purchase

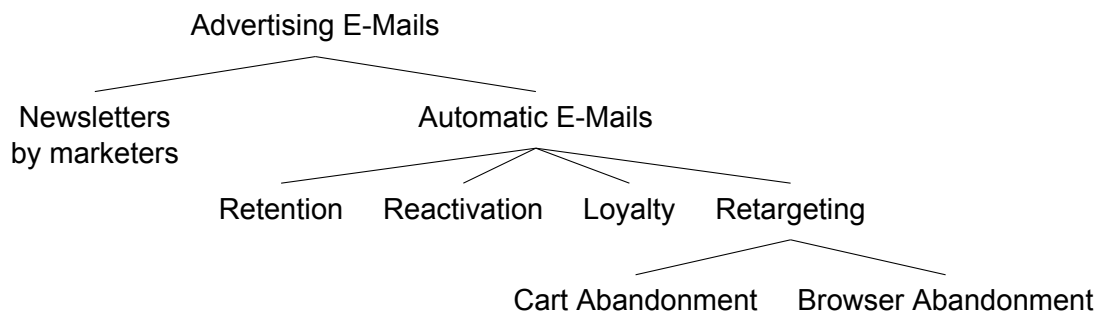


Figure 4.1: Tree Diagram of the Advertising E-Mail Types

made a purchase and the predicted next purchase time, customers received newsletters that were sent by the marketer. If the customer had not made a purchase during the predicted time, retention e-mails were sent to encourage the customer to re-engage with the business. When customers had not re-engaged during the retention phase, customers moved into the reactivation phase. During the reactivation phase, customers were encouraged to purchase. During the retention and reactivation phases, no newsletters or campaigns by the marketer were sent.

In Figure 4.2a, the e-mail timeline of a customer who made a purchase in the predicted time period is visualized. In Figure 4.2b, the e-mail timeline of a customer who made a purchase in the retention phase is shown. Figure 4.2c presents the e-mail timeline of a customer who made a purchase during the reactivation phase.

In the full data set, consumers were in different e-mail phases throughout the year as their timelines had started at distinct times. When using the full data set, these e-mail phases could have affected the results regarding the types of advertising e-mails sent. In the sample data set, the e-mail phases were aligned as consumers were selected who made a purchase at the

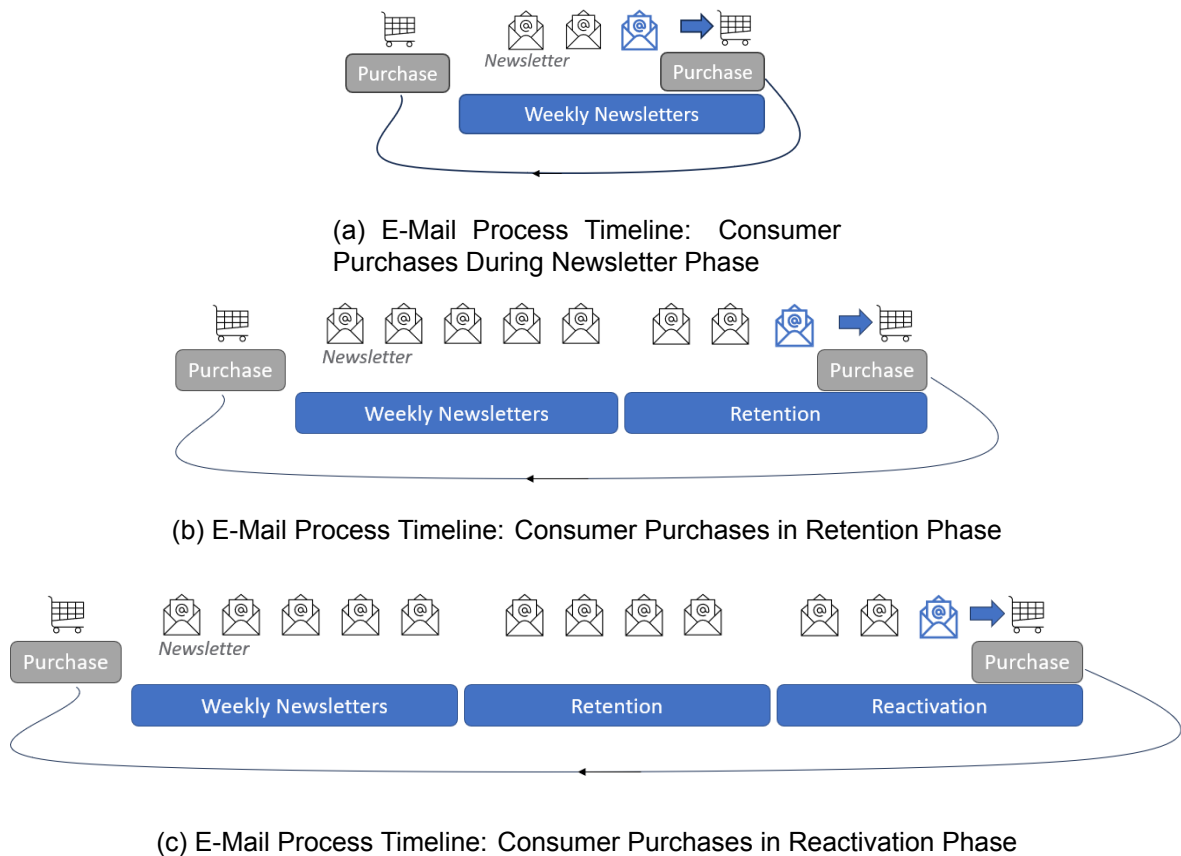


Figure 4.2: Overview of the E-Mail Process Timeline for Purchases in the Newsletter, Retention, and Reactivation Phase

same time period, In other words, consumers with the same starting point of the e-mail phases were selected in the sample data set.

4.1.5 Summary Statistics of the Sample Data Set

The final sample data set included 9065 consumers who made a purchase between the period of 03-01-2022 and 16-01-2022. These consumers were sent 774,829 e-mails in total between the period of 03-01-2022 and 31-12-2022. In Tables 4.6 and 4.7, summaries of the descriptive statistics of the data set are given.

4.2 Method

4.2.1 Procedure

This section presents the procedure of the study. Firstly, the raw data tables, as presented in Section 4.1.2, were combined into one data table on the consumer level. A second data table was created on the e-mail level for the data analysis on the types of advertising e-mails. Secondly, the variables as described in Section 4.1.3 were created. Following, based on the findings of Study 1, hypotheses were constructed which are presented in Section 4.2.5. A sample subset of the data was created containing the data of all consumers who made a purchase between 03-01-2022 and 16-01-2022. A correlation matrix of the variables was made to explore relationships between variables. Distribution plots of the variables were created to identify outliers. Outliers were removed from the full data and the sample data set, described in Section

Table 4.6: Summary statistics

Variable	N	Mean	Standard Deviation	Minimum	Maximum
<i>Age</i>	6588	53.5	13.9	18	95
<i>Total E-Mails Received</i>	9065	85.5	33.2	1	144
<i>Total Opens</i>	9065	40.7	32.5	0	136
<i>Total Clicks</i>	9065	4.3	4.3	0	39
<i>Total Purchases</i>	9065	3.8	2.4	1	12
<i>Total Purchases Before 2022</i>	9065	7.40	7.82	0	76
<i>Days Subscribed</i>	9065	326.5	69.8	3	360
<i>Coupon Ratio</i>	9065	0.60	0.37	0	1
<i>Total Newsletters</i>	9065	66.9	32.1	0	138
<i>Total Automatic E-Mails</i>	9065	18.5	11.3	0	83
<i>Total Retention E-Mails</i>	9065	7.2	5.8	0	39
<i>Total Reactivation E-Mails</i>	9065	7.6	8.3	0	55
<i>Total Retargeting E-Mails</i>	9065	2.5	3.5	0	74
<i>Total Loyalty E-Mails</i>	9065	1.2	1.6	0	18

Table 4.7: Summary Statistics of Boolean Variables

Variable	N	True (%)	False (%)
<i>Unsubscribed</i>	9065	13.2	86.8
<i>Gmail Address</i>	9065	33.1	66.9
<i>New Customer</i>	9065	16.2	83.8

4.2.4. Next, the hypotheses were tested on the sample data set. In cases where the hypotheses could not be confirmed nor rejected on the sample set, the hypotheses were tested against the full data set. Lastly, the consumers in the sample data set were segmented into groups based on their behaviour. The data analysis method is described in more detail in Section 4.2.3.

4.2.2 Materials

The findings of Study 1, as presented in Section 3.3, formed the foundation for the hypotheses. During this study, the data analysis was conducted on the data set described in Section 4.1. The software environment of Python version 3.11.0 was used for the data analysis. More specifically, the Python library Pandas version 1.5.3 was utilised for data integration and analysis. The Python libraries Matplotlib version 3.7.2 and Seaborn version 0.12.2 were used for data visualisation. Lastly, the Python library Scikit-learn version 1.2.1 and SciPy version 1.10.0 were used for hypotheses testing, principal component analysis (PCA), and clustering.

4.2.3 Analysis

4.2.3.a Hypotheses Testing

Before the hypotheses were tested, the research procedure was executed as described in Section 4.2.1. Thus, the data was prepared by combining the raw data into a data set on the customer level. The processed variables were created and a sample set was formed out of all consumers who made purchases during the first two weeks of 2022. For the hypotheses testing, the assumptions for the normality of the data and homogeneity of the variance were tested. If these tests passed, the Student's *t*-test was used. If the assumptions of the distributions of the data failed, the nonparametric alternative Wilcoxon Signed-Rank Test was used.

The hypotheses were tested on the sample data set. In the cases where the findings on the sample data could not be confirmed nor rejected as a result of insufficient statistical significance, the hypotheses were tested additionally on the full data set.

4.2.3.b Segmentation: Clustering

A clustering algorithm was used to perform the segmentation based on the variables from the processed data which describe consumers' characteristics and behaviour with e-mail pressure. The clustering algorithm was used on the sample data set to identify consumer groups and segment consumers into these groups.

The process of the clustering went as follows. Firstly, the data variables were normalized to ensure that each variable had an equal impact on the segmentation process. Following, Principal Component Analysis was applied to reduce the data of the eight variables to a lower dimension of five components. The variance of the data for the number of principal components was plotted. The number of components was determined based on the rule of thumb to keep 80% of the variance of the original data variables. Next, the Within-Cluster Sum of Square (WCSS) was calculated and plotted for an iteration number of clusters. The number of clusters was chosen based on the elbow method, which identifies the number of clusters based on where adding more clusters does not significantly improve the results. The Silhouette Coefficient was calculated to determine how well each data point fits into its assigned cluster. The model with the most optimal silhouette score and low WCSS score was chosen.

K-means clustering and BIRCH (Balanced Iterative Reducing and Clustering using Hierarchies) were compared to each other. The K-means clustering algorithm was used with the Lloyd algorithm. The Elkan algorithm using triangle inequality, which can be more efficient, yielded a lower performance. Therefore, K-means clustering with the Lloyd algorithm was used.

Based on the results of the hypotheses testing, variables were included and excluded from the segmentation algorithm. The variables that were included in the segmentation and which the clusters are separated on are presented in Table 4.8.

4.2.4 Outliers

To prevent outliers from influencing the results from the data analysis multiple preventive measures were taken. Firstly, only consumers with *customerGroup* 'General' were included in the analysis. Consumers with *customerGroup* business-to-business or business-to-consumers were excluded as these included businesses instead of consumers which could have influenced the results. In addition, consumers with more than 12 purchases in 2022 were disregarded in the analysis as it was expected that these consumers did not make purchases for their personal consumption but for business. Furthermore, only consumers from the Netherlands were included in the analysis. Lastly, the only consumer with an e-mail pressure intensity score of higher than 0.5 was removed as an outlier from the sample data set as the value was more than three deviations removed from the mean.

4.2.5 Hypotheses

In this section, the hypotheses that were constructed based on related work and the findings of Study 1 are presented per topic below.

Table 4.8: Variables Used for Clustering

Variables	Description
Corrected Open Rate (OR)	computes the Open Rate (OR) without including the last e-mail from which consumers unsubscribed. for the full definition see Section 4.1.3
Corrected Clickthrough Rate (CCTR)	computes the Clickthrough Rate (CTR) without including the last e-mail from which consumers unsubscribed, for the full definition see Section 4.1.3
E-Mail Pressure Intensity	calculates the average number of e-mails sent out to consumers that were unclicked per day based on the total number of e-mails and the time period over which the e-mails were sent, see Section 4.3.2
New Customer	denotes whether a customer is a first-time customer
Coupon Ratio	indicates the number of times a consumer has made a purchase using a coupon code divided by the total number of purchases made by the consumer, see Section 4.1.3 for the formula
Total Purchases	indicates the total number of purchases made by a consumer between 03-01-2022 and 31-12-2022
Proportion Retargeting E-Mails (over Automatic E-Mails)	calculates the ratio of retargeting e-mails sent to the total number of automatic e-mails sent to a consumer, see Section 4.1.3 for the formula
Proportion Newsletters	calculates the proportion of newsletters sent to a consumer out of the total number of e-mails that were delivered, see Section 4.1.3 for the formula

I Differences Between Subscribed and Unsubscribed Consumers

Unsubscribed consumers are consumers who opted in to receive advertising e-mails from the e-commerce business but later unsubscribed, while subscribed consumers are consumers who opted in to receive advertising e-mails from the e-commerce business and continued to receive them. In Study 1 in Section III, the findings regarding when consumers unsubscribe are presented. Consumers described unsubscribing from advertising e-mails when the content was not interesting to them or repetitive. As consumers who unsubscribed may have found the content too repetitive or uninteresting to them, they may have been less engaged with the advertising e-mails they received until the moment they unsubscribed than other consumers due to a lack of interest. Therefore, the following hypotheses about the differences between subscribed and unsubscribed consumers were formed:

1. Consumers who unsubscribed had been less engaged with the advertising e-mails they received until the moment they unsubscribed than consumers who stayed subscribed
 - (a) Consumers who unsubscribed had been less likely to open advertising e-mails they received until the moment they unsubscribed than consumers who stayed subscribed
 - (b) Consumers who unsubscribed had been less likely to click on links in advertising e-mails they received until the moment they unsubscribed than consumers who stayed subscribed

2. Consumers who unsubscribed made fewer purchases in 2022 than consumers who stayed subscribed
3. Consumers who unsubscribed had less frequently received retargeting e-mails until the moment they unsubscribed than consumers who stayed subscribed

II Unsubscribes and Types of Advertising E-Mails: Newsletters versus Automatic E-Mails

In Section 3.2.2.e, in Chapter 3 an overview of the findings of Study 1 regarding the different types of advertising e-mails is given. These findings are discussed in Section 3.3.1.b. In Table 4.5 and in Figure 4.1, the descriptions of the types of advertising e-mails and their relations are visualized.

Newsletters are sent on a regular basis, whereas automated e-mails are triggered by events due to consumers' web actions or inactivity. Therefore, automatic e-mails may stand out more to consumers than newsletters, which may trigger more unsubscribes from consumers.

Retargeting e-mails consist of cart abandonment e-mails and browser abandonment e-mails. In Study 1, cart abandonment e-mails were found to be the least popular type of advertising e-mails to receive. They were viewed as unnecessary, intrusive, and annoying. Therefore, cart abandonment e-mails may lead to more unsubscriptions than other types of advertising e-mails. As for browser abandonment e-mails, it is expected that consumers do not appreciate these types of e-mails due to the explicit usage of personal information, which can yield negative responses by consumers (Wattal et al., 2012).

The e-mail process timeline is visualized in Figure 4.2. Consumers enter the retention and reactivation phases after not having made a new purchase in the predicted timeframe. The consumers in the retention and reactivation phase, where they receive retention and reactivation e-mails, are less engaged. It is expected that consumers in these phases include consumers who churned and who will unsubscribe.

4. Consumers are more likely to unsubscribe from automatic e-mails than from newsletters
5. Consumers are more likely to unsubscribe from retargeting e-mails than from other e-mails
 - (a) Consumers are more likely to unsubscribe from cart abandonment e-mails than from other e-mails
 - (b) Consumers are more likely to unsubscribe from browser abandonment e-mails than from other e-mails
6. Consumers are more likely to unsubscribe from retention e-mails than from other e-mails
7. Consumers are more likely to unsubscribe from reactivation e-mails than from other e-mails

III First-Time Consumers versus Repeat Consumers

Regarding the expected differences between first-time and repeat consumers, first-time customers are not yet loyal customers to the e-commerce business. Thus, it is expected that first-time customers are more likely to unsubscribe from receiving advertising e-mails. According to Ducoffe (Ducoffe, 1995), consumers may become too familiar with advertising content over time. Therefore, it is expected that repeat consumers are less engaged with the advertising e-mails than first-time customers, as the advertising content is new to first-time consumers.

The following hypotheses regarding the differences between first-time and repeat customers are tested in this study:

8. First-time consumers are more likely to unsubscribe than repeat consumers
9. First-time consumers are more actively engaged with the advertising e-mails than repeat consumers
 - (a) First-time consumers more often open advertising e-mails than repeat consumers
 - (b) First-time consumers more often click on links in advertising e-mails than repeat consumers

IV Gmail Consumers

In Study 1, see Section II and Section 3.3.1.a, it was found that consumers who have a separate e-mail account or inbox, such as the Gmail promotional inbox, experience less to no e-mail pressure as consumers are in control of when they open and view the advertising e-mail content. Whereas other consumers are confronted with advertising e-mails when opening their e-mail with a different goal. Consumers with a Gmail promotional inbox, and thus a Gmail mail account, are not constantly confronted with advertising e-mails they receive. As a result, consumers with a Gmail account deal with advertising e-mails differently than other consumers. Based on these findings, one would expect consumers with a Gmail account to engage less than other consumers. In other words, one would expect consumers with a Gmail account to open e-mails less often, click less often on links in the e-mails, and unsubscribe less often than other consumers. Based on these findings from Study 1, the following hypotheses were derived:

10. Consumers with a Gmail account engage less with advertising e-mails than other consumers
 - (a) Consumers with a Gmail account have a lower Average clickthrough Rate than consumers with a different e-mail account
 - (b) Consumers with a Gmail account have a lower Average Open Rate than consumers with a different e-mail account
 - (c) Consumers with a Gmail account are less likely to unsubscribe than consumers with a different e-mail account

4.3 Results

In this section, the results of Study 2 are presented. The results of the hypotheses testing are presented in Section 4.3.1. Following, the identified consumer segments are presented in Section 4.3.3.

4.3.1 Hypotheses Testing

4.3.1.a Differences Between Subscribed and Unsubscribed Consumers

The following hypotheses were tested on the sample data set regarding the differences in engagement with the advertising e-mails between consumers who unsubscribed and consumers who remained subscribed.

1. Consumers who unsubscribed had been less engaged with the advertising e-mails they received until the moment they unsubscribed than consumers who stayed subscribed

- (a) Consumers who unsubscribed had been less likely to open advertising e-mails they received until the moment they unsubscribed than consumers who stayed subscribed
 - (b) Consumers who unsubscribed had been less likely to click on links in advertising e-mails they received until the moment they unsubscribed than consumers who stayed subscribed
2. Consumers who unsubscribed made fewer purchases in 2022 than consumers who stayed subscribed
 3. Consumers who unsubscribed had less frequently received retargeting e-mails until the moment they unsubscribed than consumers who stayed subscribed

In Table 4.9, the results of the comparison between consumers who unsubscribed and consumers who remained subscribed are shown. Consumers who unsubscribed from receiving advertising e-mails were found to have a higher Average Open and Clickthrough Rate than consumers who stayed subscribed. The calculations for the Average Open Rate and Average Clickthrough Rate for consumers who unsubscribed included the last e-mail consumers unsubscribed from, yielding an extra open and click rate on the last e-mail. Therefore, the Average Corrected Open Rate and Average Corrected Clickthrough Rate were used as measures for hypotheses 1(a) and 1(b), respectively, to prevent the last e-mail consumers unsubscribed from affecting the results.

Table 4.9 shows the Average Corrected Open Rate was higher for consumers who unsubscribed (58.4%) than consumers who remained subscribed (49.7%). Thus, consumers who unsubscribed were not found to have been less likely to open advertising e-mails they received until the moment they unsubscribed than consumers who stayed subscribed, rejecting hypothesis 1(a). Consumers who unsubscribed were not found to have been less likely to click on links in advertising e-mails they received until the moment they unsubscribed than consumers who stayed subscribed. Thus, hypothesis 1(b) is rejected. As both hypotheses 1(a) and 1(b) are rejected, hypothesis 1 is rejected. Consumers who unsubscribed had not been less engaged

Table 4.9: Results of Differences Between Subscribed and Unsubscribed Consumers on the Sample Data Set

Consumer Group	Average Open Rate (%)	Average Click Through Rate (%)	Average Corrected Open Rate (%)	Average Corrected Click Through Rate (%)	Average Total Purchases	Average Proportion Retargeting E-Mails over Automatic E-Mails (%)
Unsubscribed	62.5	13.0	58.4	6.30	2.53*** (W=-21.56)	13.9*** (W=-8.16)
Subscribed	49.7	5.51	49.7	5.51	3.99*** (W=-21.56)	16.0*** (W=-8.16)

*Significant findings $p < 0.05$, **Significant findings $p < 0.01$, ***Significant findings $p < 0.001$. The test compares the group of subscribed consumers to the group of consumers that unsubscribed using the Wilcoxon rank-sum test on the sample data set. Wilcoxon rank-sum test was used as an alternative to the Student's T-test as the assumptions of homogeneity of variance and the normality of the data were rejected.

with the advertising e-mails they received until the moment they unsubscribed than consumers who stayed subscribed. Furthermore, consumers who unsubscribed made fewer purchases in 2022 than consumers who stayed subscribed, $W=-21.56$, $p<0.001$. Thus, hypothesis 2 is confirmed.

Lastly, consumers who unsubscribed had less frequently received retargeting e-mails until the moment they unsubscribed than consumers who stayed subscribed, $W = -8.16$, $p<0.001$. This finding confirms hypothesis 3.

4.3.1.b Unsubscribes and Types of Advertising E-Mails: Newsletters versus Automatic E-Mails

The following hypotheses were tested regarding when consumers unsubscribe after receiving a certain advertising e-mail type. To clarify, this analysis focused on the last e-mail a consumer received and which the consumer unsubscribed from. Table 4.5 and Figure 4.1 show the descriptions and categorical overview of the types of advertising e-mails that are discussed in this section.

4. Consumers are more likely to unsubscribe from automatic e-mails than from newsletters
5. Consumers are more likely to unsubscribe from retargeting e-mails than from other e-mails
 - (a) Consumers are more likely to unsubscribe from cart abandonment e-mails than from other e-mails
 - (b) Consumers are more likely to unsubscribe from browser abandonment e-mails than from other e-mails
6. Consumers are more likely to unsubscribe from retention e-mails than from other e-mails
7. Consumers are more likely to unsubscribe from reactivation e-mails than from other e-mails

Table 4.10 summarizes the results from the sample data set of the e-mails from which consumers unsubscribed. Although no significant evidence was found in support of the hypotheses, Table 4.10 shows that the observed relationships between the variables align with the expected outcomes when hypotheses 4, 5, 5(a), 5(b), 6, and 7 were to hold. The results on the sample data set suggest there potentially exist relationships between the likelihood of consumers unsubscribing and the type of e-mail content consumers received. Therefore, the hypotheses were tested on the full data set to confirm the findings.

The hypotheses were tested on the full data set to confirm the relationships between the variables that were observed in the analysis on the sample data set. In Table 4.11, the results of the e-mails from which consumers unsubscribed on the full data set are shown. It can be seen that more consumers unsubscribed from automatic e-mails compared to newsletters. Hypothesis 4 was confirmed: consumers were more likely to unsubscribe from automatic e-mails than from newsletters, $W=7.16$, $p<0.001$.

Furthermore, it was found that consumers were more likely to directly unsubscribe after receiving a retargeting e-mail than from other e-mails, $W=4.56$, $p<0.001$. This finding confirms hypothesis 5. Consumers were found to be more likely to unsubscribe from browser abandonment e-mails than from other e-mails, $W=5.03$, $p<0.001$, confirming hypothesis 5(b). However, no evidence was found in support of hypothesis 5(a). Consumers were not more likely to unsubscribe from cart abandonment e-mails than from other e-mails.

Table 4.10: Results of the Types of Advertising E-Mails and Consumer Unsubscribes on the Sample Data Set

Type of E-mail	Consumers Unsubscribing after Receiving E-Mail (%)	Total E-Mails Sent (%)	Average Open Rate (%)	Average Clickthrough Rate (%)
Newsletter	64.53	78.20	45.99	4.16
Automatic	35.47	21.80	52.47	6.60
Retargeting	6.57	2.80	60.80	13.02
Cart Abandonment	2.33	1.42	61.16	16.00
Browser Abandonment	4.24	1.37	60.35	9.85
Retention	18.37	8.61	52.23	5.24
Reactivation	9.71	8.98	48.49	4.99
Loyalty	0.76	1.40	62.83	12.45

Table 4.11: Results of the Types of Advertising E-Mails and Consumer Unsubscribes on the Complete Data Set

Type of E-mail	Consumers Unsubscribing after Receiving E-Mail (%)	Total E-Mails Sent (%)	Average Open Rate (%)	Average Clickthrough Rate (%)
Newsletter	63.02** ($W=-2.72$)	81.81	42.84	2.29
Automatic	36.99*** ($W=7.16$)	18.2	49.90	5.58
Retargeting	5.49*** ($W=4.56$)	1.90	60.05	12.10
Cart Abandonment	1.91	1.01	59.35	14.11
Browser Abandonment	3.57*** ($W=5.03$)	0.88	60.78	9.66
Retention	19.61*** ($W=8.99$)	6.36	52.22	5.12
Reactivation	10.35	8.77	44.84	4.01
Loyalty	0.91	1.11	58.77	9.17

*Significant findings $p<0.05$, **Significant findings $p<0.01$, ***Significant findings $p<0.001$.

The test compares the group of people that unsubscribed after receiving the type of e-mail to the group with all unsubscribes using the Wilcoxon rank-sum test on the complete data set. Wilcoxon rank-sum test was used as an alternative to the Student's T-test as the assumptions of homogeneity of variance and the normality of the data were rejected.

As for hypothesis 6, Table 4.11 presents that more consumers unsubscribed after receiving a retention e-mail, $W=8.99$, $p<0.001$. These findings confirm hypothesis 6. Lastly, no evidence was found to support hypothesis 7, meaning consumers did not more often unsubscribe from reactivation e-mails than from other e-mails.

4.3.1.c First-Time Consumers versus Repeat Consumers

The following hypotheses were derived:

8. First-time consumers are more likely to unsubscribe than repeat consumers

9. First-time consumers are more actively engaged with the advertising e-mails than repeat consumers
 - (a) First-time consumers more often open advertising e-mails than repeat consumers
 - (b) First-time consumers more often click on links in advertising e-mails than repeat consumers

Figure 4.3 shows the distribution of the year in which consumers made their first purchase from the consumers in the sample data set. From Figure 4.3 it can be observed that the majority of consumers in the sample data set were repeat customers who made their first purchase before 2022. The repeat customers include consumers who have been customers of the e-commerce business for years, indicating they are loyal to the e-commerce business. The group of first-time customers consisted of 15.8% of the customers in the sample data set who bought from the e-commerce business for the first time between 03-01-2022 and 16-01-2022.

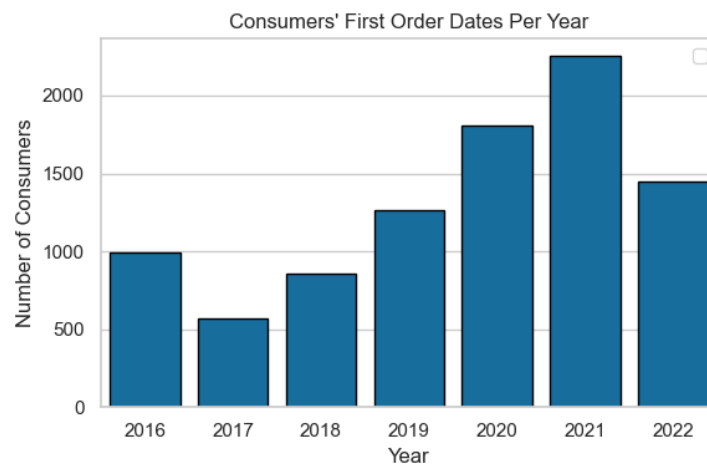


Figure 4.3: Distribution of the Years in which Consumers Made Their First Purchase

Table 4.12 presents the results of the comparison of first-time customers to repeat customers on the sample data set. The findings confirm that a larger group of first-time consumers unsubscribed from receiving advertising e-mails (25.5%) than repeat consumers (10.8%). First-time consumers were more likely to unsubscribe than repeat consumers, $W=-8.84$, $p<0.001$. Thus, hypothesis 8 is confirmed.

First-time customers were found to have a lower Average Open Rate (46.5%) than repeat customers (52.3%). Thus, first-time consumers were not less likely to open the incoming advertising e-mails than repeat consumers, rejecting hypothesis 9(a). First-time consumers were found to have a higher Average Clickthrough Rate (7.04%) than repeat customers (6.40%). First-time consumers more often click on links in advertising e-mails they received after their purchase than repeat consumers, $W=8.56$, $p<0.001$. However, these findings include the last click of the e-mail from which consumers unsubscribed. The last clicks in the e-mails should be excluded for consumers who unsubscribed, as first-time consumers were more likely to unsubscribe from receiving advertising e-mails than repeat consumers and this may affect the results. Therefore, hypotheses 9(a) and 9(b) are tested using the Average Corrected Open Rate and Average Corrected Clickthrough Rate. Hypotheses 9(a) and 9(b) were rejected as first-time consumers were not found to more often open advertising e-mails or click on links in advertising e-mails than repeat consumers. These findings are opposing hypotheses 9(a) and 9(b) and imply that first-time consumers are less actively engaged with advertising e-mails than repeat consumers.

Therefore, hypothesis 9 was rejected.

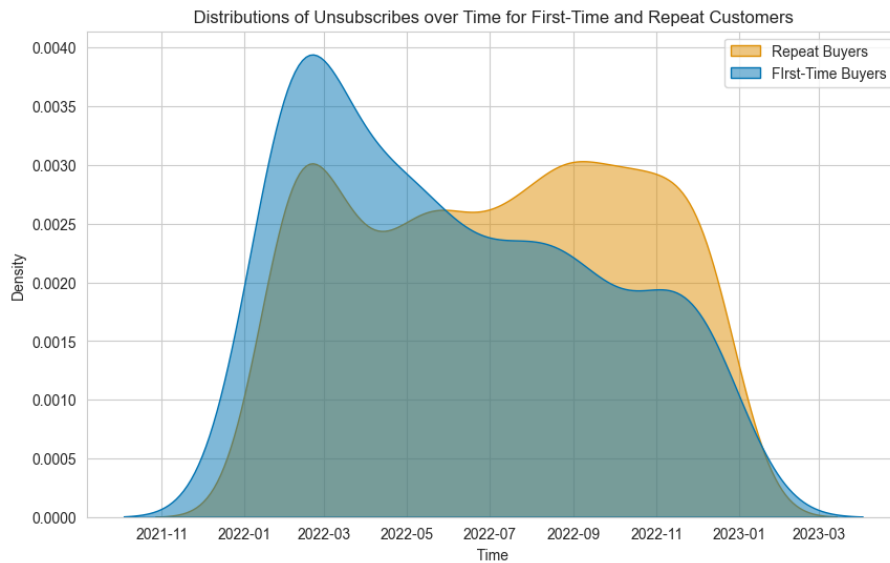


Figure 4.4: Distributions of Unsubscribes over Time for First-Time and Repeat Customers

Table 4.12: Results of New Customers Compared To Repeat Customers on the Sample Data Set

Consumer Group	Unsubscribed (%)	Average Open Rate (%)	Average Clickthrough Rate (%)	Average Corrected Open Rate (%)	Average Corrected Clickthrough Rate (%)
First-time Consumers	25.5*** ($W=-8.84$)	46.5	7.04*** ($W=8.56$)	45.1	4.62
Repeat Consumers	10.8*** ($W=-8.84$)	52.3	6.40*** ($W=8.56$)	52.0	5.80

*Significant findings $p<0.05$, **Significant findings $p<0.01$, ***Significant findings $p<0.001$. The test compares the group of customers who made their first purchase compared to the group of consumers who have made purchases before using the Wilcoxon rank-sum test on the sample data set. Wilcoxon rank-sum test was used as an alternative to the Student's T-test as the assumptions of homogeneity of variance and the normality of the data were rejected.

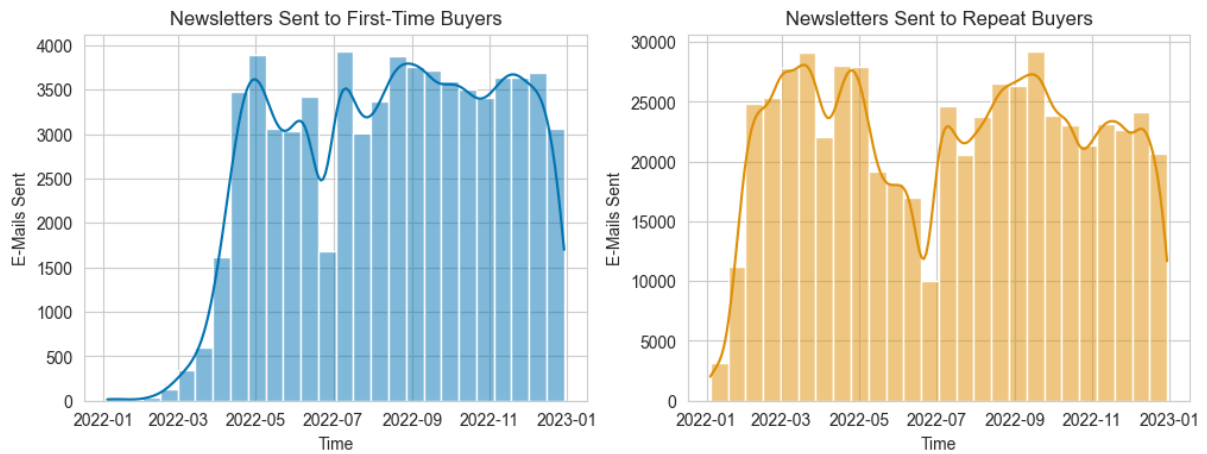


Figure 4.5: Distribution of Newsletters Sent Over Time to First-Time and Repeat Customers

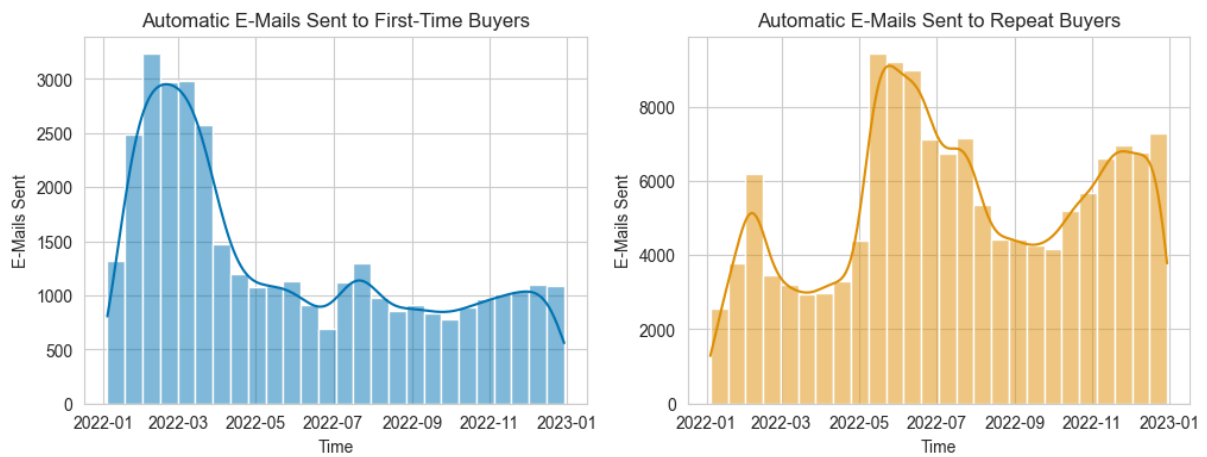


Figure 4.6: Distribution of Automatic E-Mails Sent Over Time to First-Time and Repeat Customers

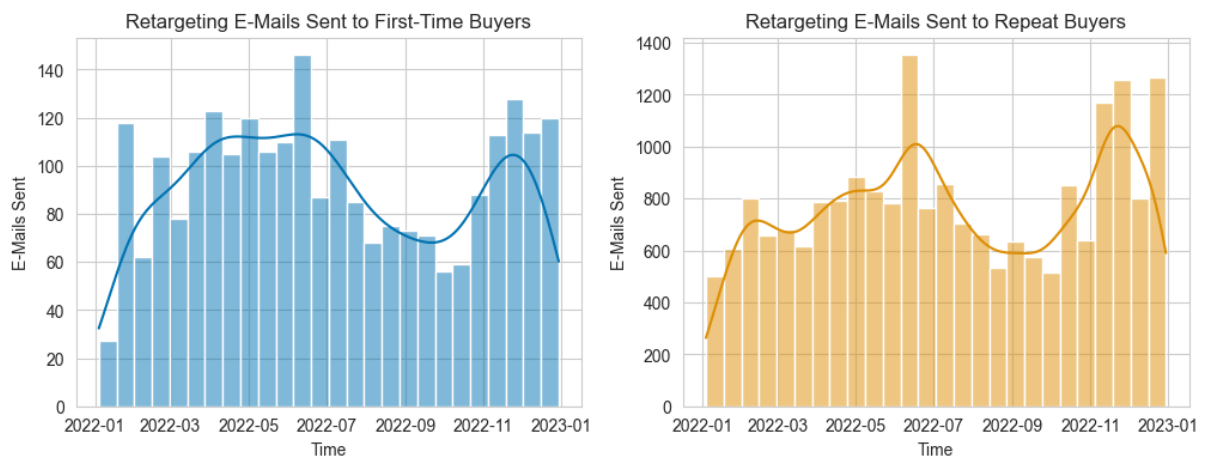


Figure 4.7: Distribution of Retargeting E-Mails Sent Over Time to First-Time and Repeat Customers

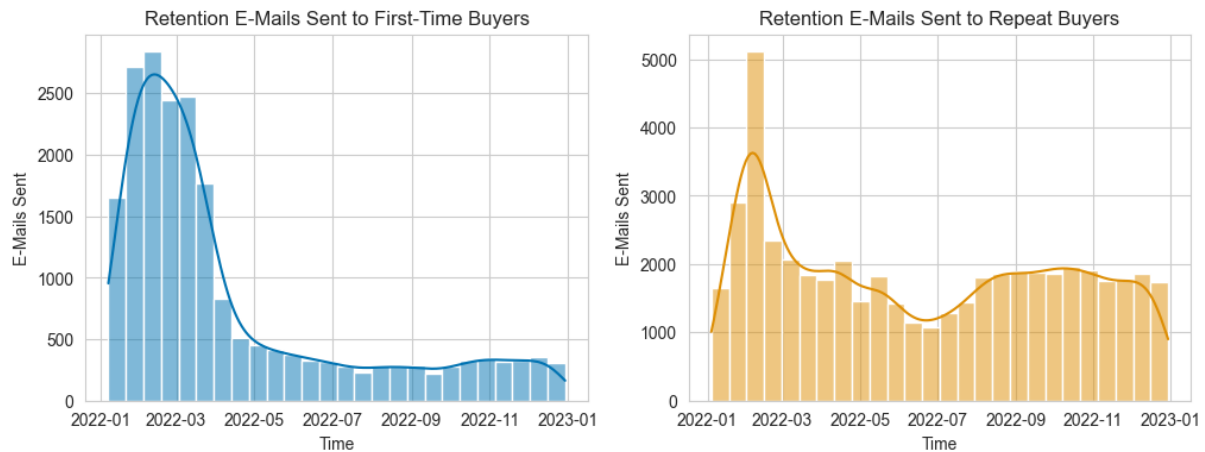


Figure 4.8: Distribution of Retention E-Mails Sent Over Time to First-Time and Repeat Customers

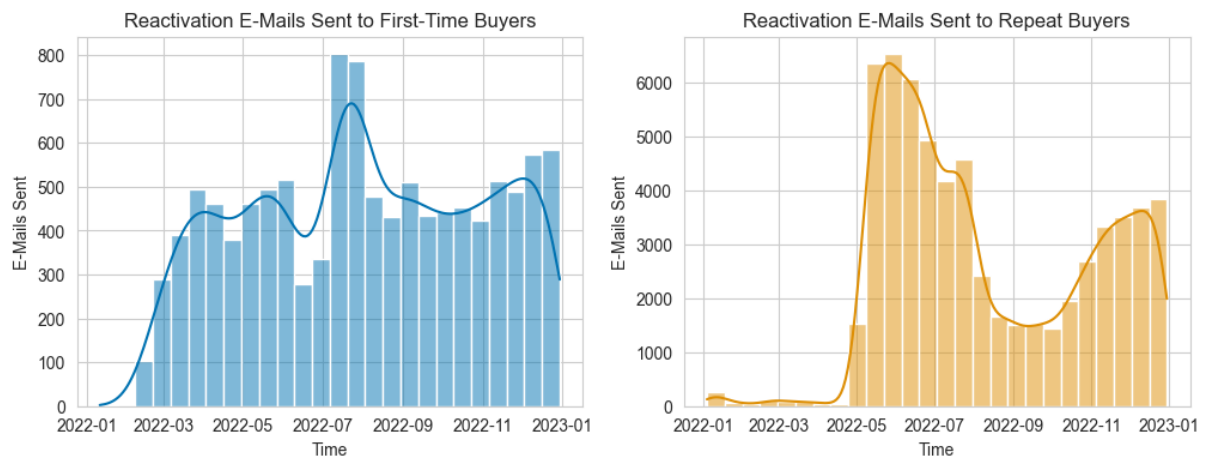


Figure 4.9: Distribution of Reactivation E-Mails Sent Over Time to First-Time and Repeat Customers

In Figure 4.4 the timing of when first-time and repeat consumers unsubscribed from the advertising e-mails is visualized. It is visible that a peak occurred in the number of unsubscriptions to the advertising e-mails after the purchase for both repeat and first-time customers. Thus, most consumers who unsubscribed did so in the two-month time period after their initial purchase, especially first-time buyers. From Figure 4.4, it can be observed that after the post-purchase peak, the number of repeat customers who unsubscribed is relatively stable over time compared, whereas for first-time buyers there was a decline in the number of consumers unsubscribing over time. This suggests that the consumer behaviour of repeat customers differs from the behaviour of first-time buyers in terms of unsubscribing. Repeat customers show more stability in their likelihood to unsubscribe, while first-time buyers show a declining trend, which may indicate changing attitudes or engagement over time.

In Figures 4.5 to 4.9, the distributions of the types of advertising e-mails that were sent to first-time and repeat customers for newsletters, automatic, retargeting, retention, and reactivation e-mails. In Figure 4.6, it is evident that the distribution of automatic e-mails differed between first-time and repeat consumers. First-time consumers received automatic e-mails after the purchase, whereas repeat customers received newsletters. Figure 4.7 shows first-time customers received retargeting e-mails more frequently in the period after the purchase than repeat cus-

tomers, indicating that they were more active on the website after purchase than repeat customers. Furthermore, in Figures 4.8 and 4.9 can be seen that first-time consumers received retention and reactivation e-mails in a sooner phase after the purchase than repeat consumers. This indicates that first-time buyers more often did not make a purchase in the expected time window than repeat buyers.

4.3.1.d Gmail Consumers

In Section 4.2.5, the following hypotheses were derived for consumers who are subscribed with a Gmail account compared to consumers with different e-mail accounts.

- 10. Consumers with a Gmail account engage less with advertising e-mails than other consumers
 - (a) Consumers with a Gmail account have a lower Average Clickthrough Rate than consumers with a different e-mail account
 - (b) Consumers with a Gmail account have a lower Average Open Rate than consumers with a different e-mail account
 - (c) Consumers with a Gmail account are less likely to unsubscribe than consumers with a different e-mail account

Table 4.13 presents the results of these hypotheses tested on the sample data set. Consumers with a Gmail account were found to have a lower Average Clickthrough Rate than consumers with other e-mail accounts, $W=-1.97, p<0.001$. Thus, hypothesis 10(a) was confirmed: consumers with a Gmail account have a lower Average Clickthrough Rate than consumers with a different e-mail account. Furthermore, hypothesis 10(b) was rejected as consumers with a Gmail account were not found to have a lower Average Open Rate than consumers with a different e-mail account. In Table 4.13 it is shown that the percentage of consumers who unsubscribed was lower for consumers with a Gmail (12.83%) account than for consumers with a different e-mail account (13.40%). However, no statistically significant evidence was found in support of hypothesis 10(c).

Table 4.13: Results of the Gmail Analysis on the Sample Data Set

Consumer Group	Average Open Rate (%)	Average Clickthrough Rate (%)	Unsubscribed Consumers (%)
Consumers with Gmail	57.50	6.34* ($W=-1.97$)	12.83
Consumers with Other Mail Accounts	48.38	6.57* ($W=-1.97$)	13.40

*Significant findings $p<0.05$, **Significant findings $p<0.01$, ***Significant findings $p<0.001$. The test compares the group of customers who have a Gmail account to the group of customers who have a different e-mail account using the Wilcoxon rank-sum test on the sample data set. Wilcoxon rank-sum test was used as an alternative to the Student’s T-test as the assumption of homogeneity of variance of the data was rejected.

Table 4.14: Results of the Gmail Analysis on the Complete Data Set

Consumer Group	Average Open Rate (%)	Average Clickthrough Rate (%)	Unsubscribed Consumers (%)
Consumers with Gmail	53.15	5.57*** ($W=-17.69$)	17.20* ($W=-2.27$)
Consumers with Other Mail Accounts	45.74	6.08*** ($W=-17.69$)	17.89* ($W=-2.27$)

*Significant findings $p < 0.05$, **Significant findings $p < 0.01$, ***Significant findings $p < 0.001$.

The test compares the group of customers who have a Gmail account to the group of customers who have a different e-mail account using the Wilcoxon rank-sum test on the complete data set. Wilcoxon rank-sum test was used as an alternative to the Student's T-test as the assumption of homogeneity of variance of the data was rejected

Although the results of the sample data set suggest there potentially exists a difference between the percentage of unsubscribes for consumers with a Gmail account and for consumers with a different e-mail account, hypothesis 10(c) could not be confirmed on the sample set data. Therefore, the hypotheses were tested on the full data set to confirm the findings. In Table 4.14 the results of the analysis of the full data set are presented. Consumers with a Gmail account were found to have a lower Average Clickthrough Rate (5.57%) than consumers with other e-mail accounts (6.08%), $W=-17.69$, $p < 0.001$. Thus, hypothesis 10(a) was confirmed: consumers with a Gmail account had a lower Average Clickthrough Rate than consumers with a different e-mail account. Hypothesis 10(b) was rejected as consumers with a Gmail account were not found to have a lower Average Open Rate than consumers with a different e-mail account. Furthermore, hypothesis 10(c) was confirmed as consumers with a Gmail account had a lower unsubscribe rate (17.20%) than consumers with other e-mail accounts (17.89%). Thus, consumers with a Gmail account were less likely to unsubscribe from receiving advertising e-mails than consumers with a different e-mail account, $W=-2.27$, $p < 0.05$.

Lastly, hypothesis 10(b) was rejected, hypothesis 10 could not be confirmed. Thus, consumers with a Gmail account did not engage less with advertising e-mails than consumers with other e-mail accounts.

4.3.2 E-Mail Pressure Intensity Formula

The e-mail pressure intensity formula was created to measure the e-mail intensity consumers are subjected to from one sender. The e-mail pressure intensity formula calculates the average number of e-mails sent out to consumers that were unclicked per day, based on the total number of e-mails, the total number of clicks, and the time period over which the e-mails were sent.

$$EmailPressureIntensity = \frac{Emails - Clicks}{Days} \quad (4.1)$$

where *Emails* denotes the total number of e-mails that were delivered, *Clicks* is the total number of clicks, i.e., the total number of times a consumer clicked on a link in the e-mail, and *Days* denotes the total number of days over which the advertising e-mails were delivered.

The distribution of E-Mail Pressure Intensity on the sample data set is shown in Figure 4.10. Consumers were found to have a mean e-mail pressure intensity of 0.243 ($SD = 0.082$). This means that, on average, consumers received an e-mail which they did not interact with, meaning they did not click on a link provided in the e-mail, every $\frac{1}{0.243} \approx 4.12$ days, which is more

than 88 e-mails sent to a consumer on a yearly basis.

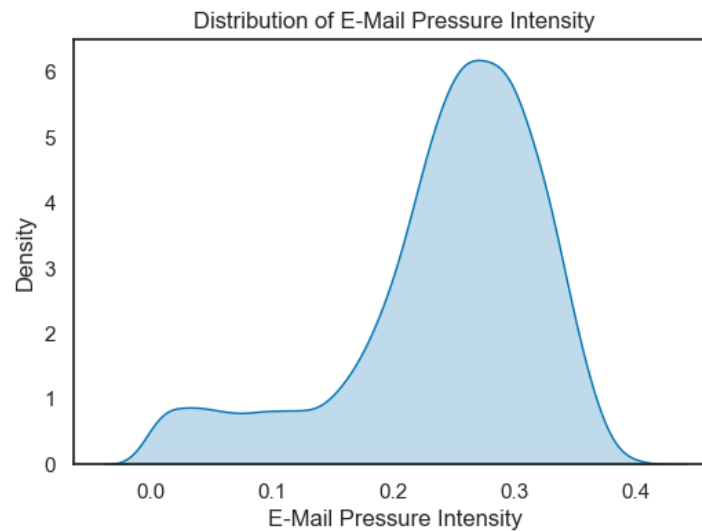


Figure 4.10: Distribution of E-Mail Pressure Intensity on the Sample Data Set

The mean e-mail pressure intensity of consumers who unsubscribed was 0.19 ($SD = 0.093$), whereas the mean e-mail pressure intensity for consumers who remained subscribed was 0.25 ($SD = 0.077$). These findings show that consumers who remained unsubscribed more frequently received an e-mail they did not interact with, i.e. they did not click on a link provided in the e-mail, than consumers who unsubscribed.

4.3.3 Consumer Segments

Consumers were segmented into groups based on their customer behaviour and behaviour with e-mail pressure. The variables used to segment the consumer groups are described in Table 4.8. The results of the principal components per consumer group are presented in Appendix F in Table F.1. Figure F.1 to F.3 in Appendix F show the distributions of the data points per principal component for each consumer group, visualizing their patterns and separations. Figures G.1 to G.8 in Appendix G show the distributions per consumer group of the variables used for the segmentation, highlighting the differences between the identified consumer groups. The distribution of the total number of subscribed and unsubscribed consumers per group is visualized in Figure G.9 in Appendix G.

The analysis of the Silhouette Scores demonstrated that a clustering size of 4 clusters was the best fit. The Silhouette Score and Within-Cluster Sum of Squares (WCSS) of the clusters were 0.22 and 32,885, respectively. The Silhouette Score, whose values range from -1 to 1, suggests the resulting clusters have a moderate level of separation and coherence. The data points within each cluster were well-grouped compared to other neighbouring clusters, whilst overlap or similarity between neighbouring clusters may exist.

Table 4.15 presents the clustering results, including the mean values of the variables used to segment per consumer group. In Table 4.16 and Table 4.17 an overview of the descriptive variables of the consumer groups is presented. The following four consumer groups were identified: Passive Repeat Customers, High-Engaging Repeat Customers, New Customers, and Active Explorers. The four consumer groups are discussed in more detail in Sections 4.3.3.a to 4.3.3.d.

Table 4.15: Overview of the Clustering Results per Consumer Group

Group	Corrected Open Rate (%)	Corrected Click Through Rate (%)	E-Mail Pressure Intensity	New Customer (%)	Coupon Ratio (%)	Total Purchases	Proportion Retargeting E-Mails over Automatic E-Mails (%)	Proportion Newsletters (%)
1	43.3	3.1	0.28	0.0	64.3	2.90	9.1	80.2
2	65.6	9.7	0.23	0.8	61.9	6.51	31.6	81.9
3	41.2	3.1	0.24	99.5	53.1	2.40	5.6	59.3
4	66.3	12.0	0.07	17.2	41.7	3.50	24.0	21.9

Table 4.16: Overview of the Average Values of the Descriptive Variables per Consumer Group

Group	Number of Consumers per Group	Number of consumers who unsubscribed	Unsubscribed Consumers (%)	Age	Female (%)	Consumers with Gmail Account (%)
1	4,600	510	11.1	53.0	44.6	33.0
2	2,305	172	7.5	57.4	48.2	33.7
3	1,305	279	21.3	47.7	47.5	34.9
4	855	237	27.7	54.6	46.3	29.5

Table 4.17: Overview of the Average Values of the Descriptive E-Mail and Purchase Variables per Consumer Group

Group	Average Clickthrough Rate (%)	Average Open Rate (%)	Average Total Purchases Before 2022	Average Number of Items Bought per Purchase	Average Days Between Purchases
1	3.4	43.6	7.32	2.63	151.28
2	10.0	65.8	11.83	2.30	74.95
3	4.4	42.4	0.01	4.00	136.22
4	16.7	68.7	7.11	2.44	139.54

4.3.3.a Consumer Group 1: Passive Repeat Customers

Consumer Group 1 is the largest consumer group, consisting of 4,600 consumers. Group 1 is referred to as the Passive Repeat Customers as these consumers made repeat purchases and passively engaged with the advertising e-mails they received from the e-commerce business.

In Figure G.6 and Table 4.15, it is visible that consumers in Group 1 made relatively fewer purchases over 2022 than consumers in Group 2 and Group 4. All consumers in Group 1 are repeat customers, meaning these customers have made purchases before 2022, as visualized in Figure G.4. Table 4.17 shows Passive Repeat Customers made an average of 7.32 purchases before 2022, which is comparable to Group 4 but substantially lower than Group 2. In 2022, consumers from Group 1 made an average of 2.90 purchases. These findings suggest that the Passive Repeat Customers were less loyal customers than consumers in Group 2.

Consumers in Group 1 had the highest mean Coupon Ratio compared to the other consumer groups. Consumers in Group 1 used on average a coupon code for 64.3% of their purchases, indicating these consumers may have actively sought out promotional codes before making a purchase.

Group 1 had the highest mean value for e-mail pressure intensity of 0.28 compared to the other groups, as shown in Table 4.15 and Figure G.3. An average e-mail pressure intensity of 0.28 means that consumers received an advertising e-mail in which they did not click on a link in the e-mail from the e-commerce business every 3.57 days. Out of the 4,600 consumers in Group 1, 510 consumers unsubscribed from receiving advertising e-mails. 11.1% of the consumers in Group 1 unsubscribed, which is notably lower than the unsubscribe rates from Group 3 and Group 4, but higher than the unsubscribe rate from Group 2. These findings show that despite the higher e-mail pressure intensity score, only a small number of the consumers in Group 1 wished to stop receiving advertising e-mails.

As shown in Table 4.15 and Figures G.1 and G.2, Passive Repeat Customers had a relatively low average corrected clickthrough rate of 3.1% and corrected open rate of 43.3% compared to Group 2 and Group 4. These findings show consumers in Group 1 were not actively engaging with the advertising e-mails they received compared to Group 2 and Group 4. In addition, Group 1 received proportionally fewer retargeting e-mails than Group 1 and Group 4, as shown in Table 4.15 and Figure G.7. These findings indicate that consumers in Group 1 did not as often browse on the e-commerce business' website without making a purchase, triggering retargeting e-mails such as cart abandonment and browser abandonment e-mails.

In Table 4.18, an overview of the e-mail rates per type of advertising e-mail for Group 1 is presented. 19.8% of the advertising e-mails Passive Repeat consumers received were automatic e-mails and the other 80.2% e-mails these consumers received were newsletters. Thus, the majority of consumers in Group 1 were in the newsletter phase, as visualized in Figure 4.2a. The clickthrough rate of automatic e-mails, 4.61%, was almost twice as high as the clickthrough rate of newsletters, 2.76%. Despite the fact that consumers from Group 1 received newsletters more often than automatic e-mails, consumers engaged more with automatic e-mails, especially retargeting and loyalty e-mails. 7.2% and 9.2% of the e-mails sent to Passive Repeat Customers were retention and reactivation e-mails. These findings indicate that a small part of the Passive Repeat Customers was in the retention phase and slightly more Passive Repeat Customers were in the reactivation e-mail phases, as shown in Figure 4.2b and 4.2c. Most Passive Repeat Customers who unsubscribed did so directly from newsletters or reactivation e-mails.

To summarize, the consumers in Group 1 were existing customers. The e-mail pressure intensity, measured with the e-mail pressure intensity formula, was highest for consumers in Group 1. Passive Repeat Customers were not actively engaging with the advertising e-mails they received compared to other groups.

Table 4.18: Overview of the E-Mail Rates per Type of Advertising E-Mail for Group 1

Variables	Newsletters	Automatic E-Mails	Retargeting E-Mails	Retention E-Mails	Reactivation E-Mails	Loyalty E-Mails
E-Mails (%)	80.2	19.8	1.8	7.2	9.2	1.5
Corrected Open Rate (%)	40.1	46.9	51.2	44.9	46.5	54.7
Corrected Clickthrough Rate (%)	2.8	4.6	9.6	3.1	4.2	8.9
Unsubscribes (%)	78.4	21.6	1.8	4.9	14.3	0.6

4.3.3.b Consumer Group 2: High-Engaging Repeat Customers

Consumers in Group 2 were named High-Engaging Repeat Customers and included consumers who showed high engagement with the advertising e-mails. Table 4.15 to 4.17 show the mean values for the variables of the sample data set for Group 2. Group 2 is the second largest consumer group. Of the 2,305 consumers in Group 2, only 0.8% of the consumers made their first purchase with the e-commerce business during the first two weeks of 2022. The other 99.2% of the consumers had made purchases before. Table 4.17 shows consumers from Group 2 made the most purchases before 2022, 11.83 purchases on average, compared to the other groups. In Table 4.15 and Figure G.6, it can be observed that consumers in Group 2 had also made the most purchases in 2022 compared to the other groups, namely an average of 6.51 purchases. These findings indicate that Group 2 consists mostly of existing consumers who are loyal as they make repeat purchases very frequently.

The consumers in Group 2 had the lowest average number of days between purchases, an average of 75 days, as presented in Table 4.17. When looking at the average number of items per purchase, it can be seen that the average value of 2.3 items was lower than the average number of items bought per purchase for other groups. The lower average number of products per purchase compared to other groups could explain why more purchases were made by this group.

As shown in Table 4.15 and Figures G.1-G.2, High-Engaging Repeat Customers had both a high average corrected open rate of 65.6% and corrected clickthrough rate of 9.7% compared to the other identified consumer groups. In addition, this group of High-Engaging Repeat customers had an average unsubscribe rate of 7.5%, which was the lowest of all consumer groups, as shown in Table 4.16 and Figure G.9. Furthermore, Group 2 received proportionally more retargeting e-mails compared to other groups, as shown in Figure G.7. This indicates that consumers from Group 2 were more often active on the website without making a purchase than other consumers, as this behaviour triggers retargeting e-mails. These findings show High-Engaging Repeat Customers engaged with the advertising e-mails they receive, denoting an interest from the consumers in the advertising e-mails, and showing customers were interacting with the website.

Figure G.5 shows the average coupon ratio for consumers in Group 2 was higher than that of Group 3 and Group 4. The high value of the coupon ratio despite a large number of purchases shows consumers in Group 2 use coupons they received via advertising e-mails frequently, during 61.9% of their purchases to be exact.

The average e-mail pressure intensity in this consumer group of 0.23 was slightly lower than those of Group 1 and Group 3, despite having a similar distribution as shown in Figure G.3. An e-mail pressure intensity score of 0.23 implies consumers in Group 2 on average receive an advertising e-mail in which they did not click on a link in the e-mail from the e-commerce business every 4.35 days.

High-Engaging Repeat customers received proportionally the most newsletters compared to automatic e-mails, 81.9% and 18.1% respectively, as shown in Table 4.15 and Figure G.8. This indicates consumers in Group 2 remained in the weekly newsletter phase and did not transition to the retention and reactivation phases as often as other consumers, as illustrated in Figure 4.2. In Table 4.19, an overview of the e-mail rates per type of advertising e-mail for consumer Group 2 is presented. 5.7% and 8.0% of the e-mails sent to High-Engaging Repeat Customers were retention and reactivation e-mails, indicating only a small part of the High-Engaging Repeat Customers are in the retention and reactivation phases as visualized in Figure 4.2. High-Engaging Repeat Customers were more actively engaging with newsletters in terms of opens and clicks than consumers in Group 1 and Group 3. In Table 4.19, the results show that automatic e-mails had a substantially higher corrected clickthrough rate 13.7% than newsletters 8.6%, indicating consumers in Group 2 engaged more with automatic e-mails. Moreover, loyalty, retargeting, and reactivation e-mails were found to have the highest corrected clickthrough rates of 19.8%, 16.8%, and 15.4%, respectively, indicating their popularity among High-Engaging Repeat Customers.

Consumers in Group 2 were found to be the most loyal customers of all consumer groups when looking at the number of purchases before and in 2022. By the high average corrected open and clickthrough rates and the low unsubscribe rate, Group 2 showed to be actively engaging with the advertising e-mails they received.

Table 4.19: Overview of the E-Mail Rates per Type of Advertising E-Mail for Group 2

Variables	Newsletters	Automatic E-Mails	Retargeting E-Mails	Retention E-Mails	Reactivation E-Mails	Loyalty E-Mails
E-Mails (%)	81.9	18.1	5.7	8.0	2.5	1.9
Corrected Open Rate (%)	61.9	69.5	69.2	66.7	74.4	74.7
Corrected Clickthrough Rate (%)	8.6	13.7	16.8	9.5	15.4	19.8
Unsubscribes (%)	75.0	25.0	8.7	11.0	4.1	1.2

4.3.3.c Consumer Group 3: New Customers

This consumer group consists of consumers who were first-time buyers during the first two weeks of 2022. Table 4.15 and 4.17 show the mean values for the variables of the sample data set for Group 3. 1,299 consumers out of the 1,305 consumers in Group 3 were new customers, as none of them had made previous purchases in the years before 2022. This means that the vast majority of consumers of Group 3 also received advertising e-mails from the e-commerce business for the first time in 2022.

As shown in Table 4.15 and Figures G.1 and G.2, the New Customers had both a low average corrected open rate of 41.2% and corrected clickthrough rate of 3.1% compared to consumers in Group 2 and Group 4. These findings show consumers in Group 3 were not actively engaging with the advertising e-mails they received compared to other groups.

Consumers in Group 3 made an average of 2.40 purchases in 2022, which was the lowest average number of purchases of all groups. In addition, the proportion retargeting e-mails over automatic e-mails was the lowest mean value of all groups with 5.6%. This means that consumers from Group 3 were not active on the e-commerce business' website without making a purchase, which trigger cart and browser abandonment e-mails. These results indicate that consumers from Group 3 were less active and loyal customers than consumers from other consumer groups. However, Table 4.16 shows that New Customers on average bought more items per purchase compared to other groups, more specifically, 4.00 items on average per purchase. These findings may explain why New Customers made fewer purchases compared to other consumer groups.

Out of the 1,305 consumers in Group 3, 279 consumers unsubscribed from receiving advertising e-mails from the e-commerce business, as shown in Table 4.16 and Figure G.9. Thus, 21.3% of the consumers in Group 3 unsubscribed, which is noticeably higher than the unsubscribe rates for Group 1 and Group 2. The mean coupon ratio for New Customers was 53.1%, which is relatively lower than the coupon ratio of Group 1 and Group 2, indicating consumers in Group 3 used coupon codes less often during purchases than consumers from other groups. The e-mail pressure intensity of Group 3 was similar to that of Group 1 and Group 2, as shown in Figure G.3. The average e-mail pressure intensity for consumers in Group 3 was 0.24, meaning that a consumer in Group 3 received an advertising e-mail that did not elicit a click by the consumer every 4.24 days.

The e-mail rates per type of advertising e-mail for Group 3 are shown in Table 4.20. Overall, 40.7% of the advertising e-mails consumers in Group 3 received were automatic e-mails, whereas the other 59.3% of the e-mails were newsletters. This shows that consumers from Group 3 were less often in the newsletter phase, as illustrated in Figure 4.2a. 65.6% of the New Customers who unsubscribed from receiving advertising e-mails unsubscribed during the newsletter phase. 24.8% of the e-mails sent to New Customers were retention e-mails. These findings suggest New Customers are often in the retention e-mail phase, illustrated in Figure 4.2b. The average corrected open rate for newsletters of 38.2% was lower than that of automatic e-mails of 45.3%. The same difference was noticeable for the corrected clickthrough rates, where the clickthrough rate was 2.49% for newsletters and 4.51% for automatic e-mails. These findings demonstrate that New Customers engaged more with automatic e-mails than newsletters. Retargeting and loyalty e-mails were the most opened and most clicked e-mails, suggesting consumers in Group 3 were most likely to engage with these types of e-mails. From the automatic e-mails, retention and reactivation e-mails had the lowest corrected clickthrough rates of 4.39% and 3.33%, respectively. However, newsletters were less often opened, indicating that retention and reactivation e-mails were more effective in convincing consumers to interact with the content than newsletters.

Overall, the New Customers made the least purchases in 2022 and were found to be the least active with the advertising e-mails they received compared to the other consumer groups.

Table 4.20: Overview of the E-Mail Rates per Type of Advertising E-Mail for Group 3

Variables	Newsletters	Automatic E-Mails	Retargeting E-Mails	Retention E-Mails	Reactivation E-Mails	Loyalty E-Mails
E-Mails (%)	59.3	40.7	2.3	24.8	11.8	1.7
Corrected Open Rate (%)	38.2	45.3	51.6	47.4	39.0	54.2
Corrected Clickthrough Rate (%)	2.5	4.5	9.7	4.4	3.3	7.3
Unsubscribes (%)	65.6	34.4	2.2	21.9	9.3	1.1

4.3.3.d Consumer Group 4: Active Explorers

Consumer Group 4 included consumers who were highly engaged with the advertising e-mails they received. Group 4 was the smallest consumer group, consisting of 855 consumers, of which 237 unsubscribed. In total, 27.7% of the consumers in Group 4 unsubscribed from receiving advertisement e-mails from the e-commerce business. This indicates a large part of consumers within this group choose to unsubscribe from receiving advertising e-mails from the e-commerce business.

17.2% of the Active Explorers made their first purchase during the first two weeks of 2022, meaning they had not received advertising e-mails from the e-commerce business prior. The other 82.8% of the customers were repeat customers, who made their first purchase with the e-commerce business before 2022. Table 4.17 shows that consumers in Group 4 made on average 7.11 purchases before 2022. In 2022, the average number of purchases for a consumer in Group 4 was 3.50 which is higher than those of Group 1 and Group 3, as shown in Table 4.15 and Figure G.6. However, the consumers in Group 4 have not made as many purchases in 2022 as those in Group 2, who made on average 6.51 purchases. These results show that despite the large number of consumers who have unsubscribed, the consumers in Group 4 remain repeat buyers in the e-commerce business.

As shown in Table 4.15 and Figures G.1 and G.2, Active Explorers both had a high average corrected open rate of 66.3% and corrected clickthrough rate of 12.0% compared to the other consumer groups. Furthermore, Active Explorers were sent proportionally more retargeting e-mails than consumers in Groups 1 and 3, 24.0% compared to 9.1% and 5.6%, respectively, see Figure G.7. This shows that consumers in Group 4 were active on the website, without making a purchase, triggering retargeting e-mails. Overall, these findings suggest that consumers in Group 4 actively engaged with the website and the advertising e-mails they received.

The average e-mail pressure intensity of 0.07 for Group 4 is noticeably lower than the e-mail pressure intensity of the other groups, as shown in Figure G.3 and Table 4.15. An e-mail pressure intensity of 0.07 means that consumers receive an e-mail where they do not click on the link every 14.97 days on average. This difference with the other consumer groups may occur due to the relatively high corrected clickthrough rate or the high amount of unsubscribers in this group, who may have unsubscribed during the first few e-mails after their purchase.

In Table 4.21, an overview of the e-mail rates per type of advertising e-mail for Group 4 is shown. 78.1% of the advertising e-mails consumers in Group 4 received were automatic e-

mails, whereas the other 21.9% were newsletters. 32.3% of the e-mails sent to consumers in Group 4 were retention e-mails, indicating that part of the consumers in Group 4 was in the retention e-mail phase as visualised in Figure 4.2b. 14.9% of the e-mails sent to customers in Group 4 were reactivation e-mails, indicating that only a small group of the consumers in Group 4 were in the reactivation e-mail phase as illustrated in Figure 4.2c and required efforts to reactivate their interest and involvement in purchasing from the e-commerce business. For Group 4, there was only a slight difference in the corrected open rate for newsletters and automatic e-mails, 73.5% and 68.2% respectively. The same applies to the corrected clickthrough rate, which is 12.5% for newsletters and 11.2% for automatic e-mails. These findings indicate that consumers in Group 4 were engaging with both these e-mail types similarly. Retargeting and loyalty e-mails yielded the highest average corrected clickthrough rates, 18.1% and 14.1% respectively, suggesting that these e-mail types encouraged the consumers in Group 4 to interact with the content. Retention and reactivation e-mails had the lowest corrected clickthrough rate, 9.3% and 8.9%, respectively. These findings suggest that the retention and reactivation e-mails may not be as effective as other advertising e-mail types for consumers in Group 4. When comparing the percentage of consumers who unsubscribed after receiving a retention e-mail of 48.5% to the percentage of retention e-mails sent to consumers 32.3%, it is noticeable that almost half of the consumers that unsubscribed in Group 4 unsubscribed after receiving a retention e-mail.

Overall, the consumers in Group 4 showed to be active with the advertising e-mails they received, whereas having made fewer purchases than other consumer groups on average. Group 4 was found to have the lowest mean e-mail pressure intensity but the largest number of consumers unsubscribing from the advertisements.

Table 4.21: Overview of the E-Mail Rates per Type of Advertising E-Mail for Group 4

Variables	Newsletters	Automatic E-Mails	Retargeting E-Mails	Retention E-Mails	Reactivation E-Mails	Loyalty E-Mails
E-Mails (%)	21.9	78.1	18.7	32.3	14.9	12.0
Corrected Open Rate (%)	73.5	68.2	72.2	70.1	63.2	71.6
Corrected Clickthrough Rate (%)	12.5	11.2	18.1	9.3	8.9	14.1
Unsubscribes (%)	30.1	69.9	7.5	48.5	11.7	2.1

4.4 Discussion

4.4.1 Discussion of the Results

In this section, the results regarding measuring e-mail pressure and consumer segmentation are discussed.

4.4.1.a Measuring E-Mail Pressure

During this study, research question 4 was addressed:

- 4. How can advertising firms measure consumers' experience of e-mail pressure?

In this study, consumers unsubscribing from receiving advertising e-mails was considered a sign of e-mail pressure according to the conceptual framework of e-mail pressure by Micheaux (2011) and the findings of Study 1, see Section 3.3. Yet, whether consumers unsubscribed did not demonstrate the e-mail intensity to which consumers were exposed. Therefore, the e-mail pressure intensity formula was created to measure e-mail intensity for consumers. The formula, as presented in Section 4.3.2, was derived to compute the e-mail pressure intensity. The e-mail pressure intensity as calculated by the formula provides insight for advertisers into how many unanswered e-mails they send to their customers.

It was found that consumers received an e-mail which they did not interact with, meaning they did not click on a link provided in the e-mail, approximately every 4 days, which is more than 88 e-mails sent to customers in a year. In this study, no general mean or target values for e-mail pressure intensity were specified. The frequency of advertising e-mails which consumers do not actively engage with, by not clicking on the hyperlinks provided which re-direct consumers to the website, raises questions about the e-mail frequency and strategy regarding the relevance and effectiveness of the content. These findings suggest the content of the advertising e-mails may not be persuading enough to encourage customers to click on the links in the e-mails and navigate to the website.

Furthermore, it was found that consumers who remained subscribed more frequently received an e-mail they did not interact with, i.e. they did not click on a link provided in the e-mail, than consumers who unsubscribed. One explanation for this could be that consumers who unsubscribed may have had a lower tolerance for e-mail pressure than consumers who remained subscribed. Another explanation could be that consumers who unsubscribe more actively engage with their incoming e-mails and are, therefore, more inclined to actively take action if the advertising e-mails no longer appeal to them. In Study 2, consumers who unsubscribed were found to be more actively engaging with advertising e-mails, which is in line with the findings regarding e-mail pressure. The differences between subscribed and unsubscribed consumers regarding their activity with advertising e-mails are discussed in more detail in Section 4.4.2.a.

4.4.1.b Consumer Segmentation

In the data analysis study, consumer groups were segmented from the data in order to answer Research Questions 5:

5. *What are the consumer segments that can be identified based on consumers' behaviour with e-mail pressure?*

The identified clusters offer valuable insights into consumer engagement and can assist in the development of more targeted strategies for e-mail frequency and types of advertising e-mails for each identified consumer group, which are discussed in detail in Chapter 5.

1 Group 1: Passive Repeat Customers

The first and largest group of consumers that was identified was the Passive Repeat Customer group. This group consisted mainly of existing customers who were not actively interacting with the advertising e-mails, meaning they did not open and click on links in the advertising e-mails as often compared to other groups. It was found that Passive Repeat Customers experience the highest e-mail pressure intensity according to the e-mail pressure intensity formula. This means that this group most frequently received an advertising e-mail the consumers did not interact with. Despite the high e-mail pressure intensity, Passive Repeat Customers did not unsubscribe from receiving advertising e-mails as often as other consumer groups. The lower

open rate, compared to other groups, suggests that part of the Passive Repeat Customers are in Route A of the conceptual framework of e-mail pressure. This implies that the content of the advertising e-mails is not relevant enough to consumers to open the e-mails (Micheaux, 2011). Furthermore, in 2022 fewer purchases were made by consumers in Group 1 compared to other consumer groups, indicating these consumers are not the most loyal customer group. These findings all demonstrate the relatively low interaction of Passive Repeat Customers with advertising e-mails and the e-commerce business. Consumers in Group 1 were not actively responding to the advertising e-mails being sent out. These findings bring into question whether the current e-mail strategy is meeting Passive Repeat Customers' needs.

Despite consumers not being overly active with the advertising e-mails, Passive Repeat Customers used discount codes on the majority of their purchases. This showed that when consumers wanted to make a purchase, they searched for coupon codes to use. These findings imply customers were actively searching for and using coupon codes provided in the advertising e-mails, thus, they did make use of the advertising e-mails.

Although the broad majority of the advertising e-mails sent to Passive Repeat Customers are newsletters, the consumers engaged less with this type of e-mail than they did with automatic e-mails. This raises the question of why the Passive Repeat Customers have so little interaction with the majority of advertising e-mails they received. Two explanations can be given for why Passive Repeat Customers did not interact with the majority of advertising e-mails they received. Firstly, the content of the advertising e-mails, more specifically newsletters, may not be relevant to Passive Repeat Customers. As a result, these customers may only open the e-mails when they are useful to them, for example, when customers look for a discount code for their purchase. Secondly, the frequency of the e-mails may be too high. According to the literature and previous studies, there is a negative relationship between the frequency of advertising e-mails and the open rates (Wattal et al., 2012). Therefore, the low open and clickthrough rates are indicators that the current e-mail frequency is too high for the Passive Repeat Customers. Ducoffe (1995) argues that with a high e-mail frequency, there is a decline in the perceived value of advertising e-mails. When consumers are exposed to similar or repetitive information in the advertising e-mails, consumers become too familiar with the advertisement's content (Ducoffe, 1995). This can lead to consumers becoming less informed by the advertising e-mails and can thus decrease the relevancy of the content.

Loyalty and retargeting e-mails were the e-mail types which Passive Repeat Customers interacted the most with in terms of clicks. As mentioned before, consumers engaged more with automatic e-mails than with newsletters. Most of the automatic e-mails sent to consumers in Group 1 were reactivation e-mails. According to Figure 4.2, consumers first have to go through the retention phase before entering the reactivation phase. Considering part of the consumers in Group 1 have entered the reactivation phase, it calls for additional reflection on whether the retention e-mail phase is working as expected. Despite consumers engaging more with retention and reactivation e-mails than regular newsletters, retention e-mails may have lacked in persuading consumers to make a purchase because part of the Passive Repeat Customers moved into the reactivation phase.

II Group 2: High-Engaging Repeat Customers

The second group identified in this study was the High-Engaging Repeat Customer group. These consumers were the e-commerce business' most loyal customers, as they have made on average the most purchases before and in 2022. High-Engaging Repeat Customers were found to be the second most engaged group with the advertising e-mails.

High-Engaging Repeat Customers often click on links in advertising e-mails they received. Despite having similar open rates to Group 4, High-Engaging Repeat Customers clicked less often on links in the e-mails than consumers in Group 4. This could be explained by the content of the advertising e-mails not persuading High-Engaging Repeat Customers enough to click on the link in the e-mails. As High-Engaging Repeat Customers frequently make purchases and often use coupon codes, another explanation of the lower clickthrough rate with respect to the open rate of the e-mails is that customers may have opened the e-mails to inspect the offers and only navigate to the website via the link in the offer when the offer met their expectations. In line with this explanation, High-Engaging Repeat Customers most often browse the e-commerce business' website without making a purchase, which triggers retargeting e-mails to be sent. Thus, retargeting e-mails may be triggered when consumers are viewing or comparing offers without making a purchase. These findings imply that High-Engaging Repeat Customers actively seek out good deals and therefore actively interact with advertising e-mails.

The e-mail pressure intensity results for Group 2 show that despite the consumers' activity and loyalty the e-mail pressure intensity was moderately high. This means that consumers in this group very frequently received an advertising e-mail which consumers did not interact with, meaning consumers did not click on links in the advertising e-mails. Since High-Engaging Repeat Customers had the lowest number of consumers who unsubscribed from receiving advertising e-mails, consumers in Group 2 did not follow Route C in the conceptual framework of e-mail pressure (Micheaux, 2011). In other words, for High-Engaging Repeat Customers the benefits of being subscribed to receiving advertising e-mails from the e-commerce business were greater than the costs of receiving a high frequency of advertising e-mails.

The great majority of the e-mails High-Engaging Repeat Customers received were newsletters, although consumers were found to be more actively engaging with automatic e-mails. High-Engaging Repeat Customers were found to interact less actively in terms of opens and clicks with retention e-mails than with other automatic e-mails. This brings into question whether the retention e-mails were conveying consumers to purchase from the e-commerce business. However, few consumers moved into the reactivation phase, as visualized in Figure 4.2, implying most High-Engaging Repeat Customers made their next purchase before the reactivation phase. An explanation for why High-Engaging Repeat Customers were less active with retention e-mails than other automatic e-mails could be that the consumers were entering the retention phase too early. According to Ducoffe (1996), consumers may not be wanting to shop at the moment of receiving an advertisement e-mail. If consumers are not yet ready to make another purchase whilst already entering the retention phase based on their previous purchase behaviour, they may not interact with the retention e-mails.

III Group 3: New Customers

The third group identified in this study was the New Customers group. The New Customers consisted mainly of new customers who had not made purchases before 2022. The New Customers were the least actively engaging with advertising e-mails, meaning they did not open and click on links in the advertising e-mails as often as other consumers. New Customers had a moderately high e-mail pressure intensity, meaning that New Customers frequently received advertising e-mails which they did not interact with. These findings all demonstrate the low interaction of New Customers with the advertising e-mails and the e-commerce business. Consumers in Group 3 were not responding to the advertising e-mails sent to them by the e-commerce business. In addition to the low engagement with the advertising e-mails, a substantial part of New Customers unsubscribed from receiving advertising e-mails. The relatively high unsubscribe rate demonstrated that the content of the advertising e-mails may not have resonated with New Customers

as much as it did with repeat customers. Thus, the current e-mail strategy may not be effective for New Customers and there is an opportunity for the advertising content and frequency to be tailored to meet New Customers' needs.

New Customers made the least purchases in 2022, suggesting that New Customers were not loyal customers. However, New Customers bought on average the most number of items per purchase, which could explain the lower number of purchases. Furthermore, New Customers were the least likely to open e-mails from all consumer groups. The only information available on which to make a decision to open an e-mail or not are the e-mail's subject line and the sender's name or e-mail address (Chaparro-Peláez et al., 2022). According to previous research, consumers are unlikely to open an e-mail if the subject line fails to capture their attention (Ellis-Chadwick & Doherty, 2012). Therefore, it casts doubt on whether the subject lines and preview of the advertising e-mail's content spark New Consumers' interest. Furthermore, the study found that many New Customers were in the retention and reactivation e-mail phases, as displayed in Figure 4.2. As many New Customers proceed to the reactivation phase, it casts doubt on whether the retention phase is working as expected and is successfully encouraging New Customers to make a purchase. An explanation could be that New Customers may have been moved into the retention and reactivation phases too early. New Customers bought more items on average per purchase than other consumer groups, which can result in a longer time between purchases for New Customers compared to other consumers. If the predictions of when New Customers are purchasing again are based on previous purchases and purchase times of consumers who bought a lower number of items per purchase, these predictions may not be accurate for New Customers and may place New Customers into the retention and reactivation phases too early.

IV Group 4: Active Explorers

The fourth group identified in Study 2 consisted of Active Explorers. The Active Explorers interacted the most with the advertising e-mails they received, both in terms of clicks and opens, compared to other groups. The e-mail pressure intensity was low for Active Explorers, which may be due to their higher activity in terms of click behaviour. Active Explorers were found to often browse the e-commerce business' website without making a purchase, which triggers the sending of retargeting e-mails. Despite their high activity with the advertising e-mails they received, this group relatively had the most unsubscribing consumers. A possible explanation for this is given by the conceptual framework of e-mail pressure by Micheaux (2011). The Active Explorers exhibit high activity with the e-mails they received. Suppose Active Explorers open e-mails and click on the links provided in the e-mails based on the estimated relevancy of the content and then it turns out the content is not relevant to them. In this case, the consumers follow Route C in the conceptual framework of e-mail pressure leading to e-mail pressure which can encourage consumers to unsubscribe from the e-mails (Micheaux, 2011). Thus, if the content of the e-mails is not perceived as sufficiently relevant, these consumers may immediately unsubscribe.

It was found that Active Explorers on average made more purchases in 2022 than consumers in Group 1 and Group 3. This is an interesting finding because it shows that despite the fact that relatively more Active Explorers unsubscribed from receiving e-mails, relatively more purchases were made. This finding shows that Active Explorers remain repeat customers, even though they are no longer subscribed to advertising e-mails. Active Explorers navigate to the website from the advertising e-mails more often than the High-Engaging Repeat Customers, despite making fewer purchases. This warrants a closer examination into whether the advertising e-mails and offers in the e-mails were sufficiently encouraging Active Explorers to make

a purchase. The coupon ratio for Active Explorers was found to be the lowest, indicating that Active Explorers less often make use of the discount codes provided in the advertising e-mails.

Active Explorers mostly received automatic e-mails. The large majority of these automatic e-mails were retention and reactivation e-mails, indicating that many Active Explorers were in the retention and reactivation e-mail phases, as shown in Figure 4.2. Active Explorers clicked on hyperlinks in the advertising e-mails less often for retention and reactivation e-mails than for newsletters. This suggests that Active Explorers have fallen out with interacting with the advertising e-mails during the phases or that the retention and reactivation phases are not working as expected. In addition, most consumers unsubscribed during the retention phase, implying the retention phase does not encourage Active Explorers to make a purchase again, but rather causes the business to lose contact with a considerable part of the Active Explorers via e-mails.

4.4.2 Additional Findings

In addition to providing answers to research questions 4 and 5, the study gained additional insights into the behaviour of consumers with advertising e-mails. This included findings regarding the differences between subscribed and unsubscribed consumers, the role of different types of advertising e-mails, and consumers with a Gmail account.

4.4.2.a Differences between Subscribed and Unsubscribed Consumers

The study demonstrated that consumers who unsubscribed from receiving advertising e-mails made fewer purchases than consumers who stayed subscribed. This shows that consumers who unsubscribed were less loyal customers than consumers who remain subscribed to advertising e-mails. Thus, it may benefit e-commerce businesses to prevent consumers from unsubscribing from advertising e-mails, although further research is needed to assess if a causal relationship exists between unsubscribing and consumer loyalty. In addition, it was found that consumers who unsubscribed from receiving advertising e-mails had less often browsed the e-commerce website without making a purchase until the moment these consumers unsubscribed compared to consumers who stayed subscribed. Thus, consumers who unsubscribe may have been less invested in the e-commerce business than consumers who remained subscribed.

The study rejected the hypothesis that consumers who unsubscribed from receiving advertising e-mails had been less engaged with the advertising e-mails compared to consumers who remained subscribed. The findings indicated the opposite: consumers who unsubscribed more often opened advertising e-mails and clicked on links in these e-mails until the moment they unsubscribed compared to consumers who stayed subscribed. This raises the question of why these consumers unsubscribed despite engaging more with the advertising e-mails than consumers who remained subscribed. An explanation could be that the consumers who unsubscribed are more actively managing their e-mail inboxes than consumers who remain subscribed. In Study 1, it was found that consumers' e-mail organization and management were related to their experience of e-mail pressure, as presented in Chapter 3 in Sections 3.2.2.a and 3.3.1.a. Consumers who are actively managing their e-mail inboxes may be more inclined to unsubscribe because they want to keep their e-mail inboxes clean to handle e-mail pressure and e-mail intensity. The conceptual framework of e-mail pressure provides another explanation. The findings suggest that consumers who unsubscribed followed Route C in the conceptual framework of e-mail pressure by Micheaux (2011). Consumers are in Route C when they evaluate an incoming advertising e-mail as relevant to them and open the e-mail but find out the e-mail is not relevant to them after deciding to open it (Micheaux, 2011). Consumers unsubscribe when the intensity of the effort was high and this effort was left unrewarded (Micheaux, 2011). Customers who unsubscribed may have actively engaged with the advertising e-mails

until they felt their effort was unrewarded, causing them to unsubscribe. This explanation implies that it is important for advertising businesses to analyze if the activity with advertising e-mails of consumers who unsubscribed gradually decreased or if there was a specific type of e-mail that triggered consumers to unsubscribe, i.e. a type of e-mail consumers opened but which left their efforts unrewarded.

4.4.2.b Types of Advertising E-Mails

This study presented additional insights into research question 3 by examining to which types of advertising e-mails consumers unsubscribed.

3. How do different types of e-mails affect consumers' perception of e-mail pressure?

The study confirmed that more consumers unsubscribed directly from automatic e-mails than newsletters. Automatic e-mails may be more outstanding in consumers' inboxes than newsletters. When consumers receive newsletters at the same time intervals, they unknowingly learn when to expect them. Automatic e-mails are triggered by consumers' behaviour or inactivity and arrive at an unpredictable time for consumers. According to the mere exposure bias, consumers establish a preference for stimuli they are exposed to repeatedly, without their awareness (Janiszewski, 1993). In this case, the regular timing of newsletters can cause consumers to become familiar with the content and pay less attention to them. However, when an automatic e-mail arrives unexpectedly, this new stimulus can attract more attention because of the heightened attentional focus associated with the unexpected and salient stimulus (Kerzel & Schönhammer, 2013). This effect would occur during the transition from one e-mail phase to another and with retargeting e-mails. Thus, automatic e-mails would stand out more than newsletters, attracting consumers' attention. As a result, consumers may be more inclined to open automatic e-mails. If an automatic e-mail then does not meet consumers' expectations and their effort was left unrewarded, consumers may become annoyed, causing them to unsubscribe from advertising e-mails (Micheaux, 2011).

Another explanation of why more consumers unsubscribed directly from automatic e-mails than from newsletters is due to the e-mail phases consumers are in, which are visualized in Figure 4.2. Consumers who make frequent purchases in the predicted time window remain in the newsletter phase, whereas other consumers move to the retention and reactivation phases. The advertising e-mail content may be more relevant to the former consumers, as they make more frequent purchases than the latter. Furthermore, this study confirmed consumers more often unsubscribed from retention e-mails than other e-mails. Surprisingly, for reactivation e-mails, no difference was not found. This could be explained by a group of consumers in the reactivation phase who are completely inactive as they no longer respond to the advertising e-mails they receive and do not unsubscribe. If these consumers do not make a new purchase, they remain in the reactivation e-mail phase.

In addition to retention and reactivation e-mails, retargeting e-mails were sent to customers. Retargeting e-mails are automatic e-mails that are sent to consumers regardless of the e-mail phase they are currently in. The study demonstrated that more consumers unsubscribed directly after receiving a retargeting e-mail than other types of e-mails. There are two types of retargeting e-mails: cart abandonment and browser abandonment e-mails. It was found that more consumers unsubscribed directly after receiving browser abandonment e-mail than other types of e-mail. No evidence was found that more consumers unsubscribed directly after receiving a cart abandonment e-mail. Previous research substantiated that consumers are less likely to respond positively to advertising e-mails that include personal information, especially

from advertisers they are less familiar with (Wattal et al., 2012). Cart and browser abandonment e-mails include personal information of the products consumers were viewing during their website. Browser abandonment e-mails may be considered to be more privacy invading by consumers than cart abandonment e-mails, as only evidence was found that more consumers unsubscribed directly after receiving a browser abandonment e-mail. The high number of consumers that unsubscribed directly from retargeting e-mails shows that retargeting e-mails should only be sent to customers who are familiar with the advertiser. When sending these types of e-mails to new customers, they may feel their privacy has been violated which may encourage them to unsubscribe from receiving advertising e-mails.

While the findings of this study indicate that consumers were more likely to unsubscribe from automatic, retention, retargeting, and browser abandonment e-mails than from other e-mails, the results need to be interpreted with caution. Variables such as the e-mail phase consumers are in, personal preferences, the timing of e-mails, and how relevant the content is to consumers may have also contributed to consumers' decision to unsubscribe. Although a relationship between the type of content and consumers unsubscribing from e-mails was identified, additional research is needed to confirm the existence of a direct cause-and-effect relation between content type and consumers unsubscribing.

Lastly, Study 2 showed that there exists a post-purchase effect regarding consumers unsubscribing. In the time period after consumers made a purchase, there was a peak in the number of consumers unsubscribing. This occurring in the two-month period after the purchase suggests that there was less interest in the e-mails after the purchase or that there was a higher perception of e-mail pressure that caused consumers to unsubscribe. The peak can partly be explained by new consumers who did not realize they subscribed to receiving advertising e-mails until they received the first advertising e-mails, and then unsubscribed. These consumers would have unsubscribed eventually regardless of the e-mail strategy. As there was also a peak of unsubscriptions visible for existing customers another explanation is warranted. According to the findings of Study 1 as discussed in Section 3.3.1.b, consumers were found to wish not to receive post-purchase e-mails. In Study 1, post-purchase e-mails were found to increase consumers' perception of e-mail pressure, as these advertising messages are received in addition to regular e-mail messaging about the order. This makes it more difficult for consumers to distinguish advertising post-purchase e-mails from e-mails containing updates and information about the order and it increases the e-mail intensity. Therefore, advertising businesses should be careful with sending advertising e-mails to consumers after they have made a purchase in order to prevent e-mail pressure and consumers from unsubscribing.

4.4.2.c Gmail Consumers

This study confirmed that consumers with a Gmail account less often unsubscribed and less often clicked on a link in the advertising e-mail compared to consumers with a different e-mail account. The results are in line with those of Study 1, where consumers with a Gmail account were found to be less actively engaged with the advertising e-mails, see Section 3.3.1.a. These findings demonstrate that consumers' e-mail providers relate to consumers' activity with the advertising e-mails they receive, and thus, to consumers' experience of e-mail pressure. Gmail consumers may tolerate a higher frequency of advertising e-mails, as they are less likely to experience e-mail pressure due to the separate promotion inbox. Therefore, the findings show that consumers' e-mail providers should be taken into account during e-mail marketing campaigns.

Despite Gmail consumers being less likely to unsubscribe from receiving advertising e-mails

and less likely to click on links in advertising e-mails, this study did not confirm that consumers with a Gmail account are less likely to open advertising e-mails. Instead, the findings indicated the opposite: consumers with a Gmail account may be more likely to open advertising e-mails than consumers with a different e-mail account. These findings are not in line with the findings regarding the engagement of Gmail consumers. This raises the question of why the open rates were higher for consumers with a Gmail account than consumers with a different e-mail account. A possible explanation for this is that Gmail itself has been triggering false opens. In this situation, Gmail downloads the e-mail from the server and causes an open signal to be sent back to the sender, without consumers actually having opened the e-mail. According to previous studies, the false open rates for Gmail are between 5.0% and 6.5%, meaning that the actual open rates of the e-mails are between 5.0% and 6.5% less (Goel, 2022) (Ruaah, 2023). This implies that e-mail open data may have been biased due to the possibility of e-mail browsers opening a part of the e-mails automatically. The number of false opens can depend on consumers' e-mail providers. These false opens can be recognized by the timing of the opens. One should be suspicious of the cases where e-mails are opened in under 60 seconds, as these may be opened by Gmail rather than by consumers (Ruaah, 2023). The false open rates may have affected the results regarding the open rates and corrected open rates. Thus, these results should be interpreted with caution.

4.4.3 Limitations of the Study

The first limitation of Study 2 regards the exclusion of opens and clicks from the final e-mail consumers who unsubscribed received prior to unsubscribing. This exclusion impacts the Corrected Average Open Rate (COR) and Corrected Average Clickthrough Rate (CCTR). The data set did not include data on whether consumers directly unsubscribed via a hyperlink within the advertising e-mail or via other methods, such as unsubscribing through their e-mail browser. If a consumer unsubscribed via a hyperlink in the e-mail this was recorded as an open and click in the data set for that e-mail. To ensure that this last open and click did not affect the Average Open Rate (OR) and Average Clickthrough Rate (CTR), the Corrected Open Rate (COR) and Corrected Clickthrough Rate (CCTR) were created. However, by excluding all opens and clicks from the final e-mail consumers received before unsubscribing, the study compromises the accuracy of these metrics. Consumers could have opened the e-mail, clicked on another link in the e-mail, and unsubscribed later. The possible exclusion of these last interactions of consumers with the final e-mail they received before unsubscribing may have led to an incorrect representation of their behaviour in the data.

Another limitation of Study 2 was that the data analysis did not include the consumers' reasons to unsubscribe from the e-mails from the e-commerce business. When consumers click on the link provided in the advertising e-mails to unsubscribe, they are navigated to a web page where they can fill out a short questionnaire on why they unsubscribed. This data was not available during the data analysis but would have added value as it would have offered additional insights into the consumer's perspective on e-mail pressure.

Lastly, the e-mail pressure intensity formula did not include e-mail opens. However, some consumers may engage with the content by reading e-mails without clicking on a link in the e-mail to navigate to the web store. Due to the bias in and functioning of open rates, it could not be measured with certainty if consumers were actively reading the advertising e-mails or if they only clicked it open. Therefore, the e-mail opens were not included in the e-mail pressure intensity calculation.

4.4.4 Reflection

At the beginning of the study, hypotheses, which were constructed based on the findings of Study 1, were tested. In the data set user, e-mail, and transactional data were available for the data analysis. The findings of Study 1 provided background on consumer behaviour with advertising e-mails and e-mail pressure, which helped scope the data analysis in Study 2. Based on these findings, it was decided to mainly focus the data analysis on the e-mail data. Furthermore, it was challenging to perform the data analysis on the full data set because consumers' behaviour on an individual level was difficult to investigate. Therefore, a subset of the full data set was selected and used for the data analysis in this study.

Only the user, e-mail, and transactional data were included in the data analysis. The web analytics data were excluded from the data analysis because the connection between web activity and consumers was missing in part of the data due to a data tracking error. The web data consisted of consumer activity data, for example, how many products were viewed or how long a consumer browsed on the website. The inclusion of the data on consumers' behaviour on the web store would have been an addition to the analysis in terms of measuring consumers' activity with the webshop. Consumers' activity could have been measured using the web activity data instead of, for example, retargeting e-mails. In addition, the web data could have provided insights into potential indicators of offer quality. By monitoring consumer behaviour after consumers navigate to the offer on the website by clicking the link in the e-mail, valuable information about consumers' level of interest and the overall effectiveness of the offers could have been gained. For example, the case when a significant number of consumers leave the website shortly after having viewed an offer on the website may suggest that the offer in the e-mail fails to meet consumers' expectations.

Furthermore, the different e-mail phases, as shown in Figure 4.2, made it complicated to analyze the e-mail phases consumers were in, especially for a large group of consumers at an individual level. It was therefore challenging to investigate and draw conclusions about the effectiveness of the e-mail phases, in terms of e-mail content and the timing of when consumers are put into these phases.

In conclusion, Study 2 demonstrated that differences in consumer behaviour with advertising e-mails exist between consumer groups. The findings regarding the identified consumer segments demonstrate that consumers differ in how actively they engage with advertising e-mails and to which types of e-mails they respond to. Furthermore, the study proved that the type of advertising e-mails sent to customers is related to whether consumers unsubscribe. Some types of e-mails may be riskier to send to consumers than others in terms of e-mail pressure. Therefore, marketers or e-commerce businesses should monitor the effects different types of advertising e-mails have, focusing not only on the number of clicks but also on how many consumers unsubscribe.

5 DISCUSSION

This chapter presents the discussion of the findings of this thesis research. The general discussion addresses the results regarding research questions 1 to 6, which were examined in this study. Following, the main limitations are discussed and the implications for the industry are presented. The chapter concludes by presenting potential directions for future work.

5.1 General Discussion

The general discussion entails the discussion of the results of Study 1 and Study 2, which are addressed under the subjects Consumers' Experience of E-Mail Pressure, Types of Advertising E-Mails, Detecting E-Mail Pressure Among Consumers, and Consumer Segments and Recommendations.

5.1.1 Consumers' Experience of E-Mail Pressure

In Study 1, consumers' experiences with e-mail pressure were investigated by addressing research questions 1 and 2.

1. *What consumer behaviour indicates consumers are experiencing e-mail pressure?*

Study 1 found that consumers who experience e-mail pressure show it by opening and reading fewer advertising e-mails from a single sender, and eventually by unsubscribing from receiving advertising e-mails. These findings are in line with the conceptual framework of e-mail pressure by Micheaux (2011) where two key indicators of e-mail pressure were identified: unsubscribing from advertising e-mails and reduced consumer engagement with advertising e-mails. Consumers unsubscribe from advertising e-mails when they have had enough of the advertising e-mails they receive. Thus, the moment when consumers unsubscribe reflects the moment when consumers have had enough of the e-mail pressure they are experiencing and are actively trying to reduce their experienced e-mail pressure. This finding emphasizes the need for advertising businesses to be mindful of the e-mail pressure consumers experience, especially when consumers unsubscribe. Advertising businesses can reduce the need for consumers to unsubscribe from receiving advertising e-mails by evaluating and adjusting the e-marketing strategy to align with consumer preferences.

Study 1 confirmed that consumers are aware of their behavioural patterns with advertising e-mails. Consumers who view advertising e-mails from an advertiser as irrelevant or repetitive start to ignore or delete the future e-mails from this advertiser and start to create a negative association with the advertiser. These findings align with Route C in the conceptual framework of e-mail pressure (Micheaux, 2011). When consumers experience e-mail pressure they start to create negative associations with the advertiser, which can be so strong that consumers will not interact with the advertiser again (Thellefsen & Sørensen, 2015). To prevent consumers from creating negative associations with brands due to the number of advertising e-mails they unwantedly receive, companies can be advised to stop sending advertising e-mails themselves.

An approach such as the notifications from the Duolingo app can be taken, notifying the consumer that the brand will stop sending advertising e-mails when the consumer has not been actively engaging with them. According to this study, consumers appreciate this strategy and would be open to buying something from the brand in the future, as this type of communication shows the consumer's well-being is of importance to the brand.

2. How do different types of consumers respond to e-mail pressure, such as by unsubscribing or ignoring e-mails?

Study 1 found that consumers have their own strategies for e-mail management and organization to manage e-mail pressure when receiving an overwhelming amount of advertising e-mails daily. These personal strategies for managing e-mail overload include intensively cleaning e-mail inboxes, ignoring all e-mails, immediately unsubscribing from them, or unsubscribing from all advertisers once a month. Consumers may fall into a pattern of ignoring e-mails from a particular advertiser after having opened previous e-mails and established them as not interesting. These findings are in line with Route A of the conceptual framework of e-mail pressure, shown in Figure 2.1 (Micheaux, 2011). Consumers immediately categorize the incoming advertising e-mail from the advertiser as not relevant, do not open the e-mail, do not unsubscribe, and experience low irritation. Consumers who clean their inboxes do so to keep their inboxes clutter-free and to be able to part advertising e-mails from the more relevant e-mails.

However, some consumers do not experience irritation, frustration, or stress when receiving an overload of advertising e-mails. Thus, not all consumers experience e-mail pressure, which is affected by their e-mail management or organization. Consumers who have a separate e-mail account or inbox, such as the Gmail promotional inbox, experience less to no e-mail pressure as they are in control of when to open and view the advertising e-mail content. Consumers with a Gmail account with a promotional inbox are not constantly confronted with advertising e-mails. As a result, these consumers deal with advertising e-mails in a different way than other consumers. Advertisers should consider the existence of differences in the accepted e-mail frequency between consumers with different e-mail providers, as e-mail providers can affect the amount of e-mail pressure consumers experience.

Overall, the findings regarding how consumers respond to e-mail pressure demonstrate there exist differences between consumers in their behaviour with e-mail pressure and advertising e-mails.

5.1.2 Types of Advertising E-Mails

3. How do different types of e-mails affect consumers' perception of e-mail pressure?

In both Study 1 and Study 2 the types of advertising e-mails were found to play a major role in consumers' experience of e-mail pressure. The findings of Study 1 demonstrated the existence of differences in how distinct types of advertising e-mails affect consumers' perception of e-mail pressure and consumers' preferred frequency of these e-mails. Study 2 proved the type of advertising e-mail consumers last received is related to the number of consumers who unsubscribed, demonstrating that types of advertising e-mails play an important role in e-mail pressure. A detailed overview of the findings of Study 1 and Study 2 regarding which types of e-mails consumers do or do not respond well to are discussed in detail in Section 3.3.1.b and Section 4.4.2.b, respectively.

Some types of e-mails are riskier to send to consumers than others in terms of causing e-mail pressure. Study 1 demonstrated that consumers are protective about the usage of their personal

and behavioural data in e-mails, which is in line with Wattal et al.'s (2012) previous research on personalization in advertising e-mails. In Study 2, it was found that more consumers unsubscribed directly after receiving a browser abandonment e-mail that contained and displayed information about consumers' web behaviour. Thus, advertisers should be careful with sending personalized advertising e-mails based on consumers' personal information or behaviour to consumers, especially to consumers who are not that familiar with the advertiser yet.

In Study 1, post-purchase e-mails were found to increase consumers' perception of e-mail pressure, as these advertising messages are received in addition to regular e-mail messaging about the order. In Study 2, a post-purchase effect was evident as there was a peak in the number of consumers who unsubscribed in the period after purchase. Post-purchase e-mails are received in addition to e-mails about the order, which makes it more difficult for consumers to distinguish post-purchase advertising e-mails from e-mails containing updates and information about the order and it increases the e-mail intensity. Therefore, advertising businesses should be careful with sending advertising e-mails to consumers after they have made a purchase to prevent e-mail pressure and consumers from unsubscribing.

Overall, the findings demonstrate that the content of advertising e-mails plays an important role in consumers' experience of e-mail pressure. Marketers and advertising companies should monitor the effects of different types of advertising e-mails they send to consumers, focusing not only on the number of clicks but also on how many consumers unsubscribe. By adapting the e-mail content to consumers' preferences and needs, consumer engagement can be increased and e-mail pressure among consumers can be decreased.

5.1.3 Detecting E-Mail Pressure Among Consumers

4. How can advertising firms measure consumers' experience of e-mail pressure?

According to the conceptual framework of e-mail pressure by Micheaux (2011) and the findings of Study 1 regarding consumer behaviour with e-mail pressure as discussed in Section 5.1.1, consumers unsubscribing from advertising e-mails is considered a sign of e-mail pressure. Yet, whether customers unsubscribed did not demonstrate the e-mail intensity to which they were exposed. Therefore, the e-mail pressure intensity formula was created to measure the e-mail intensity consumers are exposed to. The formula, as presented in Section 4.3.2, was derived to compute the e-mail pressure intensity. The e-mail pressure intensity provides insight for advertisers into how many unanswered e-mails they send to their customers.

As discussed in Section 5.1.1, consumers who experience e-mail pressure show it by opening and reading fewer advertising e-mails from a single sender, and eventually by unsubscribing from receiving advertising e-mails. The e-mail pressure intensity formula can be used to detect when consumers start engaging less with e-mails. Advertising businesses can measure the e-mail pressure intensity over a period of time and compare this to consumers' previous e-mail pressure intensity scores in a similar time period. If consumers' e-mail pressure intensity score decreases, this can be a sign that consumers are experiencing high e-mail pressure intensity. Advertising businesses can respond to this by lowering the e-mail frequency.

The only consumer activity the e-mail pressure intensity formula takes into account is consumers' click behaviour. Consumers actively interact with advertising e-mails when they click on links. Whereas an e-mail open can only indicate whether the e-mail was opened, not if it was actively read by consumers. Thus, the e-mail pressure intensity per consumer is calculated by the average number of e-mails sent out to consumers that were unclicked per day based on the

total number of e-mails and the time period over which the e-mails were sent.

In this thesis, no general mean or target values for e-mail pressure intensity were specified. Further research can determine what an ideal target value of e-mail pressure intensity is for advertising companies to adhere to.

5.1.4 Consumer Segments and Recommendations

In Study 2, four consumer segments were identified based on consumers' behaviour with e-mail pressure to answer research question 5.

5. What are the consumer segments that can be identified based on consumers' behaviour with e-mail pressure?

Study 2 showed that consumers can be segmented based on consumer behaviour with advertising e-mails and e-mail pressure. Four consumer segments were identified and their corresponding activity and behavioural patterns with advertising e-mails were discussed. The identified consumer groups Passive Repeat Customers, High-Engaging Repeat Customers, New Customers, and Active Explorers are discussed in detail in Chapter 4 in Section 4.4.1.b.

This thesis research highlighted notable differences between consumers in their responses to advertising e-mails and e-mail pressure. The current "one-size-fits-all" e-marketing approach can benefit from adjustments, offering the opportunity to enhance consumer engagement by tailoring e-mail strategies to the needs and preferences of consumer groups. Based on the identified consumer segments, recommendations for the types of advertising e-mails and the frequency of advertising e-mails were constructed to answer research question 6.

6. What recommendations on the types and frequency of advertising e-mails can be given to these identified consumer segments?

Recommendations are given on how to decrease e-mail pressure among consumers and prevent consumers from unsubscribing from advertising e-mails. The provided recommendations are tailored to the e-commerce business whose data was utilized during the data analysis in Study 2. The recommendations include general recommendations for advertising companies listed below and recommendations for the identified consumer groups given in Section 5.1.4.a to 5.1.4.d.

I Focus on E-Mail Quality and Relevancy Instead of Frequency

A higher e-mail frequency is accepted by consumers if the e-mails remain relevant to them. Whereas repetition of e-mail content can lead to consumers no longer reading the e-mails or to consumers experiencing e-mail pressure. Relevant e-mail content, i.e. content that addresses consumers' needs, preferences, and problems, is important to increase customer engagement with the advertising e-mails. It is recommended to send fewer e-mails with content that is considered relevant by consumers, instead of sending too many with repetitive information, as engaging content is crucial for keeping the audience interested.

II Effectively Communicate the Relevancy of E-Mails

Consumers evaluate the relevancy of an e-mail based on the subject line. Consumers experience e-mail pressure when they think an e-mail is relevant to them, but after having put in the effort to read it, find out it is not. Therefore, the usage of specific subject lines that straightforwardly convey the content of the e-mail is recommended such that consumers can more easily

evaluate the relevancy of the e-mail's content.

Additionally, consumers feel valued by commercial businesses when they receive good quality exclusive offers. Whereas when consumers believe they received a valuable or high-discount offer but it turns out not to be as good as expected, they feel tricked by the advertiser. It is recommended to manage consumers' expectations by communicating the exclusive offers and their corresponding value clearly. One good exclusive offer can improve the customer relationship more than sending several smaller exclusive offers.

III Avoid Sending Post-Purchase E-Mails

Currently, many consumers unsubscribe after having made a purchase, thereby limiting their potential lifetime value. Post-purchase e-mails can motivate consumers to unsubscribe from advertising e-mails as they increase the total number of e-mails consumers receive in a short time period after the purchase in addition to the e-mails about their purchase. This leads to an increase in e-mail pressure, which can stimulate consumers to unsubscribe. By decreasing the number of e-mails consumers receive directly after purchase, consumers can be prevented from unsubscribing, potentially increasing their customer lifetime value.

IV Invest in E-Mail Aesthetics for Attention and Reciprocity

Consumers associate high-quality e-mails, which demonstrate visible effort from the marketer and feature appealing aesthetics, with high-quality services. Whereas the repetitive usage of subject lines and standard e-mail templates is viewed by consumers as a lack of effort and, thus, as a lack of care about the customer. It is recommended to put effort into the appearance and presentation of advertising e-mails as it can increase consumers' engagement and initiate reciprocity. Additionally, advertisers can attract attention by varying the e-mail design rather than adhering to uniform templates.

V Make Unsubscribing from Advertising E-Mails as Simple as Possible

Consumers experience extreme irritation when they cannot unsubscribe easily from advertising e-mails, for example when consumers have to login in order to unsubscribe. To ensure that consumers do not create negative associations with the advertiser and stop buying from the brand in the future, it is recommended advertisers make unsubscribing as simple as possible.

5.1.4.a Recommendations for Group 1: Passive Repeat Customers

Passive Repeat Customers were repeat customers who were passively engaging with the advertising e-mails they received. Passive Repeat Customers were subjected to the highest amount of e-mail pressure in terms of e-mail intensity. The unsubscribe rates did not reflect this, but their low engagement with the advertising e-mails they received did. As Passive Repeat Customers are the largest group of consumers, there is a major business opportunity to turn these consumers into more active and loyal customers. The findings regarding the Passive Repeat Customers demonstrate the need for a different approach regarding the advertising e-mails sent out. The following recommendations are given to improve the effectiveness of the current e-mail strategy for Passive Repeat Customers.

I Adjust the Content of the Advertising E-Mails

Currently, the content of the advertising e-mails is not relevant enough for Passive Repeat Consumers to open the e-mails. Thus, advertisers should focus on increasing the relevance of the

advertising e-mails sent to these customers. It may be beneficial to vary the types of content for Passive Repeat Customers to investigate which types of e-mails they respond best to and attract more attention to the e-mails, instead of the current practice of sending the same type of content in the e-mail phases. Passive Repeat Customers often use coupon codes when making purchases, which indicates that they do use the discount codes from the advertising e-mails. Thus, exclusive offer e-mails are of interest to them. Consumers' lower activity with newsletters shows that there is a need for more insight into the customers' needs regarding this type of e-mail. By conducting a survey study or by inviting consumers to participate in a session to talk about the newsletters they receive from the e-commerce business, more insights can be gained into how to improve the current newsletters to meet consumers' expectations. Alternatively, advertisers can lower the e-mail frequency to avoid repetition of the content and to increase the relevancy.

II Lower the E-Mail Frequency

Passive Repeat Customers have too little interaction with the advertising e-mails in comparison to the current e-mail frequency. Consumers prefer to receive one advertising e-mail every two weeks from their favourite brands and fewer for their least favourite brands, see Section 3.3.1.b. The current e-mail frequency of the e-commerce business is substantially higher. The e-mail frequency can be reduced by applying a pulsing strategy that varies between sending one e-mail every two or three weeks, instead of sending multiple e-mails a week. The pulsing strategy was found to be effective in terms of customer engagement with the advertising e-mails (De Paauw, 2023). Advertising companies can apply this strategy and compare its effectiveness to their current strategy by means of an A/B test.

III Stop Sending Advertising E-Mails to Inactive Consumers

Consumers value it when advertising companies lower the e-mail frequency or stop sending advertising e-mails when they notice that consumers are not responding, as discussed in Chapter 3 in Section 3.3.1.a. When consumers keep receiving advertising e-mails from one sender which they do not interact with, consumers start creating negative associations with these brands. These negative associations can be so strong that consumers will avoid the advertiser in the future (Thellefsen & Sørensen, 2015). Therefore, advertising businesses should stop sending e-mails to consumers who are not interacting with them.

5.1.4.b Recommendations for Group 2: High-Engaging Repeat Customers

High-Engaging Repeat Customers were the most loyal group of customers identified, in terms of the number of purchases. These customers were actively engaging with the advertising e-mails they received and only a small number of the High-Engaging Repeat Customers unsubscribed from receiving advertising e-mails. The current e-mail strategy may have been the most effective for High-Engaging Repeat Customers. From a business viewpoint, it is important to keep these consumers satisfied as they are the most loyal customer group and account for the most purchases. The following recommendations are given based on the findings for High-Engaging Repeat Customers such that their needs regarding advertising e-mails in terms of content and frequency are met.

I Reward and Leverage Consumers' Loyalty

The offering of exclusive promotions, special rewards, or personalized surprises may incentivize High-Engaging Repeat consumers to continually engage with the advertising e-mails and to further increase their loyalty to the brand as they often shop with discount codes. A rewards

program that offers credits for every purchase or interaction could help reward this group of consumers who are responsible for a large part of the purchases. Rewards from loyalty programs can motivate consumers to make more frequent purchases with the company due to a feeling of reciprocity (Kumarand & Shah, 2004). Based on consumers' preferences for discounts, rewards that are relevant to consumers can be chosen. The reward credits could, for example, be redeemed for discounts or complimentary gifts. A rewards program could not only build long-term loyalty for High-Engaging Repeat customers but could also be effective in encouraging new customers to become loyal customers.

II Prioritize Sending E-Mails with Popular Discount Codes

It is recommended to investigate which exclusive offers and coupon codes resonate with High-Engaging Repeat customers. These consumers often browse the website without making a purchase and use coupon codes during a purchase. Therefore, the types of discounts that appeal most to them should be identified. By decreasing the number of advertising e-mails sent with less popular discount codes, the e-mail frequency can be reduced. In addition, including coupon codes that appeal to High-Engaging Repeat consumers may convey them to make a purchase and can be used to show appreciation for their loyalty.

III Lower the E-Mail Frequency

The current e-mail frequency is too high, considering the moderate e-mail pressure intensity for High-Engaging Repeat consumers despite their engagement with the advertising e-mails. Consumers' preferences lean towards receiving one e-mail every two weeks from their favourite brands, as presented in Section 3.3.1.b. The current e-mail frequency is substantially higher. Therefore, it is recommended that the e-mail frequency is reduced. This can be achieved by excluding the advertising e-mails with less popular discount codes as discussed in Recommendation II.

Notably, High-Engaging Repeat Customers are the least likely to unsubscribe. These consumers may have gotten used to the e-mail frequency and, therefore, are less bothered by receiving a large volume of e-mails. On the other hand, High-Engaging Repeat Customers are the most loyal customers who make frequent purchases and, thus, are important to the business. Therefore, it is important to prevent these consumers from unsubscribing due to the current e-mail frequency.

5.1.4.c Recommendations for Group 3: New Customers

New Customers are consumers who made a purchase for the first time. New Customers were inactive with the advertising e-mails they received. In addition, there is a concerning trend as a significant share of New Customers are unsubscribing from receiving advertising e-mails. From a business perspective, this is a missed opportunity as the loss of e-mail contact with New Customers may have prevented these customers from turning into long-term customers, thereby limiting their potential lifetime value. The findings regarding New Customers indicate the current e-mail strategy is not meeting New Customers' needs and is causing e-mail pressure. Thus, there is a need for a distinct e-mail strategy for New Customers. The following is recommended for advertisers to take the next step towards a new e-mail strategy for New Customers that encourages new customers to actively engage with the content.

I Investigate what E-Mail Content is Relevant to New Customers

New Customers do not actively engage with the advertising e-mails they receive, implying that the content is not relevant to them. The retention and reactivation phases do not appear to work effectively for New Customers as many New Customers move into these phases. To ensure that fewer New Customers unsubscribe, it is necessary to further investigate which information and types of e-mails new customers find relevant, given that the current e-mails are not often opened or interacted with. One of the opportunities to increase the relevancy of the e-mails and build a relationship between the brand and new customers is the introduction of a rewards program, as discussed in Recommendation I for Group 2.

II Lower the E-Mail Frequency

New Customers have too little interaction with the advertising e-mails compared to the number of e-mails they receive. In addition, New Customers do not yet have a relationship with the advertising company when they make their purchase. Consumers who are more familiar with the advertising company or have high brand loyalty are more accepting of a higher e-mail frequency than those who are not (Wattal et al., 2012) (Merisavo & Raulas, 2004). Thus, advertisers should lower the number of e-mails they send to new customers, because advertisers still need to build a relationship with new customers.

Additionally, advertisers should focus on increasing the relevance of the advertising e-mails sent to New Customers. If both the content is irrelevant to consumers and the frequency is high, many New Customers may unsubscribe from receiving advertising e-mails, resulting in a loss of contact between the advertiser and the consumer. In other words, the relationship between the advertiser and the consumer can be harmed by retaining to a high e-mail frequency.

III Avoid the Explicit Usage of Personalization

Advertisers should avoid sending New Customers personalized e-mails where the usage of personalization is explicit or is based on personal information. Consumers who are less familiar with the advertiser, such as New Customers, are less open to the explicit usage of personalization in advertising e-mails based on personally identifiable information. Thus, advertisers should stop their current practice of sending advertising e-mails with explicit personalized content, such as cart abandonment and browser abandonment e-mails, to new customers.

5.1.4.d Recommendations for Group 4: Active Explorers

Active Explorers were the most actively engaging with the advertising e-mails they received. Active Explorers were subjected to the lowest amount of e-mail pressure in terms of e-mail intensity. Despite showing signs of high engagement and being subjected to low e-mail pressure, many Active Explorers are unsubscribing. This is a missed opportunity as the e-mail contact with an active group of consumers is lost, which can hinder long-term consumer engagement. It raises the question if the current e-mail strategy is meeting Active Explorer's needs or if it is harming their relationship with the advertiser. Based on the findings of the Active Explorers the following recommendations are given to help identify what next steps can be taken to prevent Active Explorers from unsubscribing and to turn them into loyal customers.

I Examine the Effectiveness of Retention and Reactivation phases

Active Explorers are interacting less with retention and reactivation e-mails compared to newsletters. Half of the Active Explorers that unsubscribed did so during the retention phase. If

most consumers unsubscribed in the transition from the newsletter to the retention phase, this would indicate that the content of the retention e-mails may not meet consumers' expectations. Whereas if consumers unsubscribed after receiving multiple retention e-mails, consumers may have unsubscribed due to a general feeling of e-mail pressure. Therefore, it is recommended to further analyze the moment when consumers unsubscribed in greater detail such that the retention and reactivation phases can be adjusted accordingly.

II Re-evaluate the Relevancy of the E-Mail Content for Active Explorers

More targeted and relevant content for Active Explorers should be sent to decrease the unsubscribe rate. Active Explorers actively interact with the received e-mails, underlining the importance of providing relevant content rather than focusing solely on the e-mail frequency. Advertisers should avoid sending the type of e-mail content that many Active Explorers unsubscribed from and investigate which types of content they engage with.

III Investigate Consumers' Reasons for Unsubscribing

Many Active Explorers unsubscribed, thus it is important to investigate how to adjust the e-mail strategies to ensure that Active Explorers do not unsubscribe in the future. A better understanding of how Active Explorers engage with advertising e-mails is needed to assess whether the current content and frequency meet their expectations. This can be further investigated by analyzing the replies to the short questionnaire which are prompted when unsubscribing from receiving advertising e-mails from the business.

5.2 Limitations

The findings of this thesis research have to be seen in light of some limitations. The limitations regarding the methods of Study 1 and Study 2 are discussed in more detail in Sections 3.3.2 and 4.4.3, respectively. The main limitations of the thesis research were as follows.

The first main limitation was the absence of a direct link between the participants involved in focus group Study 1 and the consumers whose data was analysed during Study 2. In an ideal research setting, the participants in the focus group would have been customers from the e-commerce business such that more targeted qualitative insights could have been collected about the e-commerce business. However, due to the limited availability of participants for Study 1, convenience sampling was used to select participants based on their accessibility and availability. As a result, the focus group findings may hold bias and cannot be generalized to the entire population. Additionally, the opportunity to directly synthesize the findings between the focus group and data analysis studies by selecting participants who were customers of the e-commerce business was missed.

The second main limitation of the research was the narrow scope of the data analysed in Study 2. The data used in Study 2 consisted of data from an e-commerce business in a single domain. This raises concerns about the generalizability of the findings to other e-commerce businesses and domains. The unique characteristics and context of the specific domain of the e-commerce business may include biases that do not reflect the broader business industry. In addition, the practical applications derived from the findings of the consumer group segmentation may not apply to other domains. Therefore, the results of this research should be applied to different industries or business contexts with caution.

5.3 Implications for the Industry

The thesis research had the following implications for the industry. Firstly, indicators of e-mail pressure in consumer behaviour were found. These indicators can be used by advertising companies to detect e-mail pressure occurring among their customers. This allows advertising companies to adjust their e-mail frequency and strategies accordingly so that consumers experience less e-mail pressure and do not unsubscribe from future e-mails.

This thesis highlights the differences among consumer groups in consumers' behaviour with advertising e-mails. Variations in consumers' behaviour with advertising e-mails were found among consumer groups, implying that a one-fits-all e-mail strategy may not be effective. By personalizing the frequency and content of advertising e-mails to meet the preferences and needs of distinct consumer groups, advertising companies have the opportunity to decrease consumers' e-mail pressure by increasing the relevance of their e-mail campaigns. Future research is needed to explore the impact and benefits of consumer segment-specific e-mail strategies in terms of improved business outcomes.

Overall, the thesis study demonstrated the opportunity for the industry to shift its focus towards a more customer-centric approach in e-mail marketing. Recommendations for steps to be taken by advertising companies to avoid overwhelming consumers with too many or irrelevant e-mails were given. By focusing on how advertising e-mails can serve consumers rather than on product promotion, advertising companies can prevent consumers from creating negative associations with the advertiser and from unsubscribing from advertising e-mails.

5.4 Future Work

The study provided insights into consumer behaviour with e-mail pressures, consumers' attitudes towards advertising e-mails, and the segmentation of consumer groups. Based on this thesis research, further exploration of the following topics can be investigated in the future.

Firstly, given the limited scope of data in this study, future research should apply the segmentation method to consumer data from other domains. Further research using data from different domains could validate the relationships found in this study, increase their generalizability, and offer valuable insights into the applicability of segmentation techniques with e-mail pressure across diverse industries.

Secondly, during this research, the e-mail pressure formula was created to measure the e-mail intensity consumers are subjected to and segment consumer groups. Further research needs to determine what an ideal target value of e-mail pressure is for consumers, such that advertisers have a guideline they can adhere to. In addition, future work can confirm if the formula for e-mail pressure is an accurate representation of the e-mail pressure consumers experience, for example, by sending out a survey to measure consumers' perception of e-mail pressure and compare the results to those of the e-mail pressure formula.

Future research can explore how advertisers can stop sending advertising e-mails themselves to consumers who stopped interacting with the e-mails. This approach can be taken to prevent consumers from creating negative associations with brands due to the number of advertising e-mails they unwantedly receive. A follow-up study can examine the impact of employing a strategy where advertisers stop sending advertising e-mails to consumers who are not responding and identify best practices.

Lastly, there is an opportunity for future research in designing a solution for reducing e-mail pressure among consumers as most previous work solely focused on analyzing consumers' behavioural data. More specifically, future work can explore how consumers themselves can indicate their preferred e-mail frequency when they are experiencing e-mail pressure, when they receive too many e-mails, or when the content does not appeal to them. By doing so, advertisers can take this feedback into consideration and adjust the e-mail content and frequency to meet consumers' needs.

6 CONCLUSION

The aim of this thesis was to investigate how e-mail pressure can be identified, understand consumers' perception of e-mail pressure by exploring their behaviour and responses to e-mail pressure and different types of advertising e-mails, and identify different consumer segments. Two studies were conducted to synthesize consumers' perceptions of e-mail pressure and consumer behaviour. Study 1 investigated consumers' experiences and behaviour with e-mail pressure, and how different types of advertising e-mails affect consumers' perceptions of e-mail pressure. The results of Study 1 confirmed that consumers who experience e-mail pressure show it by opening and reading fewer advertising e-mails from a single sender, and eventually by unsubscribing from receiving advertising e-mails from the sender. Furthermore, Study 1 demonstrated that differences exist between types of advertising e-mails that affect consumers' perception of e-mail pressure and the preferred frequency of these e-mails. The second study investigated how consumer segments can be identified based on consumer behaviour with advertising e-mails and e-mail pressure. Four distinct consumer groups were identified and the results of Study 2 demonstrated that there exist differences between consumer groups in consumer behaviour with advertising e-mails and e-mail pressure. Moreover, the identified consumer groups confirm that consumers differ in how actively they engage with advertising e-mails and with which types of e-mail content. Furthermore, Study 2 proved that consumers were more likely to unsubscribe directly from certain types of advertising e-mails. The results of Study 1 and Study 2 highlight the existence of differences between consumers in their behaviour with advertising e-mails and e-mail pressure. Consumers were found to be more likely to unsubscribe from automatic, retention, retargeting, and browser abandonment than other e-mails. Additionally, a post-purchase effect was identified, indicating a notable increase in consumers unsubscribing during the period following purchase. The findings of this thesis research enable commercial businesses to identify e-mail pressure occurring with their consumers. Based on the findings of Study 1 and Study 2, recommendations on adjusting the frequency and content of advertising e-mails for different consumer groups were given to enable commercial businesses to prevent e-mail pressure from occurring among their customers.

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A STUDY 1: INFORMATION LETTER FOCUS GROUP

Purpose of the Research

You are invited to participate in a focus group study on consumers' perceptions of advertising e-mails, which is being conducted as part of a thesis research project at the University of Twente. The purpose of this study is to create a better understanding of what people expect from advertising e-mails and how they respond to advertising e-mails.

Overview of the Session

If you agree to participate, you are asked to sign the informed consent form before the start of the focus group session. You will be invited to take part in an online Microsoft Teams focus group session about the research topic with the named researcher and other participants. The focus group will involve a small group of participants who will be asked to discuss their experiences with advertising e-mails. The group discussion will last approximately 60 minutes and will be moderated by the researcher. The audio and video of the focus group session are recorded with your permission.

Withdrawal from the Study

The focus group session requires voluntarily participating in the study. You are allowed to refuse to answer questions. You can withdraw from the study during the focus group session at any time, without having to give a reason. You have up until 24 hours after the interview to withdraw and we will destroy the recordings and transcripts of the interview.

Benefits and Risks of Participating

There are no risks in participating in the focus group session. The research project has been reviewed and approved by the Ethics Committee Information and Computer Science.

Data Collection

During the focus group session, the following personal data will be collected from you: name, audio recording, and video recording. The audio and video files will be destroyed after the transcript has been made. Your data will be stored securely following the GDPR rules in the University of Twente's Microsoft database. A paper about the results of the study will be published publicly in the online library of the University of Twente and Aalto University. The results will be accessible by anyone. We may use your specific answers in the paper and ask for your permission for this.

Data Access

Only the researcher and supervisor will have access to the full data. The audio and video files of the transcription will be destroyed once the focus group session has been transcribed. The retention period for the research data is 10 years. The recorded data is archived but will not be used for future research and learning.

Contact Information for Questions about Your Rights as a Research Participant

If you have questions about your rights as a research participant, or wish to obtain information, ask questions, discuss any concerns about this study with someone other than the researcher(s), or wish to file a complaint, please contact the Secretary of the Ethics Committee Information & Computer Science: ethicscommittee-CIS@utwente.nl

Contact Information for Questions about the Research

If you have any questions or wish to obtain information about the research, please contact the researcher.

Researcher: Marleen van Gent, j.m.vangent@student.utwente.nl

Supervisor: Randy Klaassen, r.klaassen@utwente.nl

C STUDY 1: RESEARCH GUIDE FOCUS GROUP

C.1 Welcome

Thank you all for agreeing to take part in this focus group. I appreciate your willingness to participate. I'll start by introducing myself; my name is Marleen and I'm an intern at Building Blocks working on my graduation project. I will be moderating this session.

C.2 Purpose of the Focus Group

The reason we are having these focus groups is to learn more about consumers' perceptions of advertising e-mails. We need your input and want to learn more about your experiences, opinions, and honest and open thoughts with us.

C.3 Ground Rules

Before we start, did you all sign the informed consent form and read the information letter? During this session, I will ask you some questions about your experiences with advertising e-mails. Please note that we would like you to do the talking. We would like everyone to participate. I may call on you if I haven't heard from you in a while.

There are no right or wrong answers to the questions I will pose. Everyone's experiences and opinions are important. Speak up whether you agree or disagree. We want to hear a wide range of opinions and experiences.

Lastly, we want to capture everything you have said. Therefore, we will be audio and video recording this session. These recordings will only be accessible by me and will be deleted once a complete transcript has been made. We won't share your names with anyone and you will remain anonymous.

Do you have any questions before we start?

Is it okay with you if I start the recording?

C.4 Demographic Questions

1. Which gender do you identify with?
2. What is your age?

C.5 Icebreaker

How many advertising e-mails do you think you receive on average per week? An estimate is okay. Thank you for the answers. Now I'll give those of you who have their phone with them the opportunity to open your mailbox and check how many advertising e-mails you actually received the past few days. How many did you count? How do you feel about this number?

C.6 Questions

1. Can you describe a time when an advertisement e-mail made you happy or excited?
2. Can you describe a time when an advertisement e-mail made you angry or frustrated?
3. Have you ever felt like you receive too many advertising e-mails from one brand or advertiser? Can you explain why you feel this way? Follow-up: How did you cope with this? How did this influence the way you feel about the brand?
4. Can you describe a time when you unsubscribed from advertising e-mails from a brand? Why did you do this?

C.7 Sorting Task

Description of Task Participants are presented with a list of different types of marketing e-mails (e.g., new product announcements, sales mail, personal discount, standardized and personalized newsletters, etc.) and asked to rank them in order of which e-mails they are most excited to receive for their favorite and least favorite brand that sends them advertising e-mails.

As a follow-up question, if there is enough time left for this question, the participants may be asked to assign an ideal frequency to each type of advertising e-mail and may be asked to explain why the participant would like to receive this type of e-mail with the assigned frequency.

Questions via Polls

5. Which types of advertising emails do you prefer to receive from your most favourite brand that you receive advertising e-mails from?
 - (a) Follow up: How often would you like to receive these types of mails from your most favourite brand that sends you advertising e-mails?
6. Which types of advertising emails do you prefer to receive from your least favourite brand that you receive advertising e-mails from?
 - (a) Follow up: How often would you like to receive these types of mails from your least favourite brand that sends you advertising e-mails?

Types of marketing e-mails to sort

- Newsletters: These are regular emails that contain updates, news, and information about a company or its products or services.
- Personalized newsletters: newsletters e-mails that contain updates, news, and information about a company or its products or services based on your data and purchase history.

- **Personalized Recommendation Emails:** These are emails that use your data and purchase history to recommend products or services that are tailored to your interests and needs.
- **Post-Purchase Emails:** These are sent to you after you have made a purchase, to thank you, request feedback, or offer related products or services.
- **Cart Abandonment Emails:** These are a series of automated emails that are sent after you have abandoned your cart on the website, reminding you of the items you left behind and offering incentives to complete the purchase.
- **Exclusive Offer Emails:** These are emails that offer exclusive discounts or promotions to a select group of customers, such as loyal customers.
- **Product Launch Emails:** These are emails that are sent out to announce the launch of a new product or service.
- **Birthday or Anniversary Emails:** These are emails that are sent to you to celebrate your birthday or anniversary with the business, offering you a special promotion or gift.

C.8 Debriefing

Those were all the questions I wanted to ask you today. Thank you all for taking the time to participate in this focus group. Your insights and opinions have been invaluable in building an understanding of how consumers perceive advertising e-mails and how we can avoid spamming and annoying consumers.

I greatly appreciate your willingness to share your thoughts and ideas. If you have any further feedback or questions, please feel free to reach out. If you want to receive an update of the final findings of this research, please let me know. Again, thank you for your participation and valuable contribution.

Additional Probes

General Probes

- Is there anything else you would like to say about...?
- What are the pros and cons of...?
- How do you feel about...?
- Can you tell more about that?
- How did that make you feel?
- Can you give an example?
- Can you explain further?
- Help me understand what you mean / What do you mean by that?
- Have you had any personal experiences with this situation?
- How would you handle this situation?
- Can you think of any alternatives?

Talkative Participant

- Thank you. What do other people think?
- Let's have some other comments.
- Thank you for sharing your thoughts, but I want to make sure we hear from everyone. Let's hear from another participant now.

Quiet Participant

- *Name*, what do you think about this?
- *Name*, what are your thoughts on this topic?
- *Name*, you mentioned earlier that you had experience with this issue. Can you tell us more about your perspective?
- That's a great point, *name*. Can you expand on that and tell us more about why you think that?
- Thank you for sharing that, *name*, I appreciate your contribution to the discussion.

D STUDY 1: DEMOGRAPHIC STATISTICS

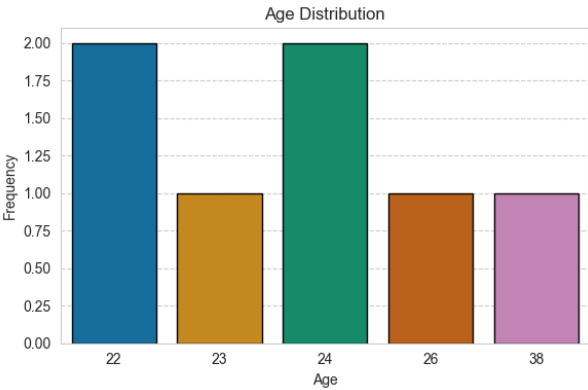


Figure D.1: Distribution of the Participants' Ages

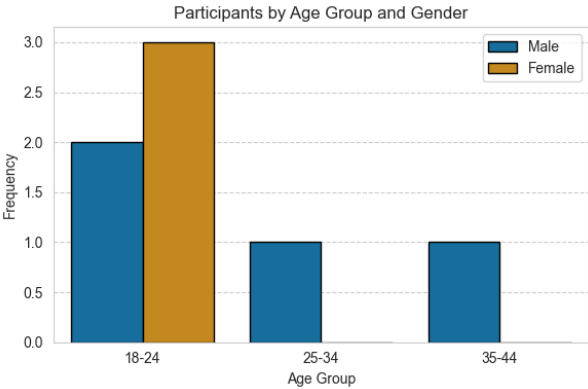


Figure D.2: Distribution of the Participants' Gender and Age Groups

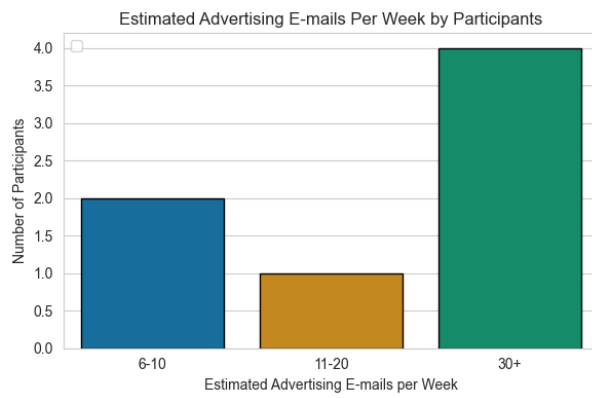


Figure D.3: Distribution of Number of Advertising E-Mails Participants Receive on Estimate

E STUDY 1: THEME AND CODE FREQUENCIES

Table E.1: Codes with Frequencies for Theme 1: E-mail Management & Organization

Code	Session 1	Session 2	Total
Acceptance	0	1	1
Advertising E-mail Solution	0	0	0
Advertising E-mails on Work E-mail	2	0	2
Check Inbox	3	2	5
Coping	0	4	4
Disinterest / Indifferent	11	9	20
Dismissive	0	1	1
E-mail Management and Organization	2	5	7
Functional Shopper	2	0	2
Gmail Extension	3	0	3
Ignore	0	8	8
Junk	2	0	2
Keep E-mails Unread	1	5	6
Never Unsubscribe	2	1	3
No Notification	2	0	2
Notification	4	0	4
Not Unsubscribed	2	1	3
Personal E-mail Account	2	0	2
Phishing	0	3	3
Separate E-mail Account	5	0	5
Separate Inbox	4	2	6
Spam	0	1	1
Spam Folder	0	5	5
Unsubscribe	12	8	20
Work E-mail	2	0	2
Total	61	56	117

Table E.2: Codes with Frequencies for Theme 2: E-mail Pressure

Codes	Session 1	Session 2	Total
Actual Number of Advertising E-mails	3	2	5
Annoyance	12	16	28
Bad Timing	2	1	3
Detest Advertisements	2	0	2
Disappointment	0	3	3
Dishonest	1	0	1
Distrust / Skepticism	3	3	6
E-mail Overload	8	17	25
Estimated Advertising E-mails per Week	4	3	7
Frequency	20	15	35
Least Favourite Brand	8	3	11
LinkedIn	3	1	4
Privacy	5	0	5
Repetition	7	0	7
Timing	6	1	7
Total	84	65	149

Table E.3: Codes with Frequencies for Theme 3: Valuable

Codes	Session 1	Session 2	Total
Attention	0	1	1
Attention-grabbing Techniques	0	1	1
Excited	5	5	10
Favourite Brand	2	7	9
Not Prosperous	0	1	1
Perceived Effort	0	1	1
Personalization	7	2	9
Positive	3	0	3
Quality of Content	7	16	23
Reminder	0	4	4
Shallow Communication	1	0	1
Subject Line	0	3	3
Value of Content	0	4	4
Total	25	45	70

Table E.4: Codes with Frequencies for Theme 4: Brand Impression

Codes	Session 1	Session 2	Total
Adding Value	0	1	1
Aesthetics	7	3	10
Brand	1	1	2
Brand Impression	1	4	5
Cheap	0	2	2
Customer Appreciation	0	1	1
Pattern	0	2	2
Prosperous	0	4	4
Stop Sending E-mails	3	3	6
Total	12	21	33

Table E.5: Codes with Frequencies for Theme 5: Advertising E-mail Types

Codes	Session 1	Session 2	Total
Birthday or Anniversary E-Mails	2	1	3
Cart Abandonment	6	4	10
Discount Code or Presale Code	3	8	11
E-mail Length	0	2	2
Exclusive Offer	9	5	14
Newsletter	10	6	16
Personal Recommendation	4	1	5
Personalized Newsletter	6	3	9
Product Launch	2	2	4
Software	1	0	1
Total	43	32	75

F STUDY 2: CLUSTERS PCA COMPONENTS

Table F.1: Principal Components Means per Consumer Group

Group	Component 1	Component 2	Component 3	Component 4	Component 5
1	-0.88	-0.14	0.14	-0.15	-0.30
2	0.76	-1.35	-0.26	-0.01	0.30
3	-0.10	2.05	0.09	0.47	1.09
4	2.81	1.23	-0.22	0.16	-0.85

Figure F.1: Plots of the Clusters and Principal Components of Component 1 and Component 2, Component 3, Component 4, Component 5

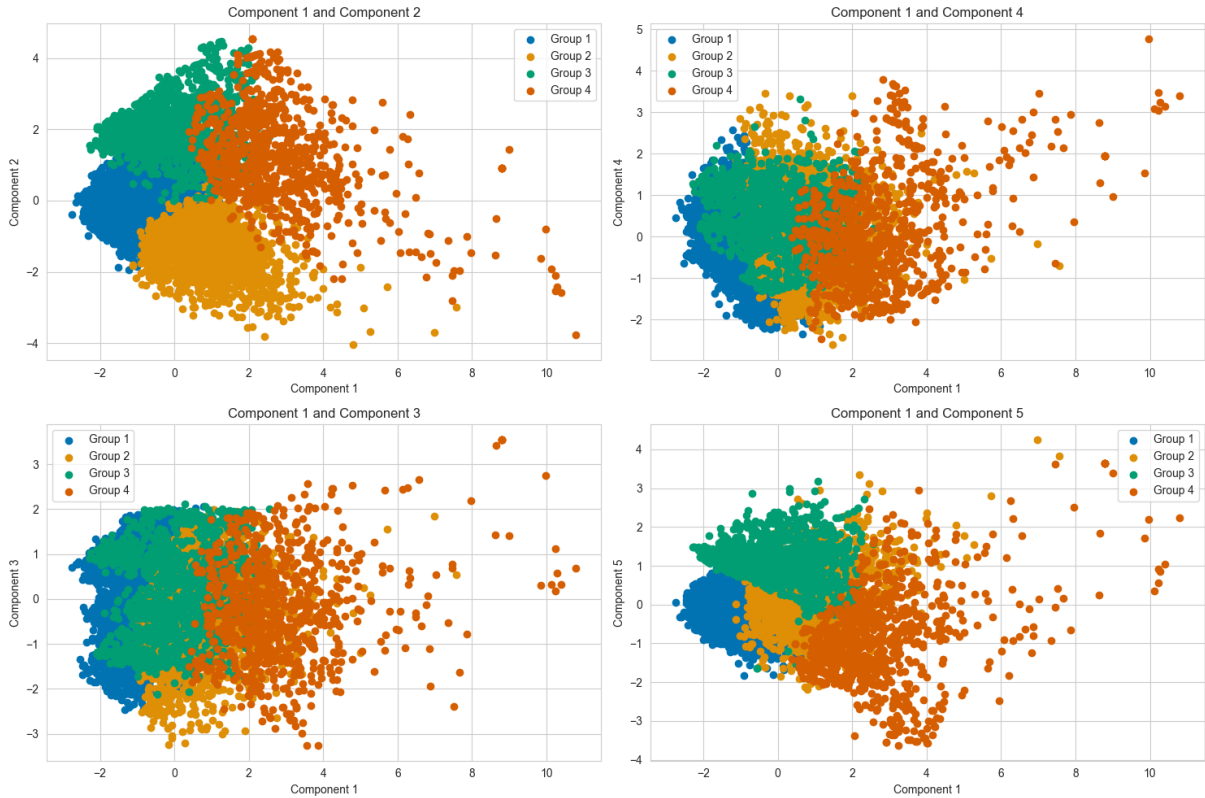


Figure F.2: Plots of the Clusters and Principal Components of Component 2 and Component 3, Component 4, Component 5 & between Component 4 and Component 5

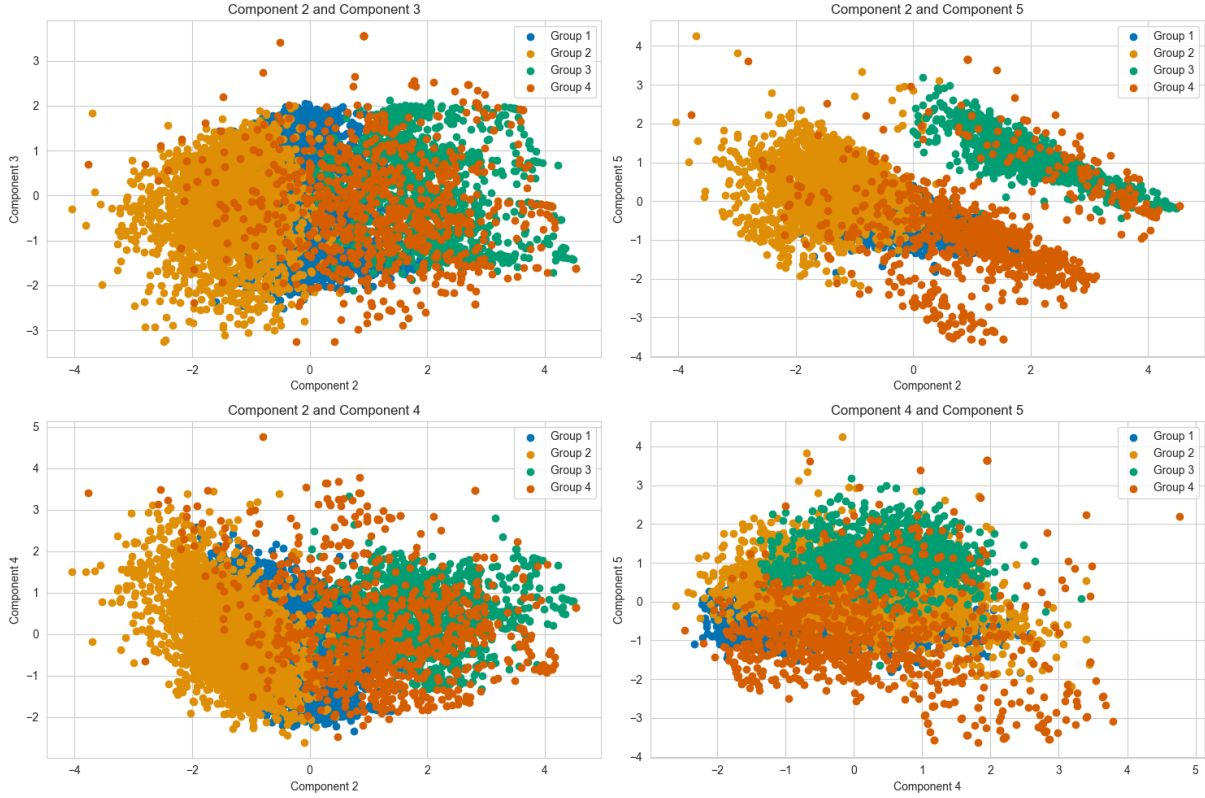
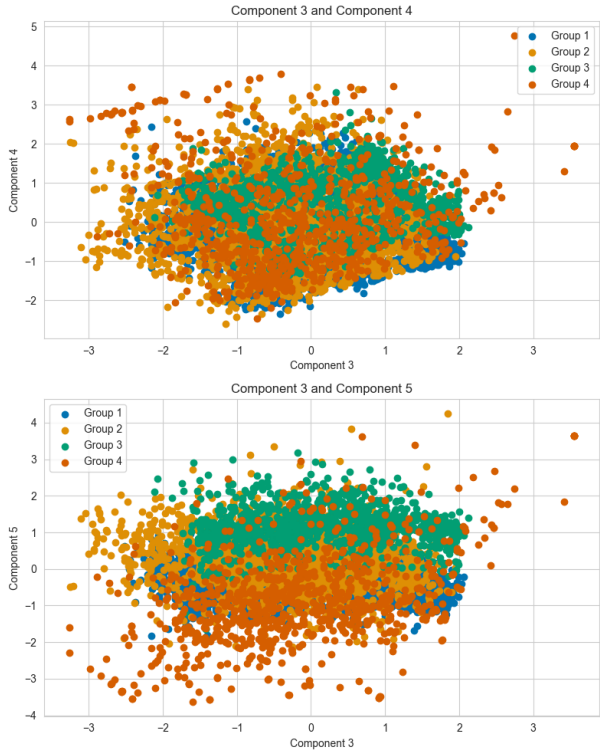


Figure F.3: Plots of the Clusters and Principal Components of Component 3 and Component 4, Component 5



G STUDY 2: DISTRIBUTIONS OF THE VARIABLES USED FOR CONSUMER SEGMENTATION

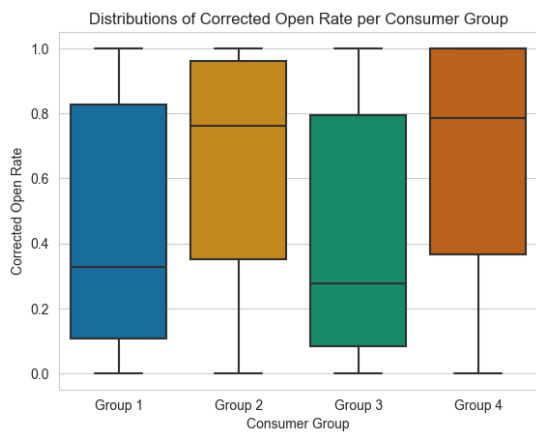


Figure G.1: Distribution of Corrected Open Rate (COR) per Consumer Group

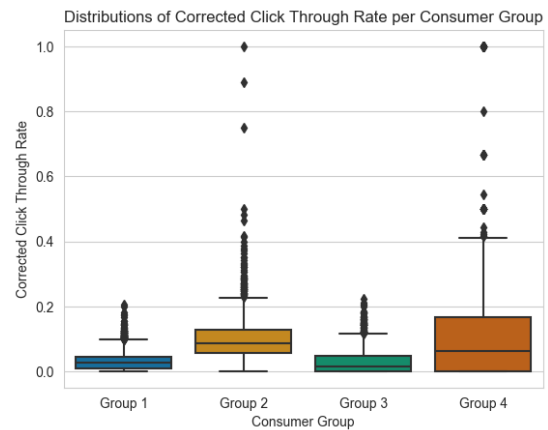


Figure G.2: Distribution of Corrected Clickthrough Rate (CCTR) per Consumer Group

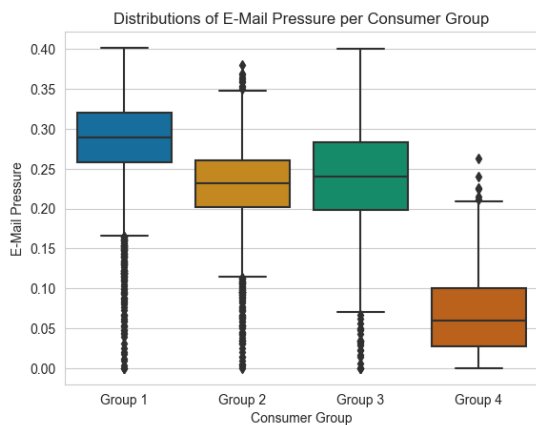


Figure G.3: Distribution of E-Mail Pressure per Consumer Group

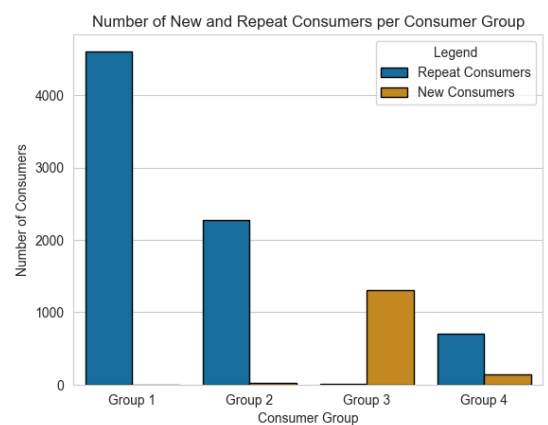


Figure G.4: Number of New and Repeat Customers per Consumer Group

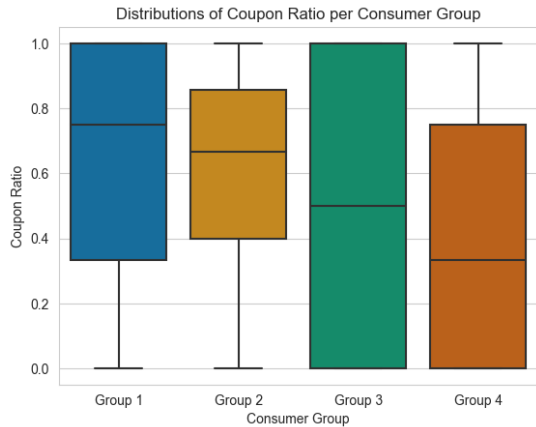


Figure G.5: Distribution of Coupon Ratio per Consumer Group

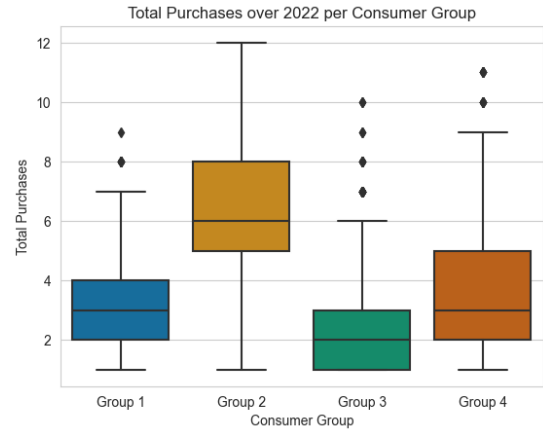


Figure G.6: Distribution of Total Purchases over 2022 per Consumer Group

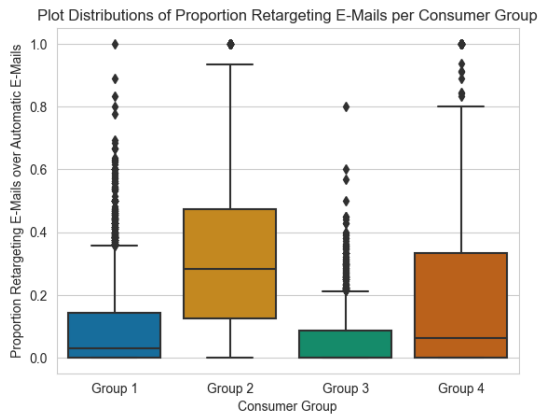


Figure G.7: Distribution of Proportion of Retargeting E-Mails over Automated E-Mails per Consumer Group

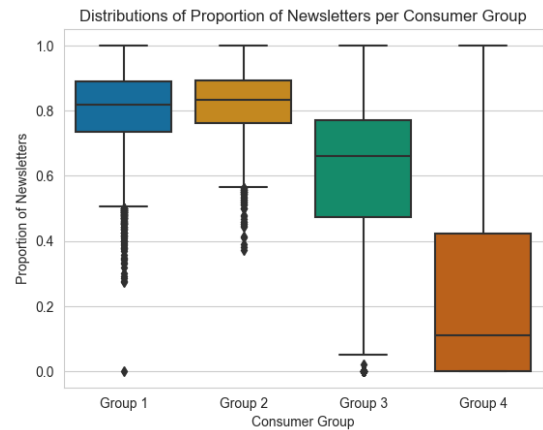


Figure G.8: Distribution of Proportion of Newsletters per Consumer Group

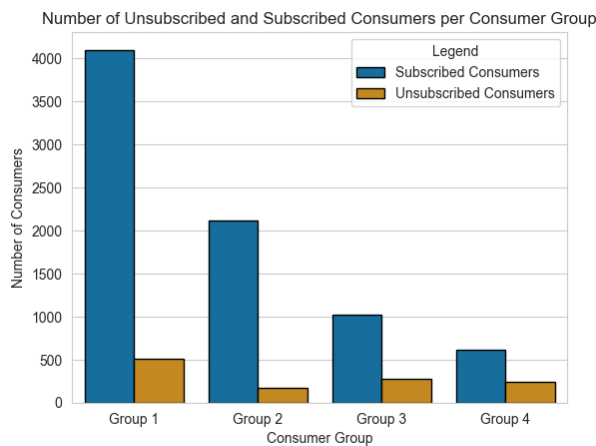


Figure G.9: Overview of the Subscribed and Unsubscribed Consumers per Consumer Group