

The Creator Effect

A quantitative study of the impact on consumer perceptions and judgements
when exposed to an AI-created advertisement

Artificial intelligence is expected to disruptively change the future of marketing, and the benefits of the technology are widely known. However, despite a general skepticism around AI, there is still a lack of research investigating consumer perceptions in the field. By combining the research fields of signaling theory and the machine heuristic through the MAIN model, this thesis aims to contribute to the research body by understanding how AI as an advertisement creator may impact the consumer perceptions of creativity, spending and effort, as well as the consumer judgements of ad attitude, brand attitude and brand trust. Moreover, this thesis aims to test emotional message appeal as a moderating factor in forming consumer judgements when exposed to an advertisement portrayed as being created by AI. Through an experiment, this thesis provides significant support that an advertisement created by AI signals low advertising spend and effort, as well as generates a less favorable ad attitude, brand attitude and brand trust, compared to an advertisement created by a human. However, no significant results could be established in regard to creativity perception or the moderating effect of message appeal. To conclude, these findings indicate that there may be negative effects when employing AI to create advertisements, which further pose important theoretical and managerial implications.

Keywords: artificial intelligence, AI, advertising, consumer perceptions, advertising outcomes, the machine heuristic, signaling theory

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Foreword

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1. Introduction

The influence of Artificial Intelligence (hereinafter referred to as AI) in business is increasing immensely, and the applications of the disruptive technology are many and varied. One area in which AI is known to be applied is content creation. Some examples of where AI has been shown to be involved in the production process are music production, the art world and news publishing. This thesis will investigate its application in the marketing domain, where AI can be used to create advertisements. Despite the potential of AI-created content in advertising, there is still little research investigating the intersection of AI content creation and its application in marketing. There especially exists a gap related to how consumer perceptions of the creator affect their perception and judgements of the content. This thesis therefore intends to explore this creator effect in order to understand the consumer perspective regarding the use of AI-generated advertisements.

1.1 Background

The roots of AI can be traced back to the 1950's, when Alan Turing invented the Turing Test to identify intelligence in an artificial system (Haenlein & Kaplan, 2019). During this decade, the term "Artificial Intelligence" was also coined for the first time at the Dartmouth Summer Research Project on Artificial Intelligence (DSRPAI). Since then, both success and criticism of AI have followed (Haenlein & Kaplan, 2019), and many years later, three-quarters of surveyed executives believe that AI will substantially transform their companies within the following years (Davenport & Ronanki, 2018). This belief is further reflected in statistics revealing that global corporate AI investments have increased more than 700% since 2015 and amounted to 93,5 billion USD in 2021 (Statista, 2023).

Researchers have presented multiple definitions of AI throughout the years. Shankar (2018) refers to AI as "programs, algorithms, systems and machines that demonstrate intelligence" (p. vi) whereas Chen, Chan-Olmsted, Kim, and Mayor Sanabria (2022) states that AI is "the technology that enables machines to learn from experiences and perform human-like functions" (p. 126). In this thesis, the definition of Sundar (2020) is used. He connects AI to machine learning and says that while "[m]achine learning is the ability of computing technology to identify patterns from data and infer underlying rules" (p. 75), AI instead is described as "the

autonomous application of these rules by a system for adaptively achieving specific goals” (p. 76).

The different definitions further reflect the many possible usage areas of the technology. One of the areas where the significance of AI is increasing is marketing. This is emphasized in research as multiple literature reviews and an increasing number of articles have been published lately focusing on the topic (Mariani, Perez-Vega & Wirtz, 2022; Wu, Dodoo, Wen, & Ke, 2022). From a practitioner standpoint, there are also significant incentives to reap the benefits of AI in marketing. According to Davenport, Guha, Grewal and Bressgott, (2020), implementing AI technologies in the marketing operations can enable both an increase in revenues due to improved marketing decisions and a decrease in costs due to automation of tasks. Because of the possible benefits, AI has been integrated in all aspects of the marketing process (Wu & Wen, 2021).

Previously, AI has mostly been used for tasks such as data analysis and has been less commonly applied in the creative aspects of the process (Statista, 2019). This, however, is on the verge of changing as more recent developments with AI allow the technology to generate images and write text in response to human prompts (Schaul, Shaban, Tan, Woo & Tiku, 2022). This newer area of AI application has gained a lot of attention in media lately, e.g., with the launch of AI chatbot Chat GPT (Gruman, 2022) and various offerings entering the industry by providing AI-generated advertisements to companies (e.g. Mollman, 2023). There are also examples of large corporations testing out this technology in their business. The car manufacturer Lexus, for example, fed an AI-tool with information about their brand and on human emotions, as well as data on award-winning advertisements to generate a 60 second advertising film (Griner, 2018).

1.2 Problem Area

While AI poses a lot of opportunities for businesses, it has also been demonstrated that new technologies tend to alter customer behaviors, which may imply risks for companies. Davenport et al. (2020) and Varsha, Akter, Kumar, Gochhait, and Patagundi (2021) particularly state that AI is such a technology that likely will alter both customer behaviors and marketing strategies substantially. One literature review by Vlačić, Corbo, Costa e Silva and Dabić (2021) pinpoints that “limited acceptance of AI from a user perspective has been a core challenge over the past few decades” (p.196). In line with this, a recent survey by YouGov (2021) reveals that people

around the world have mixed feelings regarding AI and that western countries tend to view AI with higher skepticism. Skepticism and concerns regarding AI have been shown to stem from multiple areas, such as reduced employment opportunities, overreliance on the technology and reduced creativity (Statista, 2021). Furthermore, contrasting machines and humans, Hidalgo, Orghian, Canals, De Almeida and Martin (2021) finds that individuals judge machines by their outcomes and humans by their intentions. Since machines and humans are not judged in the same manner, the need to expand on the research regarding differences in judgments of AI and human generated content is further emphasized.

Hence, although research has presented multiple studies in which it has been shown that there is not necessarily a difference in the quality of human or AI-generated content (e.g., Wang, Li, Xue, & Chen, 2022), there might be a risk that consumer feelings regarding AI will impact the evaluations and outcomes from AI-generated content. This pattern has already been found in the content creation areas of art and news (Waddell, 2018; Agudo, Arrese, Liberal, & Matute, 2022) and as AI technology starts to permeate advertisement creation, the need to understand how the use of such technology will affect consumer perceptions in this area increases. A few steps in the area of AI content creation have been taken by Wu and Wen (2021) and Bakpayev, Baek, van Esch, and Yoon (2022) and this thesis will continue in the same direction and expand upon their work.

1.3 Purpose and Expected Knowledge Contribution

The current research in the area of AI advertisement creation is scarce. In particular, research has long neglected the voices of the public in the area of AI in advertising (Wu et al., 2022). Hence, there exists a research gap in understanding the consumer perceptions and judgements of AI-created advertisements. Since the topic of AI gives rise to mixed feelings (Wu et al., 2022; YouGov, 2021) and consumers perceptions are what matters at the end of the day (Dahlen, Rosengren, & Torn, 2008), this thesis responds to the strong need to understand the phenomena of what effect AI as creator have on advertisement perceptions and judgements. The purpose of this thesis is therefore to contribute to the intersection between AI, advertising creation and consumer perceptions (Figure 1). In text, the effect the knowledge of AI being the creator of the content has on the perceptions and judgements of the content is at times referred to as “the creator effect”.

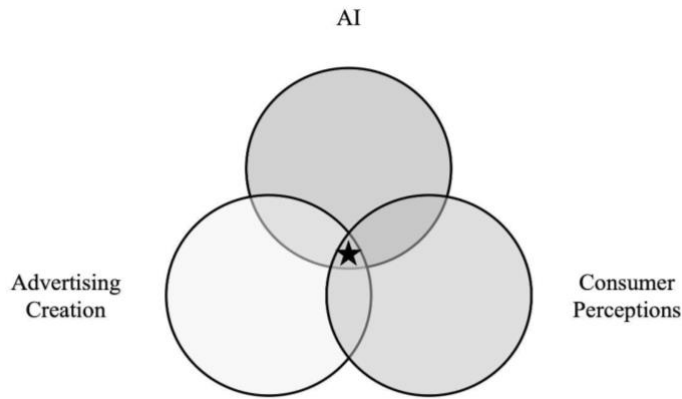


Figure 1. Research contribution area

The study will focus on the following research question:

What are some effects on consumer perceptions and judgements when presenting AI as the creator of an advertisement?

Specifically, the thesis will seek to answer the following three sub questions:

- *What are the effects on perceived creativity, spending and effort when presenting AI (vs human) as the creator of an advertisement?*
- *What are the effects on brand attitude, ad attitude and brand trust when presenting AI (vs human) as the creator of an advertisement?*
- *What is the difference in brand attitude, ad attitude and brand trust between a high emotional vs low emotional message appeal advertisement presented as created by AI (vs human)?*

These questions have been carefully formed to expand upon previous research and contribute to filling the current research gap by focusing on factors which have not been previously investigated in this context. While Wu and Wen (2021) and Bakpayev et al. (2022) have studied the effect of AI as a creator on consumer perceptions and judgements; neither has fully investigated the issues highlighted in these questions, and to the knowledge of the authors of this study - neither has anyone else. Insights regarding this topic could also affect how management may choose to implement AI in their own marketing processes and prepare them for any potential challenges that may arise. The research questions will be investigated through the theoretical lenses of signaling theory and the machine heuristic through the MAIN model.

1.4 Delimitations

When investigating the unexplored area of the consumer perspective on AI-created advertisements, it is of importance to carefully delimit the study. There are many potential dimensions through which it can be believed that AI-created advertisements would have an impact on consumer perceptions and judgements. However, the focus in this thesis has been delimited to investigate the main dimensions of advertiser effort - creativity and spending. Moreover, the thesis is also limited in terms of the judgment outcomes that were examined. Brand attitude, ad attitude and brand trust were chosen as they are all well-established and commonly used in similar studies and yet have not been fully investigated in this context.

Finally, the study design and data collection delimit the study geographically and contextually. The sample was a nationally representative sample of Swedish respondents older than 18 years old and the product category tested in the experiment was toothpaste, a utilitarian product in the fast-moving consumer goods (hereinafter referred to as FMCG) industry. The sole communication medium tested was an online image ad.

1.5 Disposition

This introduction chapter has presented the topic of interest and the rest of the thesis is organized as follows:

- (2) Literature review: Presents the current state of research in the area of AI content creation and outlines the research gap in the AI advertising creation domain.
- (3) Theoretical framework: Introduces signaling theory and the machine heuristic through the MAIN model as well as develops hypotheses with support from these theories.
- (4) Methodology: Describes and motivates the design of the study and the scientific approach.
- (5) Results and analysis: Statistical testing of the hypotheses and a presentation of the results.
- (6) Discussion and conclusion: Finish the thesis with a discussion of the results, a conclusion, limitations of the thesis and suggestions for further research.

2. Literature Review

This section contains the literature review for this thesis. A review of the current state of research in the area of AI content creation is presented. The section ends by pinpointing the gap that this study attempts to fill.

2.1 AI in Marketing

A review of research on AI in marketing between 1987 and 2020 reveals that the number of studies on this topic increased significantly starting from 2017 (Vlačić et al., 2021). The influence of AI in marketing is not limited to any one area but the developing technology shows up in strategy, distribution channels, performance, segmentation, targeting and positioning (Vlačić et al., 2021), and more specifically every part of the advertising process (Wu & Wen, 2021). The significant potential of AI in marketing has drawn attention and fueled a drive both to understand its current state and how it might change and influence tomorrow (Davenport et al., 2020).

While Mariani et al. (2022) notes technology acceptance as a prominent topic in the intersection of AI, marketing, consumer research and psychology, Vlačić et al. (2021) points to this as a continued area of concern. They suggest that more research is necessary as studies imply that it will become an even bigger challenge as AI develops and enters new domains. Understanding the perceptions of AI is important in order to facilitate the development and adoption of the technology in an optimal way (Kelly, Kaye, & Oviedo-Trespalacios, 2023).

The public knowledge of AI is currently scattered and intuitive (Chen et al., 2022). Reflecting the ambivalent attitudes towards AI is, for example, a study conducted by Wu et al. (2022). The study indicated that Twitter users discuss AI in marketing from eight different aspects, demonstrating a diverse understanding of the field. The users demonstrated positivity towards marketing tools powered by AI and AI's involvement in targeting but held a negative attitude towards the involvement of AI in social media campaigns. AI-powered content creation generated mixed feelings, i.e., a clear split between positive and negative attitudes. Youn and Jin (2021) explain that positive sentiments towards AI in general include seeing AI as the key to new job opportunities and improvement of human capabilities, while negative sentiments instead includes that AI will likely take over jobs and succeed humans - a concern also brought

up by Hong, Joo Wha, Peng, and Williams (2021), while Lou, Kang, and Tse (2022) instead emphasize a general algorithm aversion.

2.2 AI and Content Creation

One domain where AI's applicability is steadily increasing is content creation. AI can generate content in the form of text, images or speech and the technology is currently being applied in all these usage areas. For example, generation of text content is applied in newspaper contexts (Liu & Wei, 2019), speech generation is used when creating music pieces (Hong, Joo-Wha, Fischer, Ha, & Zeng, 2022) and image generation is applicable in the art (Gangadharbatla, 2022) or advertisement creation (Wu & Wen, 2021) domain. As technology has developed, the areas in which AI can create content have also grown and become more established (Kim & Kim, 2020; Sturm, Iglesias, Ben-Tal, Miron, & Gómez, 2019). In each of these usage areas, two main research streams have been identified, namely quality assessment and consumer judgements.

There have been several studies conducted regarding quality assessments of AI-created content. In the area of music, Hong et al. (2022) claims that there is a common acceptance of machines having an exceeding capability of composing music compared to humans. In regard to text generation, Kreps, McCain, and Brundage (2022) investigated the credibility of AI-generated news and found that AI indeed is able to create news pieces with the same degree of credibility as human written ones. Similar findings have been discovered in the field of art as well, in which Chamberlain, Mullin, Scheerlinck and Wagemans (2018) demonstrated that art generated by a computer cannot be detected solely on content characteristics and features, implying that the craft of the content creation is of high quality. Gangadharbatla (2022) also confirms the results of Chamberlain et al (2018), namely that individuals cannot accurately identify AI-generated works.

Drawing upon the above findings, it can be concluded that AI can be considered to be well developed and has potential to generate content of the same quality as human-made content. However, because of AI skepticism, it is also of high importance to understand how usage of AI to create content may impact consumer judgements and perceptions. Hence, the second research stream that was identified pinpoints differences in judgements of the content if the receiver knows that the content is created by AI. For example, it has been shown that when AI is writing news articles, and the readers are aware of the content creator, people perceived the news as less

credible, less newsworthy, and as having lower quality (Graefe, Haim, Haarmann, & Brosius, 2018; Waddell, 2018). Furthermore, in the field of art generated by AI, Agudo et al. (2022) performed an experiment in which the knowledge of the AI content creator resulted in evaluations of “lower sensitivity, lower ability to evoke their emotions, and lower quality” (p. 1) compared to a human creator. Studies have also been conducted in which researchers have tried to identify the reasons behind these differences in judgements. For example, Hong et al. (2021) found that the degree of acceptance of AI-composed music was related to the individual machine heuristic, namely the stereotypes that the individuals held against the machines. Similarly, Agudo et al. (2022) found that existing notions about the nature of AI influenced how people judged the artwork when it was declared as AI creations.

In some types of content creation there has also been a disconnect identified between the judgements of the creator and the output. An experiment conducted by Hong et al. (2022) showed that the characteristics of the music generator affected the evaluation of the creator of the music, but not the music itself. They speculate that this discrepancy could be due to the fact that the creator and the output are evaluated with different cognitive processes, where the creator is more logically qualified compared to the output being assessed more based upon emotions. Similarly, an experiment made by Tigre Moura and Maw (2021) suggests that the information of who created the music does not influence the perception of the actual music. This finding contradicts the previous literature referred to in their article, and they reason that it could be because of the innovative nature of AI technology.

2.3 AI and Advertisement Creation

Several studies have investigated the role of AI in marketing (e.g., Mariani et al., 2022), but to the knowledge of the authors of this thesis, only two studies have been conducted and published regarding how consumer perceptions of AI-generated advertisements is affected by the knowledge that AI is the creator of the advertisement. Firstly, Wu and Wen (2021) conducted a study that concluded that judgements of AI-created advertisements are influenced by the perceived objectivity of advertisement creation and uneasiness with robots. Depending on the individual view, both positive and negative judgments can be made in terms of appreciation of the advertisement through the mechanisms of the machine heuristic and perceived eeriness. Secondly, Bakpayev et al. (2022) conducted a 2x2 experiment in which they compared advertisements portrayed as being created by either a human or AI, and with a rational or

emotional product appeal. Their findings indicate that there indeed is a difference in ad attitude between the two creators. For a rational message appeal, no significant differences could be identified. However, in the case of an emotional appeal, lower evaluations of the advertisement created by AI were formed.

2.4 Research Gap

Based on the available literature which has been reviewed above, it is evident that the consumer perspective has been neglected in the research field of advertisement creation and that the research area is in its infancy and in need of more attention. In their study, Wu et al. (2022) discovered, as stated previously, mixed feelings toward AI in advertising creation which makes it important to examine further. Building on suggested future research presented by Wu and Wen (2021) and Bakpayev et al. (2022), this thesis aims to extend the current research in the following ways:

1. The thesis expects to add to the knowledge in the area of AI advertisement creation by intertwining the perspectives of signaling theory and the machine heuristic. This in order to understand how consumer perceptions in terms of effort dimensions (effort, creativity and spending) are impacted by AI-created advertisements, which in this thesis refers to “advertisements that are either partially or completely created by AI programs”, a definition adopted from Wu and Wen (2021, p. 134). These dimensions can be expected to be impacted by AI as an advertisement creator, since they can be expected to be negatively influenced because of the machine heuristic. In the context of this study, effort, creativity, and spending will jointly be referred to as consumer perceptions.
2. This thesis aims to extend the previously investigated advertising outcomes by also including brand measures. This since effort is closely related to the brand itself and the ad attitude, previously investigated in this research domain, can expect to have a spillover effect on the brand outcomes (Lutz, MacKenzie, & Belch, 1983). Moreover, there have been findings that indicate that the AI output and AI creator can be judged differently in other AI content creator fields (Hong et al., 2022). This strengthens the importance of extending the measured advertisement outcomes to brand outcomes when investigating the matter in the field of advertising creation. Specifically, this thesis examines ad attitude, brand attitude and brand trust. In the context of this study these judgements will jointly be referred to as advertising outcomes.

3. Finally, this study seeks to expand on the results by Bakpayev et al. (2022) regarding emotional message appeal and will further investigate whether the influence of AI as a creator will have an impact on brand measures as well as another product category. Furthermore, this research differs from Bakpayev et al. (2022) since a distinction is made between the creator of the ad and the creator of the advertised product. In their study, they state that AI both have produced the product and the advertisement, which is not the case in this study.

3. Theoretical Framework

The following section presents the theoretical foundation of the thesis. The first part outlines the theoretical lens adopted in the study. There are two theoretical pillars used, namely signaling theory and the MAIN model. The second part of this section contains the hypothesis development. Further theoretical depth is provided in the areas of advertising perceptions as well as advertising outcomes and finally on AI in relation to emotional message appeal.

3.1 Signaling Theory

Signaling theory states that in order to bridge the problem of information asymmetry between company and consumer, a firm can communicate the level of an unobserved element by providing observable signals (Kirmani & Rao, 2000). Namely, companies provide information to consumers through marketing signals that indicate attributes such as quality and price (Boulding & Kirmani, 1993). One means of communicating these signals is advertising (Ippolito, 1990; Kihlstrom & Riordan, 1984).

Although research in signaling theory dates back to the 1970's (e.g., Spence, 1977), consumers today need information more than ever in order to distinguish one brand from the other. In this thesis, it is proposed that a firm communicating that AI is creating their marketing content can act as a signal. Signaling theory is therefore useful and relevant as support in order to understand what signals this might send, and what advertising outcomes this might lead to.

3.2 The MAIN Model and the Machine Heuristic

When making a decision, Fiske explains that while economists often mention the rational person - who acts after carefully weighing the advantages and disadvantages of all possible options - this approach is often not very realistic or practical (2008). This since it would take a lot of time and energy to fully evaluate the often complex information impacting each alternative. To solve this issue people tend to use heuristics that underlie many intuitive judgements, oftentimes unconsciously and automatically (Gilovich, Griffin, & Kahneman, 2002; Sundar, 2008). Heuristics are defined in this thesis as “shortcuts that reduce complex problem solving to simpler judgmental operations”, a definition adopted from Fiske (2008, p. 165).

Sundar (2008) presents the MAIN model to structure the cognitive processes happening when heuristics are applied in the context of digital content. The model states that the agency affordance, in which one looks at the source of the content, can trigger certain cues which in turn triggers heuristics. Thereafter, depending on how the affordance manifests itself, it can generate either negative or positive outcomes and judgements.

One of the key heuristics identified in the MAIN model is the machine heuristic (Sundar, 2008). The machine heuristic can be triggered in different contexts where cues suggest that the user is dealing with a machine. The machine heuristic consists of multiple stereotypes adhering to machines and can cause a person to attribute these views to the content produced by a machine. The rule of thumb used is commonly that machines are more trustworthy and secure compared to humans, and hence more objective in their judgements (Sundar & Kim, 2019). While humans tend to have these presumptions of machines, Sundar (2008) states that these perceptions are not always accurate. Despite this, researchers have demonstrated that the machine heuristic indeed can be reflected in consumer perceptions, Liu and Wei (2019) and previous studies have also shown that machines and humans are not judged in the same manner (Hidalgo et al., 2021).

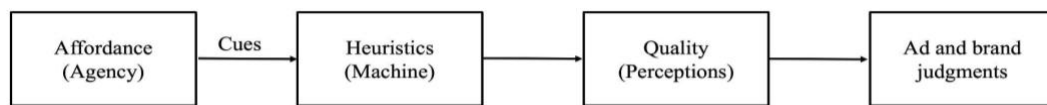


Figure 2. Adapted overview of the MAIN model by Sundar

The mechanisms presented in the MAIN model are highly applicable in this thesis. AI is a topic which people tend to approach with varying definitions, different levels of understanding and at least some degree of uncertainty. As such, evaluative judgments, which in general already tend to take more time and cognitive effort compared to descriptive ones (Mandler, 1982), surrounding the topic should be especially complex. The concept of heuristics is then especially useful as they function and activate to reduce this type of cognitive effort. However, the model in its entirety was initially presented in order to assess credibility judgments regarding digital content and is much broader than presented in this section. The model is therefore adapted and limited in order to suit the setting of this thesis, only considering the relevant affordance, heuristic, judgements and outcomes based on this study (Figure 2). Other researchers have previously employed the concept of the machine heuristic by limiting the MAIN model in a similar manner when investigating consumer perceptions on AI-created content (Hong et al.,

2021; Wu & Wen, 2021). This further strengthens the relevance of the theoretical framework used in the thesis.

3.3 Hypothesis Development

3.3.1 Advertising Effort

The perception of advertising effort, considered in more detail in section 3.3.1.5, is valuable to understand since it can act as a signal of brand quality (Kirmani & Wright, 1989). Kirmani and Wright (1989) state that perceived effort is determined by managerial time and thought, as well as monetary investments. Based on this, two main dimensions have been identified as facilitators of perceived effort.

First, there is the creativity dimension that can be linked to perceived managerial time and thought. Research has shown that there indeed is a common belief that creativity and effort are related (Dahlen et al., 2020) since creativity signals company commitment to and trust in its advertising and products (Rosengren, Eisend, Koslow & Dahlen, 2020). Therefore, consumers are likely to assume that a more creative ad is related to greater effort by the advertising company (Modig, Dahlén, & Colliander, 2014; Dahlen et al., 2008).

Another means to signal effort presented in research is through a high perceived advertising expenditure (Homer, 1995; Kirmani, 1990), which is naturally linked to the effort dimension of monetary investments. One reason behind this can be derived from the handicap principle, which is based on Darwin's principle of natural selection and the need to communicate health and strength (Ambler & Hollier, 2004). This is for example demonstrated by peacocks growing a disproportional and extravagant tail to signal health and strength to other animals. Similarly, companies spend a lot of money on advertising to communicate quality and ability (Ambler & Hollier, 2004). Simply put, consumers believe that the company is willing to invest more in advertising if they believe that they are selling a product of high quality.

3.3.1.1 AI Creator as a Signal of Creativity

This thesis suggests that presenting AI as a creator of an advertisement should cause the consumer to perceive the advertisement as less creative. This is since an AI creator should work

as a signal of low creativity due to an activated machine heuristic, which should push consumers to view the advertisement as more objective and less creative.

The main benefit of understanding consumers' creativity perceptions stems from the fact that it can facilitate positive brand and ad attitudes (Rosengren et al. 2020). However, despite the favorable advertising outcomes, the actual definition of advertising creativity is varying and the findings in the research domain are at times conflicting (Dahlen et al., 2008; Rosengren et al., 2020). It has been suggested that one reason behind this might be the subjective nature of a creative ad and the fact that it is up to the judgment of the individual whether it is perceived as creative or not (Chavadi, Arul & Sirothiya, 2020).

This thesis has adopted Smith and Yang's (2004) definition of creative advertisements. They noted the weak theoretical foundations for the concept and in their study, amongst other things, developed and outlined a definition of creative advertisements as "those that are both divergent and relevant." (p. 36). These two dimensions, while sometimes described with other words or complemented with other dimensions, are mirrored and similarly used in several other studies in the field (Chavadi et al., 2020; Modig & Dahlen, 2020; Shirkhodaee & Rezaee, 2014; Vakratsas & Wang, 2020). Divergence refers to "elements that are novel, different, or unusual in some way" (Smith & Yang, 2004, p. 36) while relevance is described as "meaningful, appropriate or valuable to the audience" (Smith & Yang, 2004, p. 36). Both dimensions are crucial to combine to ensure that the ad will not be seen as simply strange and offbeat but as different in a positive way (Rosengren et al., 2020).

Humans are generally viewed as being better at creativity compared to machines and AI (Chen et al, 2022). Hong et al. (2022) states that there are two potential reasons why people would be skeptical towards AI's ability to be creative like humans. First, people may be questioning whether machines can be creative at all or if that is an entirely human trait. Second, people may question to which degree machines can be creative. This perspective believes that machines can be creative but are rather considering similarities and differences between human and machine creativity. Based on this approach, there has even been a separate definition developed for artificial creativity: "a system's capability of 'achieving or simulating behavior which in humans would be deemed creative'" (Tigre Moura & Maw, 2021, p. 138).

Vakratsas and Wang (2020) state that some people also might question the creative ability of AI since the process is based on structural analysis of previous content that has been fed into the algorithm. However, they further present that it can be argued that human creativity also is based on external influences and processing of historical content. Because of this, it can be concluded that the creative process between machine and human is comparable, and that the sole thought of AI not being creative stems from the fact that it is not human, and a presumption that AI cannot imitate human processes. Because of this skepticism regarding whether AI is able to perform creative tasks or not, AI as an advertisement creator can be expected to work as a signal that will impact the creativity perceptions of consumers.

3.3.1.2 Advertising Creativity and the Machine Heuristic

No matter exactly where one lands on the issue regarding a machine's ability to be creative it is clear that people experience a disconnection between AI and creativity. Considering the machine heuristic gives support to the idea that AI as a creator will have a negative impact on creativity perceptions. According to the MAIN model people will attribute machine created content with machine characteristics fitting their own preconceived ideas about what a machine is good or bad at (Sundar, 2008). The model presents the general perception of a machine as more objective and efficient than a human. This does not align well with creativity. Creativity is divergent and relevant, as well as linked to perceived managerial thought. If anything, the novel dimension of creativity and link to managerial thought clashes with the standardized objectivity associated with AI. This implies that activating the machine heuristic by letting the consumer know that AI has created an advertisement should lead to lower creativity perceptions compared to if the advertisement had been portrayed as created by a human.

Wu and Wen (2021) actually use the concept of the machine heuristic in their research on content creation by AI in the advertising domain. While the focus is not on creativity perception, they did find that when consumers know that AI has created the content in advertising, they activate their machine heuristic and perceive the advertising creation process to have been more objective. These results lend legitimacy to the mechanism of the machine heuristic in the context of advertising and creativity, based on the misalignment between objectivity and creativity. Furthermore, there has also been previous research which has investigated creativity perceptions of AI-content creation in fields other than advertising, presenting results which support the notion of a negative impact on creativity. Chamberlain et al. (2018), for example, conducted two different studies in the field of art in which they tested the creativity perception of machine

produced artworks. Their results showed that the respondents were skeptical regarding the creativity and computer-ownership of the paintings. Similar findings have been noted by Hong et al. (2021) who concluded that there are different perspectives and expectations on AI being able to be creative, which in turn reflects the consumer perceptions of AI composed music. This implies the same negative perception of AI creativity could affect content in the advertising domain.

Considering the likely role of AI as a signal of low creativity due to the machine heuristic pushing the consumer to judge machine content as more objective and less creative the following is hypothesized:

H1: An advertisement portrayed as having been created by AI (vs human) will be perceived as less (vs more) creative

3.3.1.3 AI creator as a Signal for Advertising Spending

This thesis suggests that an advertisement should be perceived as having been less expensive to produce if portrayed as having been created by AI compared to a human. This since an AI creator should work as a signal of low expense due to an activated machine heuristic which should push consumers to view the advertisement creation as more efficient and cost-saving.

In order for customers to use spending as a signal, they need to form a cost perception of the ads. To do this, they identify cues within a campaign that indicate the spending level (Kirmani, 1990). For example, consumers believe that the more a brand advertises, the better the buy (Nelson, 1974). Subject cues can also consist of assumed average spend based on product category, frequency of campaign, advertising medium as well as elements of expensive character, such as starring famous celebrities. The wide array of cues that can be used to signal advertising expenses implies that the content creator also might be such a cue. Understanding whether this is true or not is favorable for the company, since a high perceived advertising expense has been shown to enhance long-term profitability of a brand through, for example, more favorable perceptions of brand quality and reliability (Ambler & Hollier, 2004). However, it should also be noted that there are risks with sending signals of advertising spend. Namely, there has been an inverted U-shaped relationship discovered between spending and product commitment (Kirmani, 1997). The connection stems from consumers, at times, perceiving the spending to be too high, which instead implies low confidence in quality.

AI as a creator should work as a signal of advertising expense due to its commonly mentioned ability to impact organizational costs (Raisch & Krakowski, 2021). AI could for example enable cost-savings in marketing by accurate targeting of ads. By only reaching the intended audience there is an efficient use of resources (Lewis, Andriopoulos, & Smith, 2014). Another cost-saving aspect of AI is its ability to enable support in the post-purchase stage of the customer journey, in which AI can predict future consumer actions, personalize the relationship to avoid churning and endorse engagement (Kietzmann, Paschen, & Treen, 2018). In this way, implementing AI could lead to long-term cost-savings for the company. However, although AI is strongly connected to cost-saving, it is also worth mentioning that there might be organizational challenges related to AI implementation, which can result in high investment costs (Sharma, Luthra, Joshi, & Kumar, 2022). Because of the widespread use cases of AI in marketing which impacts organizational costs, AI as a content creator should act as a signal of advertising expense.

3.3.1.4 Advertising Spending and the Machine Heuristic

While AI may act as a cost driver it is reasonable to assume that the consumer perception of AI as cost-saving is stronger and should therefore have a larger impact on how the AI-created content is perceived. This is due to the widespread use of AI for automating tasks which allows for efficiency and productivity gains, and a subsequent decrease in costs (Faraj, Pachidi, & Sayegh, 2018; Davenport et al., 2020; von Krogh, 2018).

The MAIN model supports the notion of attributing low expense to AI-created content. This since, letting a consumer know a machine is the creator will activate the machine heuristic facilitating the attribution of machine stereotypes - in this case cost-saving - to the content. The machine heuristic indicates efficiency which commonly leads to cost savings. This will then, as is explained in the model, affect how the content is perceived. Moreover, Scipione (1997) investigated public perceptions of advertising expenditures and found that consumers generally overestimate the amount of money that is invested in advertising. This implies that consumers see traditional advertising methods as expensive, which strengthens the other side of the argument - that “human advertising” should be viewed as being generally expensive.

In sum, it is believed that the machine heuristic will impact the relationship between AI creator and advertising spend negatively and that AI will work as a signal of lower advertising expense. Hence, the following is hypothesized:

H2: An advertisement portrayed as having been created by AI (vs human) will be perceived as having been less (vs more) expensive to produce

3.3.1.5 Overall Effect on Advertiser Effort

Considering the use of AI to reduce human effort as well as the hypothesized negative influence on the dimensions of effort, this thesis posits that the perceived advertiser effort behind an advertisement also can be expected to be negatively affected by presenting AI as the content creator.

Lou et al. (2022) note that when evaluating a human's performance, effort and experience is considered, whereas a machine is evaluated based on performance indicators such as accuracy. They further point out that effort as a concept is perceived as being attributable to humans, and not to machines. In line with this, individuals are increasingly delegating tasks and authority to AI in order to reach efficient task outcomes (von Krogh, 2018) and machines are commonly used in organizations to automate processes in order to allow for more rational and effective processing (Davenport & Kirby, 2016).

Researchers have in fact reached the conclusion that there are evident efficiency and productivity gains from implementing algorithms in the organization (Faraj et al., 2018), and that time spent on a task will decrease if doing so (Langley & Simon, 1995; von Krogh, 2018). Andrade and Tumelero (2022) conclude that implementing AI chatbots, for example, improves efficiency in the customer service process. Due to the chatbot's speed it can service more customers and handle the simpler queries quickly and free up the human employees to handle more complex matters. Another example of AI contributing to organizational efficiency can be found in the field of software engineering as AI can speed up the work by, amongst other things, automating the debugging process (Barenkamp, Rebstadt, & Thomas, 2020).

What these examples of machines improving efficiency and automating previously human performed manual tasks demonstrate is that machines are used as a means to reduce human effort. This should also imply that AI as a creator would act as a signal affecting a consumer's perception of effort, and that using AI as an ad creator should activate the machine heuristic which pushes one to view machines as more efficient and thus less effortful. It is then implied that while the machine heuristic indeed should affect effort negatively through the previously

hypothesized effect on perceived creativity and spending, the machine heuristic should also directly affect perceived effort in a negative way. Considering both signaling theory and the machine heuristic the following is hypothesized:

H3: An advertisement portrayed as having been created by AI (vs human) will be perceived as having been less (vs more) effortful to produce

3.3.2 Advertising Outcomes

Research has discovered that corporate messages impact customer judgements, which in turn impact beliefs and attitudes (Biehal & Sheinin, 2007). Although the perceptions may not always be true, they will still impact consumer judgements about the brands (Modig et al., 2014). This thesis takes a closer look at three advertising outcomes - brand attitude, ad attitude and brand trust - and posits that AI as a creator will have a negative effect on them.

Attitude in marketing literature is defined by Kotler and Armstrong (2008) as “a person’s relatively consistent evaluations, feelings, and tendencies toward an object or idea” (p. 144). In marketing research, two commonly used attitude measures are attitude towards the advertisement (ad attitude) and brand attitude, where ad attitude is described as the “consumers feelings of favorability/unfavorability toward the ad itself” (Lutz et al., 1983, p. 130) whilst brand attitude is defined as consumer’s overall evaluations of a brand (Keller, 1993). The two advertising outcomes have also been demonstrated to be linked, since ad attitude has been shown to mediate the effect on brand attitude (Lutz et al., 1983). Brand equity in terms of favorable attitudes is necessary in the long term for a brand to be successful (Chaudhuri & Holbrook, 2001). This highlights the importance of understanding ad and brand attitude in the relatively unexplored context of AI advertisement creation.

Brand trust is defined by Chaudhuri and Holbrook (2001) as “the willingness of the average consumer to rely on the ability of the brand to perform its stated function” (p. 82). Brand trust is important for companies to achieve because it acts as a means to reduce uncertainty for consumers (Selles, 1998), and also has a significant influence on attitudes and purchase intention (Cabeza-Ramírez, Fuentes-García, Cano-Vicente, & González-Mohino, 2022). However, as stated by Davenport et al. (2020), consumers have displayed negative attitudes towards AI applications in marketing by showing a lack of trust in decisions made by the technology. Brand trust is therefore an important measure to understand in the context of AI

advertisement creation. In addition, the measure has been shown to be an important driving factor in AI acceptance (Kelly, Kaye, & Oviedo-Trespalacios, 2023), which further emphasizes its relevance in this context.

3.3.2.1 Brand and Ad Attitude

According to Lutz et al. (1983), the receivers of an advertising message develop an attitude toward the ad based on at least five antecedents related to both the attitude towards the ad and the advertiser. One antecedent mentioned is ad execution, which can be directly linked to AI content creation. This indicates that the ad creator may act as a signal impacting ad and brand outcomes. Considering this, brand and ad attitude should be negatively affected by the machine heuristic both through the signal that AI sends through effort and its dimensions, and outside of them.

The effect on ad and brand attitude through the dimensions of effort is clearly supported in previous research. Modig et al. (2014) as well as Biehal and Sheinin (2007) have found that signals of advertising effort result in more favorable brand evaluations and positive attitudes. The relationship between effort and positive outcomes has also been established, specifically in the field of AI content creation where Chamberlain et al. (2018) demonstrated that artworks that appeared to be more effortful were rated highly in liking and quality.

Furthermore, the direct connection between creativity and ad and brand attitude has been established (Modig et al, 2014; Shirkhodaee & Rezaee, 2014). Rosengren et al. (2020) conducted a meta-analysis of 67 papers regarding consumer responses to advertising creativity. They established that there is significant support in the literature of advertising creativity as having substantial positive effects on several different consumer responses. While most studies tend to confirm that ad creativity does influence ad effectiveness, except for some contradictory findings (Till & Baack, 2005), exactly how and through which dimensions this happens can differ (Rosengren et al., 2020).

The positive connection between effort, its dimensions and the two outcomes imply that since AI as a creator should have a negative effect on effort it should also have a negative effect on ad and brand outcomes. This is further supported as one considers signaling theory and the machine heuristic outside of the main dimensions of effort. The general aversion people often feel in connection to algorithms (Lou et al., 2022) can act as a negative signal once AI is presented as

the ad creator and cause the consumer to have a less favorable attitude. The effect on the outcome variables can therefore be assumed to also occur outside of the mediating effect through the effort variables.

The machine heuristic further should have the consumer considering AI as good at objective matters (Sundar, 2008). Advertising creation can be viewed either as a subjective or objective task. There have been arguments stating that the process of advertisement creation is subjective and focuses on aesthetics and persuasion, while others state that advertisement creation is more related to objective analytics tasks (Wu & Wen, 2021). Although there have been split opinions, the reasoning followed in this thesis is that of Wu and Wen (2021) who view advertisement creation as a subjective task. The machine heuristic of AI as objective should then work to form a more negative impression when AI is paired with a subjective task such as advertising creation. Considering this reasoning as well as the role of creativity and effort in influencing ad and brand attitude this thesis hypothesizes the following:

H4: An advertisement portrayed as having been created by AI (vs human) will generate a less (vs more) favorable a) brand attitude b) ad attitude

3.3.2.2 Brand Trust

The machine heuristic and signaling theory explains that people tend to judge AI favorably in regard to objective tasks while less so with subjective tasks. In the context of the subjective task of advertising creation, AI as a creator should be less trusted than a human creator and thus impact brand trust negatively.

Researchers have found that people are more likely to trust AI and rely on algorithms to perform objective tasks rather than humans (Sundar, 2008; Wu & Wen, 2021) and that the machine heuristic connects machines with objectivity (Sundar, 2008). In order to understand how AI-created advertisements will impact trust, it is therefore insightful to categorize the nature of advertisement creation. As previously mentioned, the reasoning in this thesis follows that of Wu and Wen (2021) and views it as subjective. This implies that the machine heuristic may cause the consumers to trust the brand less when they use AI for a subjective task such as advertising creation. Therefore, AI used for subjective tasks may work as a negative signal causing the consumer's brand trust to decrease.

Studies further show that credibility has a significant role in developing trust (Shamim & Islam, 2022). Therefore, it is also of interest to look into research made regarding credibility in the AI content creation domain. For example, Tigre Moura and Maw (2021) studied perceived credibility in evaluation of AI-generated music and found a negative credibility perception towards musicians using AI. Similarly, in the field of news creation, presenting AI as the article author resulted in slightly lower credibility perception compared to a human author (Graefe et al., 2018). This supports the notion that AI may work as a signal of lower credibility and subsequently also lower trust in the brand.

Brand trust is, according to its definition, related to ability. The machine heuristic makes consumers judge AI favorably in connection with objective tasks and less favorably in connection with subjective tasks such as advertising creation. This means that when AI is utilized in a context where it is seen as having less ability the brand trust should be negatively affected. Hence, the following can be hypothesized:

H4: An advertisement portrayed as having been created by AI (vs human) will generate a less (vs more) favorable c) brand trust

3.3.3 Emotional Message Appeal

3.3.3.1 Emotional Message Appeal as a Moderator

The role of emotions in advertising has been the focus of much research throughout the years. This is not surprising as it ties in strongly with consumer responses and influences advertising effectiveness. Emotions affect behavioral outcomes both as influencing factors on cognitive processing and automatically, independently of cognitive processing. (Poels & Dewitte, 2019).

Emotions feature as one of the main dimensions of a commonly used distinction in marketing research where the message appeal of advertisements are viewed through the lens of rational versus emotional appeal (Ghasemi Siani, Mohammadi, Soltan Hosseini, & Dickson, 2021). They have also been referred to by other terms such as: cognitive/emotional, informational/transformational and hard-sell/soft-sell (Ghasemi Siani et al., 2021). This distinction between emotional and rational appeal is also used strategically by practitioners in the advertising field (Zhang, Sun, Liu, & Knight, 2014). An advertisement relying on emotional appeal seeks to “stir up either positive emotions (e.g., love, pride, humor and joy) or negative

ones (e.g. fear and guilt) that can motivate a particular purchase” (Zhang et al., 2014, p. 2107) while rational appeal instead “focuses on the product’s utilitarian benefits” (Zhang et al., 2014, p. 2107). While there is no consensus on whether emotional or rational appeal is superior, each type of appeal tends to be more effective and suitable for some types of advertisements above others (Ghasemi Siani et al., 2021). Influences which can affect which is more suitable include the product type to be advertised, the culture of the target group and individual consumer characteristics (Ghasemi Siani et al., 2021; Johar & Sirgy, 1991; Lepkowska-White, Brashear, & Weinberger, 2003).

Moreover, the connection between emotions and their influence on a myriad of ad and brand outcomes, for example ad attitude, brand attitude, ad recall, have been documented in a variety of studies (Achar, So, Agrawal, & Duhachek, 2016; Ghasemi Siani et al., 2021; Hamelin, Moujahid, & Thaichon, 2017; Poels & Dewitte, 2019). The exact effect, of course, varies depending on a host of different factors including emotion induced by the advertisement, initial emotional state of the consumer, level of emotional arousal and type of product being advertised (Achar et al., 2016; Choi & Oyunbileg, 2016). Nonetheless emotions clearly have the potential to significantly influence how an advertisement is received. Because of the many different aspects impacting how the emotional message is received, the creator behind the advertisement and their compatibility with the emotional appeal could potentially moderate the effect on advertising outcomes.

3.3.3.2 Emotional Message Appeal and the Machine Heuristic

Because of the machine heuristic affecting the level of perceived compatibility between the ad and the ad creator, a person should have a more favorable view of an AI-created ad with a low emotional message appeal compared to one with a high emotional message appeal. This means that a high emotional message appeal ad should lead to a less favorable brand attitude, ad attitude and brand trust than an ad with low emotional message appeal.

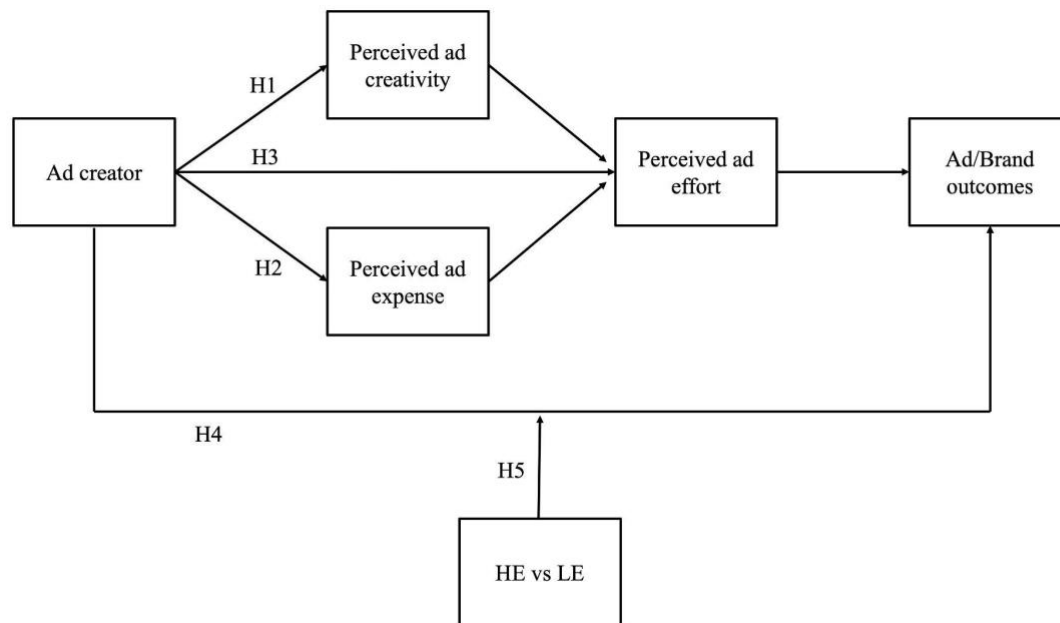
People are less comfortable with letting AI perform emotional and subjective tasks (Lee, 2018). Previous studies have clearly established the disconnect between machines and emotions both through research establishing that machine created content is viewed as less emotional (Agudo et al., 2022; Liu & Wei, 2019), and by studies more generally noting that emotions are seen as part of the human domain over that of a machine (Chen et al., 2022; Wu & Wen, 2021).

As established earlier, the MAIN model portrays a relationship between the agency affordance, in this thesis the ad creator, and given perceptions. The model states that the machine heuristic has the potential to impact the compatibility perception between the source and the output. Moreover, the objectivity aspect of the machine heuristic suggests a misalignment between AI and emotional ability. It can therefore be assumed that an AI creator presenting a high emotional appeal would lead to a perception of incompatibility between the ad and the ad creator and thus lead to less favorable advertising outcomes compared to a low emotional message appeal. Furthermore, research has shown that evaluations of AI-generated content is related to a belief of AI being capable of creating the content (Chamberlain et al., 2018). Hence, activating the machine heuristic should therefore not only affect the perceived alignment with the machine's abilities, it should thereby also impact how the content is received. Bakpayev et al. (2022) established that AI could match a human in effectiveness of rational appeal but not when it came to emotional appeal. In the case of emotional advertising, this thesis suggests that a low emotional message appeal should align better with the machine heuristic than a high emotional message appeal. This study therefore posits that:

H5: A high (vs low) emotional message appeal in an AI-created advertisement will generate a less (vs more) favorable a) brand attitude b) ad attitude c) brand trust

3.4 Hypotheses Summary

The above sections and hypotheses presented can be summarized in a conceptual framework (Figure 3). In sum, AI as a content creator is expected to work as a signal which would impact perceptions of creativity, expense and effort negatively through the machine heuristic (H1/2/3). Moreover, the advertising outcomes of ad attitude, brand attitude and brand trust are expected to also be negatively impacted by the signal of AI as a content creator (H4a/b/c). Lastly, since the machine heuristic is expected to conflict with a high emotional message appeal the level of communicated emotion in the advertisement should have a moderating effect between the portrayed creator and the advertising outcomes presented in this thesis (H5). All hypotheses are summarized in Table 1.



HE: High emotional message appeal

LE: Low emotional message appeal

Figure 3. Hypotheses summary

Table 1. Hypotheses summary

Hypotheses
<i>H1:</i> An advertisement portrayed as having been created by AI (vs human) will be perceived as less (vs more) creative
<i>H2:</i> An advertisement portrayed as having been created by AI (vs human) will be perceived as having been less (vs more) expensive to produce
<i>H3:</i> An advertisement portrayed as having been created by AI (vs human) will be perceived as having been less (vs more) effortful to produce
<i>H4:</i> An advertisement portrayed as having been created by AI (vs human) will generate a less (vs more) favorable <ul style="list-style-type: none"> a) brand attitude b) ad attitude c) brand trust
<i>H5:</i> A high (vs low) emotional message appeal in an AI created advertisement will generate a less (vs more) favorable <ul style="list-style-type: none"> a) brand attitude b) ad attitude c) brand trust

4. Method

The following section presents the scientific approach and the methods applied when conducting this study. First, the preparatory work is presented and outlines how the stimuli were developed and how the pre-tests were performed. Moving on, the chapter introduces the study design and data collection of the main study. Finally, the chapter outlines the approach to data analysis. Overall, the chapter argues for choices made throughout the process and the quality of the work. This section of the thesis aims for high transparency so as to facilitate further studies in similar circumstances.

4.1 Scientific Approach and Research Strategy

The research strategy utilized in this study is quantitative. A quantitative study uses numerical data and emphasizes the quantified measurement of variables. The focus of research utilizing a quantitative strategy can be divided into four main areas: generalization, measurement, causality, and replication (Bell, Bryman & Harley, 2022). These focus areas are well aligned with the research questions investigated in this study as they aim to test the causality between certain measured variables and seek to provide generalizable insights regarding a relatively unexplored topic. This illustrates the fit with a quantitative strategy over a more subjective, exploratory, and qualitative strategy.

As is typical in a quantitative study, this study adopts a deductive view of the connection between theory and research (Bell, Bryman & Harley, 2022). As a deductive approach dictates, previous research, knowledge and theories in the field were first reviewed and then used as a foundation to establish hypotheses for testing. In order to test these hypotheses an experiment was conducted. For an experiment to be constructed, a theoretical focus must be adopted by the authors (Söderlund, 2018). Hence, the experimental method is well aligned with the deductive approach chosen for the thesis.

One of the benefits of conducting experiments stated by Söderlund (2018) is its ability to test causal claims in a rigorous manner. Bell, Bryman and Harley (2022) similarly emphasize that experiments tend to be especially strong in terms of internal validity since the controlled circumstances facilitates confidence and trust in causal findings. Furthermore, since an experiment can be set up to test whether an activity impacts customer reactions, and the extent to

which they are affected (Söderlund, 2018), an experiment is deemed an appropriate method. This is since the purpose of this study is to test consumer perceptions and judgements depending on the creator of an ad.

4.1.1 Study Design

In order to test the hypotheses, a scenario-based role-play experiment with a between-subject 2x2 study design was conducted. The two between-subject variables were AI/human and a high/low emotional message appeal, as demonstrated in Figure 4. The variables were manipulated through preambles and advertisements developed for the purpose of this study. Four experiment groups were deemed large enough to be appropriate since it is a common number of groups used among researchers (Söderlund, 2018), whilst also being a manageable number of groups in terms of the cost and time limitations of this study.

	AI as a creator	Human as a creator
High emotional message appeal	AI + High emotion	Human + High emotion
Low emotional message appeal	AI + Low emotion	Human + Low emotion

Figure 4. Experiment groups

In order to make sure that differences between groups were non-systematic, and only based on the different treatments received, the participants of the experiment were randomly allocated to groups. By using this method, individual differences are dispersed and may cancel each other out (Söderlund, 2018; Perdue & Summers, 1986). This strengthens the internal validity of the study (Bell, Bryman & Harley, 2022). Moreover, to increase the external validity, each participant was only exposed to one treatment.

The use of a control group could have further increased the internal validity of the results and is an approach recommended by Bell, Bryman and Harley (2022) as it improves confidence in any causal findings. A control group receiving the exact same treatment except for the manipulation would have removed any other explanations for potential differences in the results between the groups. In this case no control group was used.

4.2 Preparatory Work

The preparatory work for the experiment consisted of stimulus development and three pre-studies. The purpose of the preparatory work was to enable better conditions for the main study.

4.2.1 Stimuli Development

A fictitious brand, “Clearer”, was created for the purpose of the study. Creating a fictitious brand is a proven method used by researchers in order to avoid confounding effects (e.g., Colliander & Dahlén, 2011). The brand name used was suggestive, working as a cue (Keller, Heckler, & Houston, 1998) for both a higher and lower emotional appeal.

The product category, toothpaste, was also chosen because of its potential to cater to both a higher and lower emotional message appeal (Miskell, 2004). The product category has previously been employed in research since it is a widely used product category that the majority of the population could relate to (Ramalingam, Palaniappan, Panchanatham, & Palanivel, 2006), and was therefore further deemed appropriate for the study. Moreover, the top two advertisers in Sweden in 2021 were ICA and P&G (Statista, 2022), which further supports the consumer familiarity with marketing in the FMCG domain. Lastly, the impact of AI in marketing has been shown to be one of the highest in the industry of consumer-packaged goods since the industry involves frequent contact with many consumers and therefore also manages a lot of consumer data (Davenport et al., 2020). This further strengthens the argument of using toothpaste as a product category.

The stimuli were designed with an iterative approach, where pre-tests were used to ensure the quality of the stimuli as well as a significant manipulation. Since the MAIN model was developed for a digital context, the stimuli were also developed to fit a digital setting.

4.2.1.1 Stimulus 1: A Preamble

Due to the theoretical support of the MAIN model in this thesis it was important to consider the three criteria established for the activation of heuristics (Sundar, 2008) when developing the stimuli. Firstly, that there is a cue available when making a decision or a judgment. Secondly, that the heuristic should be accessible at the time of decision making, and thirdly, that the heuristic should be applicable or relevant to the situation at hand. The study has therefore been designed to adhere to these criteria and ensure that the heuristic is present and activated by a cue. In the case of this study, the cue was a preamble of an article in the Swedish industry magazine Resumé (Appendix A).

The manipulated variable in the preamble stimulus was the marketing content producer of the fictitious company Clearer; either humans (employees at a marketing agency) or an AI-tool. To increase the contrast between the scenarios, the choice was made to present the advertising as either completely automated by AI or completely performed by humans. Both preambles presented a situation where the advertising creation was handed over to someone or something else - a sort of outsourcing which made them comparable.

Since the heuristic mechanism was reliant on the preamble, the preamble was developed in order to make the scenario as realistic as possible for the respondents to picture themselves in. This is important since Bell, Bryman and Harley (2022) emphasize the significance of realism for the sake of ecological validity as circumstances too far from everyday life might facilitate results with limited generalizability. To strengthen the ecological validity, the preamble was therefore encoded into the interface of the online news feed of the magazine Resumé. The stimuli were also created based on other preambles on the website in order for the wordings and contents to be as accurately aligned with the setting as possible.

Furthermore, according to Söderlund (2018), it is of high importance to keep factors other than the manipulation constant in the stimuli, in order to isolate the experiment's effects. Bell, Bryman and Harley (2022) similarly emphasize the high validity of experiments when leaving only the manipulation as the possible explanation of any differences in the results. The two versions of the articles were therefore created to be as similar as possible in terms of looks, length and word choices.

4.2.1.2 Stimulus 2: A Toothpaste Ad

The second stimulus developed for the experiment was an ad for Clearer Toothpaste. The medium of an online ad was chosen since 69% of advertising spending in Sweden is invested in internet advertising (Statista, 2022). It was also suitable due to the use of the MAIN model, which, as mentioned previously, has been developed to use in regard to digital content. An image ad, not including animations or audio, was therefore developed (See the final version in Appendix B).

Two versions of the advertisement for toothpaste were developed for Clearer. The first contained a low emotion message appeal which promised help against sensitive teeth, while the second contained a high emotional message appeal which promised a whiter smile. The websites of popular brands Colgate and Sensodyne (Colgate, n.d.; Sensodyne, n.d.) provided inspiration for the ad developed and the verbal messaging was kept similar to what the two brands used in practice to facilitate realism and strengthen the ecological validity. Finally, the ads were identical in terms of layout, images, and colors, except for the texts describing the benefits of the product. This to, just as with the article, leave the manipulation the only explanation of any differences in the results (Söderlund, 2018; Bell, Bryman & Harley, 2022).

4.2.2. Pre-studies

Three pre-studies were conducted with the purpose of setting proper prerequisites for the main study. According to Söderlund (2018), several researchers argue that the manipulation used in an experiment must be strong. For role-play experiments particularly, one limitation mentioned is the challenge of constructing a strong treatment. Hence, the pre-studies included manipulation checks. For the ad, the manipulation check required significant differences in perceived level of emotion between the stimuli before proceeding to the main study. For the preamble, the respondents had to accurately categorize who the producer of the ad was. Moreover, in order for the stimuli to reflect a real situation, and ensure proper ecological validity, it was also important in the pre-studies to reach a valid reality perception of the stimuli as well as to identify any previous knowledge of the brand name.

Since the main study was to be conducted in Swedish, the stimuli developed were in Swedish, and hence, the pre-studies also used Swedish as the survey language. The survey was distributed through the social media of Facebook and LinkedIn. Hence, the participants of the pre-tests were

recruited through convenience sampling. Convenience sampling is a type of non-probability sampling where the sample is chosen due to its availability (Bell, Bryman & Harley, 2022). Bell, Bryman, and Harley (2022) explain that generally, researchers should strive to use probability sampling, i.e., a sampling type that increases the chances of a representative sample through the use of random selection where every member of the population may be selected. This point is echoed by other researchers (Andrade, 2021) in order to be able to generalize the results to the broader population, and not just the sample included in the study. That said, Bell, Bryman, and Harley (2022) do point out that there are situations where non-probability sampling, i.e. sampling not using random selection, can be fitting. Andrade further points out that if one decides upon this method, it is crucial to be transparent about this and emphasize the limited generalizability (2021). Following this reasoning, this study utilizes convenience sampling only in the pre-studies. This is not only mentioned by Bell, Bryman, and Harley (2022) as an acceptable use of convenience sampling, as it is used only to adjust and prepare the main study, but the method also works well considering the time and cost limitations of this study. Using convenience sampling made it possible to iteratively develop the stimuli to ensure proper realism and manipulations. Probability sampling at this stage would have decreased the time and attention available for stimuli development and as such was not deemed an appropriate choice.

4.2.1 Pre-study 1

Pre-study 1 tested the perceived differences between the manipulations, familiarity with the brand name as well as the perceived realism of the stimuli. In order to evaluate different options before launching in full scale, two different ad stimuli pairs were tested, both of which had two versions: one with a higher emotional appeal and one with a lower emotional appeal. This approach to pre-testing is commonly applied by researchers before deciding upon final stimuli for the experiment (Söderlund, 2018). The first pre-study received 50 responses of which it was confirmed that the ads and the preambles were perceived as realistic. Moreover, pre-study 1 provided the insight that there was little familiarity with the company name “Clearer” and that the message of who was in charge of the marketing at “Clearer” came across to the respondents.

One of the advantages of conducting a pre-study is to identify problems associated with the treatment, and to be able to create a better treatment for the main study (Söderlund, 2018). After 50 responses, there was no significant difference identified in perceived level of emotion communicated between the two versions of either stimulus. Hence it was decided to close pre-study 1 and conduct a second pre-study in order to approve the stimuli.

4.2.2 Pre-study 2

The purpose of pre-study 2 was to reach significant differences between the stimuli. During the data collection for pre-study 1, there was feedback received that the scale in which emotional appeal was measured was hard for the respondents to interpret, which could be a reason behind the insignificant results. Hence, new scale measures were used in pre-study 2. In addition, pre-study 1 provided valuable feedback which was applied in order to improve the stimuli for the upcoming pre-study. The preambles and one of the ad pairs were further tested in pre-study 2. The ad pair was chosen because it had the highest level of realism and as previously mentioned, realism is important to ensure ecological validity (Bell, Bryman & Harley, 2022).

Table 2. Results of pre-study 2

Stimuli	M_{realism}	M_{Emotion}
<i>Preamble HU</i>	4.74	-
<i>Preamble AI</i>	5.52	-
<i>Ad HE</i>	4.38	3.83
<i>Ad LE</i>	4.67	2.64

51 respondents answered the survey of the second pre-study. By conducting a non-parametric Mann-Whitney U test it was confirmed that there was a significant difference between the level of emotion communicated in the two stimuli ($p=0,002$). Moreover, the respondents found the new manipulations to be realistic (Table 2). Hence, the manipulations were deemed valid to continue to the main study.

4.2.3 Pre-study 3

Although the results were significant in the second pre-study, it was decided that a third pre-study would be conducted in order to enforce the emotional element of the ads and increase the perceived emotion. Hence, a test with an ad for another product type was conducted where the color scheme was warmer and the ad text was more descriptive. The results from the 53 respondents indeed demonstrated higher levels of communicated emotion ($M_{More} = 4,67$, $M_{Less} = 4,07$). However, the difference between the two manipulations was not significant ($p= 0,091$).

Thus, it was decided that the main study would proceed with the stimuli from pre-study 2 because of the significant difference between the stimuli. Similar to Dahlen et al. (2008), this study is not interested in the absolute level of emotion, rather the differences in the degree of emotion. Therefore, and because of the time constraint of the thesis, no more pre-studies were conducted.

4.3 Main Study

4.3.1 Sample and Data Collection

The data collection for the main study was performed with the help of and in collaboration with Norstat. Norstat delivers data to their customers for European market research and is active in multiple countries (Norstat Sverige, n.d.a). Working with Norstat not only sped up the data collection but the company's data collection routines and expertise allowed for probability sampling and a nationally representative sample which strengthened the external validity of the study. The nationally representative sample was ensured by the use of random selection and as such should increase the generalization of the data (Bell, Bryman & Harley, 2022).

The data collection method employed in this study was online self-completion questionnaires - the respondents independently answered a survey containing two separate stimuli. An advantage of using this data collection method is the quick and cheap distribution to a high number of respondents compared to other methods. Allowing the respondents to answer without an interviewer or other observant present also lowers the risk of social desirability bias or potential interviewer effects (Bell, Bryman & Harley, 2022). While the closed nature of a survey prevents any follow-up questions and limits the depth as respondents do not tend to want to write much (Bell, Bryman & Harley, 2022), the format was deemed sufficient as the study is not exploratory in nature and instead seeks to confirm or reject the formulated hypotheses. Another risk is that of misunderstandings as the respondents are not able to ask any clarifying questions. To minimize the risk of misunderstandings the survey was sent out for review to a small number of people, including our contact at our data collection collaborator Norstat, who were not involved in the development of the survey and whose feedback were used for a final adjustment to maximize clarity. This type of piloting of a survey is recommended by Bell, Bryman, and Harley (2022) in order to find and fix any issues regarding the formulations of the questions before the main study is sent out.

The collaboration with Norstat was set up in such a way that the authors would have full control of the data collection, storage, and removal. The data ownership fully belongs to the authors, which ensured a safe data handling process throughout the project. That said, all Norstat panelists have consented to aggregated and anonymous handling of data they provide in surveys (Norstat Sverige, n.d.b). Norstat's data gathering routines ensured that this study had voluntary participants and is well aligned with GDPR requirements. Furthermore, the company performs their work in accordance with their certification ISO 20252:2019 (Norstat Sverige, n.d.c) which facilitates quality research by setting specific process standards (Gasiorowski-Denis, 2019).

Collecting personal data about the respondents has been avoided to the greatest extent by the authors. Few demographic variables, age and gender, were collected for the purpose of checking individual differences in the dataset, which was considered necessary to ensure the quality of the data employed in the study. Everyone in the sample was 18+ years old in order to restrict information collection from children.

4.3.2 Survey Design

The survey was programmed in Qualtrics by the authors of this study. The language of the survey was Swedish in order to increase the validity of the study and avoid misunderstandings. However, it is notable that there are methodical difficulties encountered when translating established measures to a new language (Green & White, 1976). To increase the clarity of the measures two people independent from the translation process were brought in to review and adjust the final measures and their wording.

Furthermore, while the pre-studies strove to increase ecological validity, it is worth mentioning that the generalization of the results is inherently limited since the respondents answered a survey (Bell, Bryman & Harley, 2022). This is likely not part of their natural routine in reacting to advertisements and as such limits the ecological validity of the study. The answers the respondents provide may therefore not fully reflect their perceptions in a situation where they are not asked to answer specific questions and in turn not be fully generalizable to an everyday situation.

4.3.2.1 Measures

To ensure measurement validity the measurements used in the survey were taken from research articles in peer reviewed journals. However, some were adapted to fit the context of the study. Furthermore, multi-item questions were used throughout the survey to increase reliability (Söderlund, 2018). Cronbach Alpha was calculated for each multi-item measure, and indexes were created when the Cronbach Alpha of the multi-item measures exceeded the limit of 0.8. One question measuring purchase intention was also included in the study for the purpose of ensuring the nomological validity of selected variables in the study (Söderlund, 2018).

An instructional manipulation check was included in the survey of the main study to ensure that the participants had understood the message of the preamble. Performing an instructional manipulation check is seen as important because of the risk that participants on online consumer panels have incentives to finish the survey quickly, without full focus (Söderlund, 2018). The latter half of the survey further included an attention check to ensure that the respondents were still paying attention and carefully reviewing the questions. Finally, the survey ended with questions covering basic demographics of age and gender (full survey, in both Swedish and English, available in Appendix C). Questions for each measure, as well as the manipulation checks, are presented in Table 3.

Creativity

To measure the variable of creativity perception, a 7-point Likert scale (1 = completely disagree, 7 = completely agree) was used. The questions asked were adopted from Hong et al. (2022) and Dahlen et al. (2008) and adapted to suit the setting of this study. The Cronbach Alpha of the questions was 0,899 and an index was created.

Spending

The perceived advertising expense was measured on a 7-point Likert scale (1 = completely disagree, 7 = completely agree). Inspiration for measures of the variable was collected from Kirmani and Wright (1989), Modig et al. (2014) and Kirmani (1990). The measures were then adapted and re-written in order to fit the context of this study. The Cronbach Alpha of the questions was 0,924 and an index was created.

Effort

In order to measure perceived effort, a 7-point Likert scale (1 = completely disagree, 7 = completely agree) was used. Similar measures have previously been used by, for example, Modig and Dahlen (2020). The Cronbach Alpha of the questions was 0,929 and an index was created.

Ad Attitude

Ad attitude was measured on a 7-point Likert scale (1 = completely disagree, 7 = completely agree). The measures have been adapted from Kirmani (1990) and Bakpayev et al. (2022) who used similar measures for ad attitude in their research. The Cronbach Alpha of the questions was 0,869 and an index was created. Moreover, ad attitude has been proven to impact purchase intention (Lee, Lee, & Yang, 2017), and the correlation was therefore checked between the variables. Purchase intention and ad attitude were significantly and positively correlated (0.569, $p < 0.001$), meaning that the ad attitude measure appear to exhibit a good nomological validity (Söderlund, 2018).

Brand Attitude

Brand attitude was measured on a 7-point Likert scale (1 = completely disagree, 7 = completely agree). The measures used have previously been presented by Lutz et al. (1983) and used more recently by, for example, Modig and Dahlen (2020) and Chavadi et al. (2020). The Cronbach Alpha of the questions was 0,895 and an index was created. Moreover, purchase intention and brand attitude are also shown to be related (Lee et al., 2017) and the correlation was therefore checked between those two variables. The correlation showed that brand attitude and purchase intention were significantly and positively correlated (0.707, $p < 0.001$) meaning that the brand attitude measure appears to exhibit a good nomological validity (Söderlund, 2018).

Brand Trust

Brand trust was measured on a 7-point Likert scale (1 = completely disagree, 7 = completely agree). Similar measures have been used by, for example, Colliander and Marder (2018), Frassetto, Mollá Descals, & Ruiz-Molina (2017) and Chaudhuri and Holbrook (2001). The Cronbach Alpha of the questions was 0,909 and an index was created. Since brand trust has been shown to be followed by purchase intention in the hierarchy of effects (Cabeza-Ramírez et al., 2022), a correlation was performed between the two variables. The correlation was significant

and positive (0.651, $p < 0.001$) meaning that the measure of brand trust appears to exhibit a good nomological validity (Söderlund, 2018).

Table 3. Measurement item summary

Variable	Measurement item
<i>Manipulation check</i>	<p>Who is in charge of the marketing communication at Clearer?</p> <p><input type="radio"/> A marketing agency</p> <p><input type="radio"/> An AI-tool</p> <p><input type="radio"/> A nurse</p>
<i>Attention check</i>	<p>Thank you for coming this far. Here is a check to ensure that you are paying attention. Please select number 7 below.</p> <p><input type="radio"/> 1</p> <p><input type="radio"/> 7</p> <p><input type="radio"/> 3</p>
<i>Creativity</i>	<p>To what extent do you agree with the following statements? (1 = completely disagree, 7 = completely agree)</p> <p>a) 1-7: The ad was creative</p> <p>b) 1-7: The ad includes original elements</p> <p>c) 1-7: The advertisement included unusual and imaginative ideas</p>
<i>Spending</i>	<p>To what extent do you agree with the following statements? (1 = completely disagree, 7 = completely agree)</p> <p>a) 1-7 Clearer's ad seems more expensive to produce compared to other ads for toothpaste</p> <p>b) 1-7 I perceive the cost of this advertisement to be high</p> <p>c) 1-7 Compared to other ads in this product category, I believe that this ad was more expensive to produce than average</p>
<i>Effort</i>	<p>To what extent do you agree with the following statements? (1 = completely disagree, 7 = completely agree)</p> <p>a) 1-7: Clearer devotes much effort to its toothpaste</p> <p>b) 1-7: Clearer devotes great resources to its toothpaste</p> <p>c) 1-7: Clearer devotes time and energy to its toothpaste</p>
<i>Ad Attitude</i>	<p>What is your overall attitude of the ad?</p>

-
- a) Bad/Good
 - b) Unpleasant/Pleasant
 - c) Unattractive/Attractive
-

- To what extent do you agree with the following statements? (1 = completely disagree, 7 = completely agree)
- Brand Attitude*
- a) 1-7: The brand Clearer is attractive
 - b) 1-7: I have a positive impression of Clearer
 - c) 1-7: The brand Clearer is good
-

- To what extent do you agree with the following statements? (1 = completely disagree, 7 = completely agree)
- Brand Trust*
- a) 1-7: Clearer are honest
 - b) 1-7: Clearer are believable
 - c) 1-7: Clearer are credible
-

4.3.3 Data Analysis

The first step of the data analysis was to clean the dataset by removing the answers that did not meet specific quality thresholds. A total of 634 respondents completed the questionnaire. After excluding respondents that did not perceive the ad to be realistic and did not pass the attention or manipulation checks, the final number of respondents that were considered valid for further analysis amounted to 535. The number of respondents in each group were sufficient for performing statistical tests that are considered useful when comparing groups ($N_{AI} = 253$, $N_{HU} = 282$, $N_{HE} = 269$, $N_{LE} = 266$). The group sizes were unequal, but to such a small extent that it did not cause any concerns in the analysis (Söderlund, 2018).

The second step was to test for any systematic differences between the two groups to ensure external validity of the results. While the data collection process should have worked in our favor through random assignment, some statistical tests were nonetheless conducted to rule out any issue of demographic patterns impacting and skewing the results and reducing its generalizability. This being a common issue brought up by Bell, Bryman, and Harley (2022). To ensure that individual differences were canceled out in the randomized allocation, independent t-tests were performed for the demographic variables which demonstrated no significant differences in age or gender between the groups. The final sample of respondents consisted of

54.0% females, 45.4% males and 0.6% that answered that they did not prefer to state their gender. Moreover, the ages in the sample spanned between 18 and 85 years, with the average age being 47.7 years, and the median age being 45 years.

To analyze the data and test the hypotheses this study uses OLS regression models and t-tests. The assumptions of both statistical methods were checked to ensure no issues in the testing or with the statistical inferences made. Assumptions of the tests were confirmed by considering the sample size, the data collection process and by using data visualization. Lastly, statistical testing of hypotheses was conducted. This study seeks to establish significant results at a 95% confidence level and as such uses the common threshold of 0.05 for the p-value (Bell, Bryman & Harley, 2022). The results from the hypothesis testing are presented in the upcoming section.

5. Results and Analysis

In the following section, the data collected in the study is analyzed through statistical testing of the proposed hypotheses. Findings are presented systematically based on the order of which the hypotheses were introduced. Results of the hypothesis testing are presented using the abbreviations below (Table 4). This in order to improve readability. The section concludes with a summary of all hypotheses and an adapted conceptual framework.

Table 4. Abbreviations used in the result section

Full word	Abbreviation
<i>Artificial intelligence</i>	AI
<i>Human</i>	HU
<i>Low emotional message appeal</i>	LE
<i>High emotional message appeal</i>	HE

5.1 Hypothesis Testing

5.1.1 Hypothesis 1/2/3: Consumer Perceptions

H1/2/3 suggests that an advertisement portrayed as having been created by AI will be perceived as less creative, expensive, and effortful to produce compared to the same advertisement portrayed as having been created by a human. To test these hypotheses, planned comparisons were employed with two-tailed independent t-tests (Table 5). A mean comparison between the respondent groups exposed to the different preambles showed that an advertisement portrayed as being created by AI indeed was perceived as less expensive ($M_{HU} = 3.22$, $M_{AI} = 2.66$, $p < 0.001$) and effortful ($M_{HU} = 3.77$, $M_{AI} = 3.28$, $p < 0.001$) to produce. However, the difference in creativity perception was not significant ($M_{HU} = 3.26$, $M_{AI} = 3.06$, $p < 0.091$). Hence, H2 and H3 are supported, but H1 is rejected.

Table 5. Results of hypotheses 1, 2 and 3

	M_{HU} (SD)	M_{AI} (SD)	Mean diff.	Decision
<i>H1: Creativity</i>	3.26 (1.30)	3.06 (1.36)	0.2	R
<i>H2: Spending</i>	3.22 (1.45)	2.66 (1.39)	0.44***	S
<i>H3: Effort</i>	3.77 (1.20)	3.28 (1.31)	0.49***	S

N = Total 535, HU 282, AI 253

Significance: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

R: Rejected

S: Supported

5.1.2 Hypothesis 4: Advertising Outcomes

H4a/b/c posits that an advertisement portrayed as having been created by AI will result in a less favorable brand attitude, ad attitude and brand trust compared to the same advertisement portrayed as having been created by a human. To test this hypothesis, planned comparisons were employed with two-tailed independent t-tests (Table 6). A mean comparison between the respondent groups exposed to the different preambles showed that the ad portrayed as created by AI indeed resulted

in a less favorable brand attitude ($M_{HU} = 3.93$, $M_{AI} = 3.65$, $p = 0.005$), ad attitude ($M_{HU} = 4.63$, $M_{AI} = 4.33$, $p = 0.004$) and brand trust ($M_{HU} = 3.79$, $M_{AI} = 3.40$, $p < 0.001$). Therefore, H4a, H4b and H4c are all supported.

Table 6. Results of hypothesis 4

	M_{HU} (SD)	M_{AI} (SD)	Mean diff.	Decision
<i>H4a: Brand attitude</i>	3.93 (1.11)	3.65 (1.13)	0.28**	S
<i>H4b: Ad attitude</i>	4.63 (1.15)	4.33 (1.21)	0.3**	S
<i>H4c: Brand trust</i>	3.79 (1.03)	3.40 (1.08)	0.39***	S

N = Total 535, HU 282, AI 253

Significance: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

R: Rejected

S: Supported

5.1.3 Hypothesis 5: Emotional Message Appeal

H5 states that using a higher emotional message appeal in an advertisement portrayed as having been created by AI will cause a less favorable brand attitude, ad attitude, and brand trust compared to using a lower emotional message appeal. To test this hypothesis, PROCESS macro's model 1 was used to see whether the message appeal acted as a moderator between ad creator (Human vs AI) and brand attitude, ad attitude or brand trust. Figure 6. shows a conceptual diagram of the model.

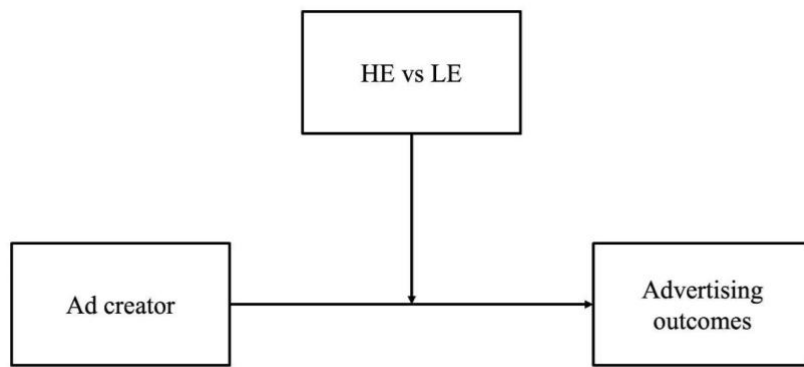


Figure 6. Conceptual diagram of Hayes' model 1.

After having conducted the moderation analysis it was evident that there was no significant interaction effect between ad creator and brand attitude ($p=0.86$), ad attitude ($p=0.96$) or brand trust ($p=0.69$). This means that H5a, H5b and H5c are all rejected (Table 7).

Table 7. Results of hypothesis 5.

	Moderator	R-sq	Δ R-sq	Coefficient	SE	CI 95%		Interaction effect, p-value	Decision
						Lower	Upper		
H5 a:	HE vs LE	0.02	0.00	0.03	0.20	- 0.3497	0.4164	0.86	R
H5 b:	HE vs LE	0.02	0.00	- 0.01	0.20	- 0.4127	0.3916	0.96	R
H5 c:	HE vs LE	0.04	0.00	- 0.07	0.18	- 0.4334	0.2861	0.69	R

N = Total 535

R: Rejected

S: Supported

The theoretical reasoning behind H5 is built upon an assumption of an activated machine heuristic. It is therefore deemed to be of interest to test with a planned comparison whether there is a difference between the groups with different emotional message appeal while only having been exposed to the AI preamble, having their machine heuristic activated. A two-tailed independent t-test was therefore performed. However, no significant differences could be identified either in brand attitude ($p = 0.16$) ad attitude ($p = 0.27$), or brand trust ($p = 0.36$). This further confirms that no significant effect of the difference in emotional message appeal was discovered, not even when the machine heuristic was expected to be strong.

5.2 Additional Testing of Conceptual Framework

The theoretical framework used for this thesis hypothesized that an ad portrayed as being created by AI will lead to the advertisement being perceived as less creative/expensive, which in turn will impact how effortful the advertisement is to produce, leading to a less favorable brand attitude, ad attitude and brand trust. To test this, Preacher and Hayes' (2008) model 6 (Figure 5) of bootstrapped mediation was used with a bootstrap resampling set to 5000. The independent variable was the portrayed creator (AI/human), the mediators were creativity/spending and effort, and the brand outcomes were tested respectively. Hence, six tests were conducted to test all combinations. To test for significance, it was tested if the value zero was covered between the lower and upper confidence intervals. If it wasn't, it could be concluded that the effect was significant.

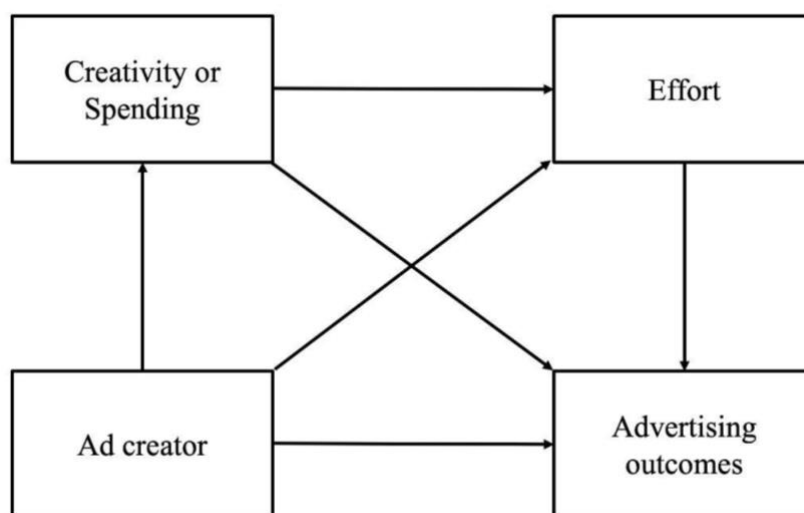


Figure 5. Conceptual diagram of Hayes' model 6

In regard to the analysis of the spending variable through effort, the indirect effect for brand attitude (-0.9, 95% CI: (-0.14) - (-0.05)), ad attitude (-0.08, 95% CI (-0.12) - (-0.04)) and brand trust (-0.10, 95% CI: (-0.15) - (-0.06)) was significant whilst the direct effect for all mentioned advertising outcomes was insignificant (Table 8). This suggests full mediation of the spending and effort variables on the advertising outcomes. The effects are negative, which demonstrates a negative mediating relationship. Namely, if the respondent is exposed to an ad portrayed as being created by AI, they will perceive the ad as less expensive and effortful to produce which leads to negative advertising outcomes. Thus, the underlying reasoning behind our hypothesis is verified, lending further credibility to our research.

Table 8. Mediator analysis for spending

Dependent Variable		Product of coefficients			CI: 95%	
		Point estimate	SE	t	Lower	Upper
Brand attitude	Indirect effect	- 0.09	0.02		- 0.1440	- 0.0485
	Direct effect	- 0.06	0.09	- 0.68	- 0.2444	0.1186
Ad attitude	Indirect effect	- 0.08	0.02		- 0.1211	- 0.0408
	Direct effect	- 0.06	0.09	- 0.68	- 0.2444	0.1186
Brand trust	Indirect effect	- 0.10	0.03		- 0.1528	- 0.0552
	Direct effect	- 0.13	0.08	- 1.77	- 0.2821	0.0150

Values for indirect effect: Ad creator -> Spending -> Effort -> Advertising Outcomes

For the creativity variable however, all brand outcomes demonstrated insignificant effects (Table 9). The direct effect was also insignificant, except for the variable of brand trust where it was significant. However, this still suggests no mediation effects for any of the relationships. Although no mediating effects could be found, it is worth mentioning that significant effects

were identified for relationships that are already established in research, namely the impact of creativity on effort and advertising outcome variables (Appendix D).

Table 9. Mediator analysis for creativity

Dependent Variable		Product of coefficients			CI: 95%	
		Point estimate	SE	t	Lower	Upper
<i>Brand attitude</i>	Indirect effect	- 0.02	0.01		-0.0516	0.0032
	Direct effect	- 0.10	0.08	- 1.32	- 0.2488	0.0492
<i>Ad attitude</i>	Indirect effect	- 0.02	0.01		- 0.0418	0.0024
	Direct effect	- 0.13	0.08	- 1.58	- 0.2967	0.0325
<i>Brand trust</i>	Indirect effect	- 0.03	0.02		- 0.0606	0.0042
	Direct effect	- 0.19	0.07	- 2.81	- 0.3202	-0.0568

Values for indirect effect: Ad creator -> Creativity -> Effort -> Advertising Outcomes

5.3 Summary of Results

The results are summarized in Table 10 and will be further elaborated upon in the upcoming discussion. Figure 7 demonstrates the directional relationships established in the hypothesis testing. The results show that the ad creator has a negative impact on perceived expense, effort, and the advertising outcomes. However, the creator effect on the perceived creativity and the moderating effect of the emotional message appeal could not be supported in the hypothesis testing.

Table 10. Hypotheses result summary

Hypotheses	Decision
<i>H1</i> : An advertisement portrayed as having been created by AI (vs human) will be perceived as less (vs more) creative	R
<i>H2</i> : An advertisement portrayed as having been created by AI (vs human) will be perceived as having been less (vs more) expensive to produce	S
<i>H3</i> : An advertisement portrayed as having been created by AI (vs human) will be perceived as having been less (vs more) effortful to produce	S
<i>H4</i> : An advertisement portrayed as having been created by AI (vs human) will generate a less (vs more) favorable <ul style="list-style-type: none"> a) brand attitude b) ad attitude c) brand trust 	S S S
<i>H5</i> : A high (vs low) emotional message appeal in an AI created advertisement will generate a less (vs more) favorable <ul style="list-style-type: none"> a) brand attitude b) ad attitude c) brand trust 	R R R

*R: Rejected**S: Supported*

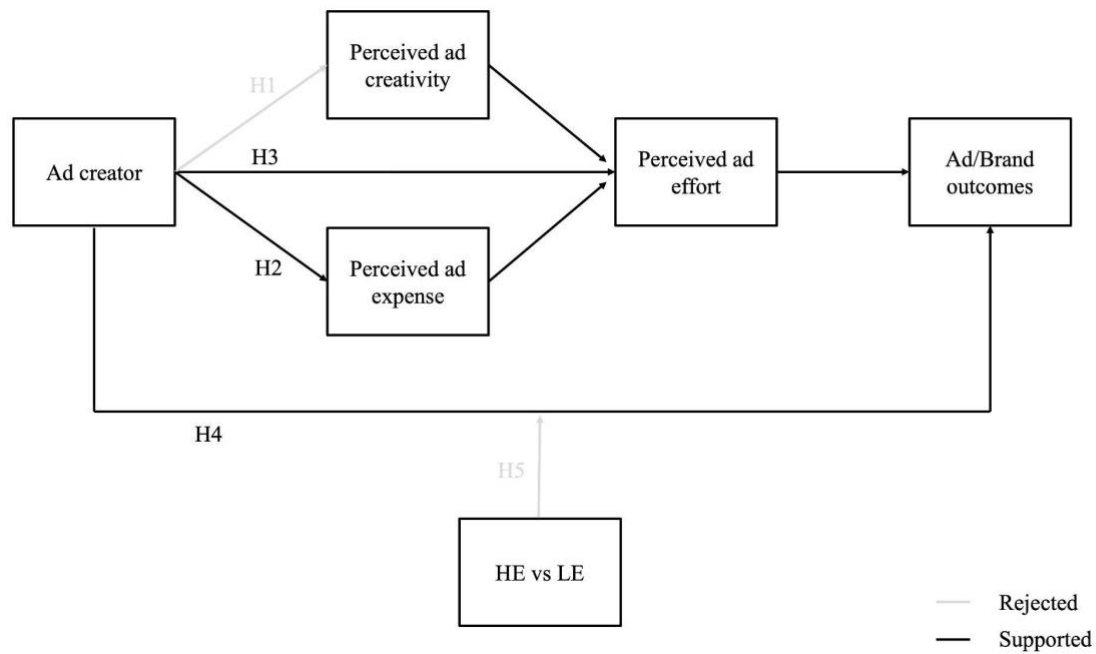


Figure 7. Hypotheses result summary

6. Discussion

AI is becoming an increasingly important phenomenon for both researchers and practitioners to understand. Therefore, it is also becoming important to understand consumer perceptions of the phenomenon and how they might impact the decision of implementing AI in the marketing operations. By investigating consumer perceptions and judgements of AI-created advertisements, this thesis extends the knowledge in a relatively unexplored field and provides both theoretical contributions and managerial implications. This section elaborates on the results and the subsequent insights.

6.1 General Discussion

6.1.1 AI as an Ad creator does Affect the Consumer Perceptions of Advertisements

While the result of H1 revealed no significant effect on creativity perception from presenting AI as the creator of an advertisement, H2 and H3 did reveal a significant negative effect on the spending and effort perceptions. These results join the works by Bakpayev et al. (2022) and Wu and Wen (2021) in confirming that presenting AI as a creator of an advertisement indeed can affect how the content is perceived.

The theoretical reasoning, however, did not lead to a supported hypothesis regarding creativity. There are a few possible explanations for this. A key assumption made in forming the hypothesis was that people do not view machines and AI as particularly creative, because of the machine heuristic of objectivity and consumer skepticism of AI's creative abilities. However, AI is a steadily evolving technology and while the concept of AI creativity has been of some discussion (Hong et al., 2022), it is also clear that AI is increasingly employed for traditionally creative tasks. This is evident in the research done regarding AI-created art and music (Agudo et al. 2022; Chamberlain et al., 2018; Hong et al., 2022). The launch of the AI-tool Chat GPT in 2022, has also attracted a lot of attention as it surprised many with its capability and creativity (Gruman, 2022). This indicates that, although there indeed has been a machine heuristic uncovered in research (Sundar & Kim, 2019) and a general aversion towards algorithms (Lou et al., 2022), the machine heuristic as a phenomenon could have become weaker or changed with time as the technology has developed and knowledge around the technology have become more

widespread. Hence, people may not see AI as a signal of lower creativity to the same extent they used to, and the machine heuristic may have a weaker effect on the creativity perception than expected.

One other factor to consider is that while previous studies have noted a negative effect of AI as a content creator on creativity perceptions, this has been in other fields. Chamberlain et al.'s study (2018), for example, was regarding art. While it is reasonable to assume that perceived creativity in advertisements would be impacted since it has been impacted in other areas, the results may be different because of differences in the fields. Perhaps, creativity has a different role in the cultural fields of art and music, which could impact the outcomes in different ways.

It is also possible that a different result may have been reached with a different manipulation. This study used a toothpaste ad. It is not a product known for creativity or creative advertising and as such, a low level of perceived creativity could have been expected whether human or AI was the content generator. It is therefore worth considering whether a more highly creative advertisement would reveal a different result as the effect of the machine heuristic could have a stronger impact.

Despite these possible explanations for the insignificant result on the 95% confidence level, it is noteworthy that H1 was significant at a 90% confidence level ($p < 0.091$). This indicates that while this study has not been successful in providing robust results regarding the AI creator effect on creativity perception, the topic might still be worth taking a closer look at.

6.1.2 AI as an Ad creator has an Impact on Advertising Outcomes

The results from H4 demonstrated that there indeed was a significant difference demonstrated for all advertising outcomes included in this research depending on the portrayed creator of the ad. These results confirm findings from previous studies in the fields of AI content creation that the knowledge of an AI creator will have a negative impact on the evaluations made by the observer (Graefe et al. 2018; Agudo et al., 2022; Wu & Wen, 2021).

This study not only establishes that the advertising outcomes in fact are impacted by presenting AI as the ad creator, but also extends to finding more potential explanations as to why this might be. Previous research has made efforts in understanding this phenomenon and has for example suggested that the individual machine heuristic is related to the evaluations made about AI-

created content (Hong et al., 2021). In this study, this reasoning is extended by proving through which mechanisms the machine heuristic can suggestively operate. A mediator analysis confirmed full mediation between the content creator and advertising outcomes, through the variables of spending and effort. This suggests that signaling theory and the machine heuristic work together to form evaluations about AI-created advertisements.

Another possible way that ad outcomes could have been influenced was through the U-shaped relationship between spending and product commitment (Kirmani, 1997), namely consumers perceiving the spending as too high. However, the mediator analysis confirms a full chain of negative relationships through the variables which indicates that the negative brand judgments stem from a machine heuristic of low cost. The low mean value of perceived spending ($M_{AI}=2.66$) strengthens this reasoning and rules out the possibility that the viewers would find the spending too high when using AI to produce advertisement content in this manner.

Moreover, previous research in AI content creation has also identified a difference between evaluations of the creator and the output produced by that creator (Hong et al., 2022). However, this discrepancy was only found in the area of music and not in art and news, to the knowledge of these authors, which makes it interesting to understand how AI-created advertisements may be impacted by this difference. In this study however, no such discrepancy was discovered as both brand and ad attitude for AI-created ads were affected by the creator effect. Although the brand was rated lower compared to the ad, it is worth noting that the ad outcomes are positioned earlier in the hierarchy of effects (Lutz et al., 1983) which may explain the higher mean values compared to the brand outcomes ($M_{AI \text{ ad attitude}} = 4.33$, $M_{AI \text{ brand attitude}} = 3.65$, $M_{AI \text{ brand trust}} = 3.40$).

6.1.3 Emotional Message Appeal Could not be Confirmed to be a Moderator

Although it has been noted that emotions are not attributable to machines, the results from H5 could not prove a significant moderating effect of emotional appeal on the advertising outcomes depending on the creator presented. These results contradict those of other studies made on AI content creation and emotional message appeals (e.g., Bakpayev et al., 2022) as well as other studies establishing the general connection between emotions and a myriad of outcome measures (e.g., Achar et al., 2016).

However, it is worth noting that there are also contradictory findings discovered in previous studies. Tigre Moura and Maw (2021), for example, conducted a study in the field of AI content creation in which they found, contradictory to their expectations, no difference in the judgment of music whether presented as created by AI or not. Moreover, a study conducted by Wu et al. (2022) showed a clear split between positive and negative attitudes when it came to AI-powered content creation. This indicates that AI as a creator does not always significantly affect the perception of the content and opens up for a discussion on why that might be.

One reason behind the insignificant results in this study could be the design of the ad manipulation. This is likely since one challenging aspect mentioned for role-play experiments is construction of a strong treatment (Söderlund, 2018). Even though there was a significant difference between the two levels of emotional appeal, the perceived emotion of the advertisements was rather low ($M_{\text{Emotion}} < 4$). Perhaps the high emotional advertisement was not viewed as emotional enough to create a disconnect with the machine heuristic and prompt less favorable judgments than the low emotional one. Moreover, a manipulation check in terms of the perceived emotion of the ad was only conducted in the pre-study and on a convenience sample. Söderlund (2018) presented benefits with this approach, but this also means that it cannot be fully ensured that the perceived differences in the manipulation were significant in the main study. In order to strengthen the manipulation, one could have increased the contrast with the machine heuristic even more by, for example, using a longer and more descriptive text prompt in the advertisement as done by Bakpayev et al. (2022).

Another factor one could have adjusted in the ad manipulation was the choice of product. Toothpaste was chosen because of its presence in previous research, as well as its potential to communicate different levels of emotional appeals. However, it has been demonstrated that the suitable message appeal depends on a multitude of factors, such as the product being advertised (Ghasemi Siani et al., 2021). A different product could perhaps have increased the misalignment with the machine heuristic and changed the result.

Finally, another reason could be linked to the changing nature of AI and the consumer familiarity and knowledge of the technology, similar to why H1 was believed to be rejected. Since there are many known use cases for AI in marketing (Lewis et al., 2014), perhaps the machine heuristic pushes people to view AI as well performing in this context no matter the advertising appeal. The changing nature of AI may also have changed which tasks are deemed

unsuitable for AI. As such, the emotional message appeal used in this study may not have been misaligned enough with the machine heuristic to make a difference in consumer judgments.

6.2 Theoretical Contributions

This thesis contributes to the unexplored research area of AI content creation, more specifically advertisements, and consumer perceptions. By investigating the intersection of these areas through signaling theory and the MAIN model, new insights have been uncovered on variables that have not previously been investigated in this domain.

The MAIN model by Sundar (2008) has proven useful to explain the mechanisms of the theoretical framework used in this thesis. In this study, similar to in Wu and Wen (2021), the concept of the machine heuristic was used. The results imply that people are indeed prone to attribute machine characteristics to machine created content. In this study this is evident as the respondents saw less effort and spending behind an advertisement they knew to have been created by AI. By providing these insights, this thesis extends the current body of research by explaining potential reasons behind why the content creator can impact consumer judgements and how that unfolds.

Signaling theory can similarly be employed to give context to the results. The connection between AI and efficiency, objectivity and cost-saving can cause people to see the involvement of AI in the advertising content creation process as a signal of less effort and spending behind the advertisement. AI as a creator has rarely been considered as an advertising signal before in research, and this thesis therefore contributes to theory by establishing further proof that using AI in content creation indeed can act as a signal.

6.3 Managerial Implications

While the research on the effect of AI as a creator is still in need of more attention, there are a few managerial implications of the results of this study. This study has confirmed that presenting AI as the ad creator does indeed affect how the ad itself is perceived and the subsequent ad and brand outcomes. Specifically, presenting AI as the ad creator will cause people to see the ad as having been less expensive and effortful to produce. Users of AI as a content creation tool should therefore carefully consider in which other ways they might signal effort and spending to

counteract the creator effect. This becomes particularly important if the source of their advertisements is, or potentially could become, known. While implementing AI in advertising creation it is therefore imperative to consider whether the efficiency gains and other benefits from using AI are enough to outweigh the potential disadvantages of negative consumer perceptions.

Moreover, timing is a significant factor to consider. As mentioned in previous sections, the results of this study will not necessarily hold for long as the perception of machines and AI evolves. Should AI as a content creation tool become the norm in advertising, the negative effects might not put you at a disadvantage anymore. This strengthens the fact that this is a topic for practitioners to keep an eye on as the body of research grows in order to fully understand the effect AI as a creator has on consumer perceptions. Understanding this phenomenon is crucial for practitioners in order to be able to make smart decisions regarding the implementation of an AI-tool as a content creator.

6.4 Conclusion

The purpose of the study was to extend the current research in the intersecting field of AI content creation and consumer perceptions by answering the following research questions:

What are some effects on consumer perceptions and judgements when presenting AI as the creator of an advertisement?

- *What are the effects on perceived creativity, spending and effort when presenting AI (vs human) as the creator of an advertisement?*
- *What are the effects on brand attitude, ad attitude and brand trust when presenting AI (vs human) as the creator of an advertisement?*
- *What is the difference in brand attitude, ad attitude and brand trust between a high emotional vs low emotional message appeal advertisement presented as created by AI (vs human)?*

This study has shown that the creator behind an advertisement indeed can have implications for how the content is perceived and judged by consumers, proving that there indeed is a creator effect present. When communicating that AI has been used to create the advertisements,

consumers assume that the company has spent less money and has put in less effort when producing the advertisement compared to when humans perform the advertisement creation process. A significant negative impact on all advertising outcomes investigated in this study, namely ad attitude, brand attitude and brand trust, was also noted. No significant effects could be identified for perceived creativity of the advertisement, or the moderating effect of emotional message appeal and no conclusions can therefore be drawn about the effects on those variables.

This study therefore confirms previous research conducted about AI content creation and extends the research in the theoretical domains of signaling theory and the machine heuristic. It can be concluded that there indeed can be a risk when using AI to create advertisement content, reflected in negatively affected consumer perceptions and judgements. Hence, managers should consider the consumer perspective when choosing to implement AI in their marketing operations and researchers should continue exploring the field.

6.5 Limitations and Future Research

Although this thesis is believed to have contributed with theoretical and practical implications, the study has its limitations. This is considered natural due to the time and cost constraints of the project but should still be considered when reflecting upon the insights provided in the thesis.

When considering the subject of the thesis, it is notable that AI technology is constantly developing. This fact strengthens the importance of examining the field even further, but it can also act as a limitation. This since it can mean that the consumer perceptions will shift with the technological developments, which would make the results of this study obsolete quicker compared to other studies in other subjects. With that said, since the field is growing and is expected to be even more important in the future (Davenport et al., 2020), there are more perspectives that need to be covered and it is still crucial to conduct further research in the area. In the upcoming paragraphs, different ways in which this can be done is therefore elaborated on.

First, there are limitations in this thesis related to the FMCG industry and the product type of toothpaste. Since the FMCG industry has been shown to have one of the highest impacts of AI in marketing (Davenport et al., 2020), it could be of interest to understand the reception of AI-created advertisements in other contexts where consumers are more surprised by the product

type and the industry where it is presented. Conducting a similar study but with a different context would therefore be of interest.

Second, this study looked at the effect on effort and two of the concepts' main dimensions: advertiser spend and creativity. The mixed results showed one dimension was significantly affected but not the other. Moving forward, another interesting dimension of effort worthy of looking into is passion. Passion has been a commonly discussed topic in fields such as entrepreneurship (Cardon, Wincent, Singh, & Drnovsek, 2009), and leadership (Marques, 2007), but the relationship between passion and perceived effort was established only a few years ago (Dahlen et al., 2020). The connection is logical since it aligns with time and thought being a determinant of effort (Kirmani & Wright, 1989). Considering the close connection between passion and emotions, while AI is strongly associated with efficiency and objectivity, it is reasonable to think that the machine heuristic may affect the perception of passion as well.

Third, other variables can be tested. For example, this thesis was limited to the Swedish population which entails challenges in terms of generalizability since it has been shown that people around the world have different levels of skepticism towards AI (YouGov, 2021). Therefore, it could be of interest to investigate whether differences can be identified between countries. Insights regarding this would be especially useful managerially since many companies today operate on a global level. Furthermore, another moderating variable that would be of interest to investigate would be the difference between well-known and new brands. The experiment in this thesis made use of a fictitious brand, "Clearer", to avoid confounding effects. In order to fully understand the creator effect, it is important to also investigate the consumer reactions for established brands and see how the different brand associations may have an impact on how the advertisements are received. In other studies, it has been proven that prior experiences can have an impact on consumers' judgements and perceptions (Brown & Dacin, 1997), and therefore it is important to also understand and investigate this research dimension. In addition, other brand and ad outcomes could also be included in further research. For example, behavioral dimensions such as purchase intention could also be of interest to understand further in this context. This since purchase intention has been linked to purchase behavior (Chang, Fu, & Jain, 2016).

Fourth, one may also consider whether framing the information of AI as the ad creator in a certain way will change the negative effect. More dimensions of consumer perceptions may be

affected by AI as a creator or there may be ways to frame the situation so as to minimize negative effects and maximize positive ones. The concept of anthropomorphizing - increasing the AI's human likeness - for example, has been suggested to influence human-AI interaction (Kronemann, Kizgin, Rana, & K Dwivedi, 2023).

Fifth, the thesis is also limited to one means of communication, the online ad. The machine heuristic may be activated in a different manner and to a different degree in the context of a different setting. Therefore, it could be of interest to investigate other means of communication, and the potentially moderating effect of advertising medium. One example of a medium of interest to test would be in-store communication. The offline stores are not typically related to technological developments and has been shown to influence customers' perceptions and purchase decisions (Baxendale, Macdonald, & Wilson, 2015), making it an interesting channel to understand further. Another means of communication of interest would be video. Since the medium used in this experiment is one-dimensional, it would be of interest if a medium which involves audio and moving images could evoke more emotions.

Lastly, this thesis investigates the scenario of "outsourcing" the marketing to either an AI-tool or to a marketing agency, representing the human perspective. While another scenario could have been to include advertisements being created by AI and humans working together, it was not included in this study since the contrast between the two was of interest. Usually though, the process is augmented, namely a collaboration between AI and human. Since research has shown that augmented decision-making outperforms both lone human and lone algorithm decision makers (Burton, Stein, & Jensen, 2020), it can therefore be of interest to understand the consumer perceptions and judgements around this dynamic even further.

References

- Achar, C., So, J., Agrawal, N., & Duhachek, A. (2016). What we feel and why we buy: The influence of emotions on consumer decision-making. *Current Opinion in Psychology*, 10, 166–170. doi:10.1016/j.copsyc.2016.01.009
- Agudo, U., Arrese, M., Liberal, K. G., & Matute, H. (2022). Assessing emotion and sensitivity of AI artwork. *Frontiers in Psychology; Front Psychol*, 13, 879088. doi:10.3389/fpsyg.2022.879088
- Ambler, T., & Hollier, E. A. (2004). The waste in advertising is the part that works. *Journal of Advertising Research; J.Adv.Res*, 44(4), 375-389. doi:10.1017/S0021849904040413
- Andrade, C. (2021). The inconvenient truth about convenience and purposive samples. *Indian Journal of Psychological Medicine*, 43(1), 86–88. doi:10.1177/0253717620977000
- Andrade, I. M. D., & Tumelero, C. (2022). Increasing customer service efficiency through artificial intelligence chatbot. *Revista De Gestão*, 29(3), 238–251. doi:10.1108/REG-07-2021-0120
- Bakpayev, M., Baek, T. H., van Esch, P., & Yoon, S. (2022). Programmatic creative: AI can think but it cannot feel. *Australasian Marketing Journal*, 30(1), 90-95.
- Barenkamp, M., Rebstadt, J., & Thomas, O. (2020). Applications of AI in classical software engineering. *AI Perspectives*, 2(1) doi:10.1186/s42467-020-00005-4
- Baxendale, S., Macdonald, E. K., & Wilson, H. N. (2015). The impact of different touchpoints on brand consideration. *Journal of Retailing*, 91(2), 235-253. doi:10.1016/j.jretai.2014.12.008
- Bell, E., Bryman, A., & Harley, B. (2022). *Business research methods* (6th ed.) Oxford University Press.
- Biehal, G. J., & Sheinin, D. A. (2007). The influence of corporate messages on the product portfolio. *Journal of Marketing*, 71(2), 12-25. doi:10.1509/jmkg.71.2.012
- Boulding, W., & Kirmani, A. (1993). A consumer-side experimental examination of signaling theory: Do consumers perceive warranties as signals of quality? *The Journal of Consumer Research*, 20(1), 111-123. doi:10.1086/209337
- Brown, T. J., & Dacin, P. A. (1997). The company and the product: Corporate associations and consumer product responses. *Journal of Marketing*, 61(1), 68-84.

doi:10.1177/002224299706100106

Burton, J. W., Stein, M., & Jensen, T. B. (2020). A systematic review of algorithm aversion in augmented decision making. *Journal of Behavioral Decision Making*, 33(2), 220-239.

Cabeza-Ramírez, L. J., Fuentes-García, F. J., Cano-Vicente, M., & González-Mohino, M. (2022). How generation X and millennials perceive influencers' recommendations: Perceived trustworthiness, product involvement, and perceived risk. *Journal of Theoretical and Applied Electronic Commerce Research*, 17(4), 1431-1449. doi:10.3390/jtaer17040072

Cardon, M. S., Wincent, J., Singh, J., & Drnovsek, M. (2009). The nature and experience of entrepreneurial passion. *Academy of Management Review*, 34(3), 511-532.

Chamberlain, R., Mullin, C., Scheerlinck, B., & Wagemans, J. (2018). Putting the art in artificial: Aesthetic responses to computer-generated art. *Psychology of Aesthetics, Creativity, and the Arts*, 12(2), 177-192. doi:10.1037/aca0000136

Chang, H. H., Fu, C. S., & Jain, H. T. (2016). Modifying UTAUT and innovation diffusion theory to reveal online shopping behavior: Familiarity and perceived risk as mediators. *Information Development*, 32(5), 1757-1773. doi:10.1177/0266666915623317

Chaudhuri, A., & Holbrook, M. B. (2001). The chain of effects from brand trust and brand affect to brand performance: The role of brand loyalty. *Journal of Marketing*, 65(2), 81-93. doi:10.1509/jmkg.65.2.81.18255

Chavadi, C. A., Arul, M. J., & Sirothiya, M. (2020). Modelling the effects of creative advertisements on consumers: An empirical study. *Vision (New Delhi, India)*, 24(3), 269-283. doi:10.1177/0972262920926074

Chen, H., Chan-Olmsted, S., Kim, J., & Mayor Sanabria, I. (2022). Consumers' perception on artificial intelligence applications in marketing communication. *Qualitative Market Research*, 25(1), 125-142. doi:10.1108/QMR-03-2021-0040

Choi, N., & Oyunbileg, T. (2016). Interaction effects of arousal level of positive ambient emotion and advertisement type on product evaluation. *Asia Marketing Journal*, 18(1), 37-53. doi:10.15830/amj.2016.18.1.37

Colgate. (n.d.). Colgate® | tandkräm, munvårdsprodukter och tandhälsa. Retrieved from <https://www.colgate.se>

Colliander, J., & Dahlén, M. (2011). Following the fashionable friend: The power of social media: Weighing publicity effectiveness of blogs versus online magazines. *Journal of Advertising Research*, 51(1), 313-320. doi:10.2501/JAR-51-1-313-320

Colliander, J., & Marder, B. (2018). 'Snap happy' brands: Increasing publicity effectiveness through a snapshot aesthetic when marketing a brand on instagram. *Computers in Human Behavior*, 78, 34-43. doi:10.1016/j.chb.2017.09.015

Dahlen, M., Rosengren, S., & Torn, F. (2008). Advertising creativity matters. *Journal of Advertising Research*, 48(3), 392–403. doi:10.2501/S002184990808046X

Dahlen, M., Thorbjørnsen, H., Colliander, J., Rosengren, S., Gemvik, A., & Thorwid, C. (2020). The effects of communicating passion in advertising: How messages like “We love what we do!” shape people's product and brand evaluations. *Journal of Advertising Research*, 60(1), 3-11. doi:10.2501/JAR-2019-040

Davenport, T., Guha, A., Grewal, D., & Bressgott, T. (2020). How artificial intelligence will change the future of marketing. *Journal of the Academy of Marketing Science*, 48, 24-42.

Davenport, T. H., & Kirby, J. (2016). *Only humans need apply: Winners and losers in the age of smart machines* Harper Business New York.

Davenport, T. H., & Ronanki, R. (2018). Artificial intelligence for the real world. *Harvard Business Review*, 96(1), 108-116.

Fiske, S.T. (2008). *Social cognition* (1st ed.). Boston: McGraw-Hill Higher Education. Retrieved from <http://archive.org/details/socialcognitionf00fisk>

Faraj, S., Pachidi, S., & Sayegh, K. (2018). Working and organizing in the age of the learning algorithm. *Information and Organization*, 28(1), 62-70. doi:10.1016/j.infoandorg.2018.02.005

Frasquet, M., Mollá Descals, A., & Ruiz-Molina, M. (2017). Understanding loyalty in multichannel retailing: The role of brand trust and brand attachment. *International Journal of Retail & Distribution Management*, 45(6), 608-625. doi:10.1108/IJRDM-07-2016-0118

Gangadharbatla, H. (2022). The role of AI attribution knowledge in the evaluation of artwork. *Empirical Studies of the Arts*, 40(2), 125-142.

Gasiorowski-Denis, E. (2019). ISO 20252 tackles market research with confidence. Retrieved from <https://www.iso.org/cms/render/live/en/sites/isoorg/contents/news/2019/02/Ref2369.html>

Ghasemi Siani, M., Mohammadi, S., Soltan Hosseini, M., & Dickson, G. (2021). Comparing young adult responses to rational and emotional sports product advertisements: The moderating role of product type and gender. *International Journal of Sports Marketing & Sponsorship*, 22(4), 798–815. doi:10.1108/IJSMS-04-2020-0045

Gilovich, T., Griffin, D. W., & Kahneman, D. (2002). *Heuristics and biases: The psychology of intuitive judgement*. New York: Cambridge University Press.

Graefe, A., Haim, M., Haarmann, B., & Brosius, H. (2018). Readers' perception of computer-generated news: Credibility, expertise, and readability. *Journalism (London, England)*, 19(5), 595–610. doi:10.1177/1464884916641269

Green, R. T., & White, P. D. (1976). Methodological considerations in cross-national consumer research. *Journal of International Business Studies*, 7(2), 81-87.
doi:10.1057/palgrave.jibs.8490703

Griner, D. (2018), An AI tried to write the perfect lexus ad. here's a scene-by-scene look at what it was thinking. Retrieved from <https://www.adweek.com/programmatic/an-ai-tried-to-write-the-perfect-lexus-ad-heres-a-scene-by-scene-look-at-what-it-was-thinking/>

Gruman, G. (2022,). GPT: Ett högteknologiskt cirkustrick eller den första riktiga AI:N för dagligt bruk? *Computer Sweden* Retrieved from <https://computersweden.idg.se/2.2683/1.774603/gpt-ett-hogteknologiskt-cirkustrick-eller-den-forsta-riktiga-ain-for-dagligt-bruk>

Haenlein, M., & Kaplan, A. (2019). A brief history of artificial intelligence: On the past, present, and future of artificial intelligence. *California Management Review*, 61(4), 5-14.

Hamelin, N., Moujahid, O. E., & Thaichon, P. (2017). Emotion and advertising effectiveness: A novel facial expression analysis approach. *Journal of Retailing and Consumer Services*, 36, 103–111. doi:10.1016/j.jretconser.2017.01.001

Hidalgo, C. A., Orghian, D., Canals, J. A., De Almeida, F., & Martin, N. (2021). *How humans judge machines* MIT Press.

Homer, P. M. (1995). Ad size as an indicator of perceived advertising costs and effort: The effects on memory and perceptions. *Journal of Advertising*, 24(4), 1-12.
doi:10.1080/00913367.1995.10673485

Hong, J. W., Peng, Q., & Williams, D. (2021). Are you ready for artificial mozart and skrillex? an experiment testing expectancy violation theory and AI music. *New Media & Society*, 23(7), 1920–1935. doi:10.1177/1461444820925798

Hong, J., Fischer, K., Ha, Y., & Zeng, Y. (2022). Human, I wrote a song for you: An experiment testing the influence of machines' attributes on the AI-composed music evaluation. *Computers in Human Behavior*, 131, 107239. doi:10.1016/j.chb.2022.107239

Johar, J. S., & Sirgy, M. J. (1991). Value-expressive versus utilitarian advertising appeals: When and why to use which appeal. *Journal of Advertising*, 20(3), 23–33. doi:10.1080/00913367.1991.10673345

Ippolito, P. M. (1990). Bonding and nonbonding signals of product quality. *The Journal of Business (Chicago, Ill.)*, 63(1), 41-60. doi:10.1086/296482

Keller, K. L. (1993). Conceptualizing, measuring, and managing customer-based brand equity. *Journal of Marketing*, 57(1), 1-22. doi:10.1177/002224299305700101

Keller, K. L., Heckler, S. E., & Houston, M. J. (1998). The effects of brand name suggestiveness on advertising recall. *Journal of Marketing*, 62(1), 48-57. doi:10.1177/002224299806200105

Kelly, S., Kaye, S., & Oviedo-Trespalacios, O. (2023). What factors contribute to the acceptance of artificial intelligence? A systematic review. *Telematics and Informatics*, 77, 101925. doi:10.1016/j.tele.2022.10192

Kietzmann, J., Paschen, J., & Treen, E. (2018). Artificial intelligence in advertising: How marketers can leverage artificial intelligence along the consumer journey. *Journal of Advertising Research*, 58(3), 263-267. doi:10.2501/JAR-2018-035

Kihlstrom, R. E., & Riordan, M. H. (1984). Advertising as a signal. *The Journal of Political Economy*, 92(3), 427-450. doi:10.1086/261235

Kim, S., & Kim, B. (2020). A decision-making model for adopting ai-generated news articles: Preliminary results. *Sustainability (Basel, Switzerland)*, 12(18), 7418. doi:10.3390/su12187418

Kirmani, A. (1990). The effect of perceived advertising costs on brand perceptions. *The Journal of Consumer Research*, 17(2), 160-171. doi:10.1086/208546

Kirmani, A. (1997). Advertising repetition as a signal of quality: If it's advertised so much, something must be wrong. *Journal of Advertising*, 26(3), 77-86. doi:10.1080/00913367.1997.10673530

Kirmani, A., & Rao, A. R. (2000). No pain, no gain: A critical review of the literature on signaling unobservable product quality. *Journal of Marketing*, 64(2), 66-79. doi:10.1509/jmkg.64.2.66.18000

Kirmani, A., & Wright, P. (1989). Money talks: Perceived advertising expense and expected product quality. *The Journal of Consumer Research*, 16(3), 344-353. doi:10.1086/209220

Kotler, P., & Armstrong, G. (2008). *Principles of marketing* (twelfth ed.). Upper Saddle River, New Jersey: Pearson Prentice Hall. Retrieved from http://archive.org/details/principlesofmark0000kottl_o9i5

Kreps, S., McCain, R. M., & Brundage, M. (2022). All the news that's fit to fabricate: AI generated text as a tool of media misinformation. *Journal of Experimental Political Science*, 9(1), 104–117. doi:10.1017/XPS.2020.37

Kronemann, B., Kizgin, H., Rana, N., & K Dwivedi, Y. (2023). How AI encourages consumers to share their secrets? the role of anthropomorphism, personalisation, and privacy concerns and avenues for future research. *Spanish Journal of Marketing - ESIC*, 27(1), 2–19. doi:10.1108/SJME-10-2022-0213

Langley, P., & Simon, H. (1995). Applications of machine learning and rule induction. *Communications of the ACM*, 38(11), 54-64. doi:10.1145/219717.219768

Lee, E., Lee, S., & Yang, C. (2017). The influences of advertisement attitude and brand attitude on purchase intention of smartphone advertising. *Industrial Management + Data Systems*, 117(6), 1011–1036. doi:10.1108/IMDS-06-2016-0229

Lee, M. K. (2018). Understanding perception of algorithmic decisions: Fairness, trust, and emotion in response to algorithmic management. *Big Data & Society*, 5(1), 205395171875668. doi:10.1177/2053951718756684

Lepkowska-White, E., Brashear, T. G., & Weinberger, M. G. (2003). A test of ad appeal effectiveness in poland and the united states - the interplay of appeal, product, and culture. *Journal of Advertising*, 32(3), 57–66. doi:10.1080/00913367.2003.10639136

Lewis, M. W., Andriopoulos, C., & Smith, W. K. (2014). Paradoxical leadership to enable strategic agility. *California Management Review*, 56(3), 58-77. doi:10.1525/cmr.2014.56.3.58

Liu, B., & Wei, L. (2019). Machine authorship in situ: Effect of news organization and news genre on news credibility. *Digital Journalism*, 7(5), 635-657.

Lou, C., Kang, H., & Tse, C. H. (2022). Bots vs. humans: How schema congruity, contingency-based interactivity, and sympathy influence consumer perceptions and patronage intentions. *International Journal of Advertising*, 41(4), 655–684. doi:10.1080/02650487.2021.1951510

Lutz R.J., MacKenzie, S. B., & Belch, G. E. (1983). Attitude Toward The Ad As A Mediator Of Advertising Effectiveness: Determinants And Consequences. *Advances in Consumer Research*, 10, 532–.

Mandler, G. (1982). The structure of value: Accounting for taste. In M. Clark, & S. Fiske (Eds.), *Affect and cognition; 17th annual carnegie mellon symposium on cognition*

Mariani, M. M., Perez-Vega, R., & Wirtz, J. (2022). AI in marketing, consumer research and psychology: A systematic literature review and research agenda. *Psychology & Marketing*, 39(4), 755-776.

Marques, J. F. (2007). Leadership: Emotional intelligence, passion and... what else? *Journal of Management Development*, 26(7), 644-651.

Miskell, P. (2004). Cavity protection or cosmetic perfection? innovation and marketing of toothpaste brands in the united states and western europe, 1955–1985. *Business History Review*, 78(1), 29–60. doi:10.2307/25096828

Modig, E., & Dahlen, M. (2020). Quantifying the advertising-creativity assessments of consumers versus advertising professionals: Does it matter whom you ask? *Journal of Advertising Research*, 60(3), 324–336. doi:10.2501/JAR-2019-009

Modig, E., Dahlén, M., & Colliander, J. (2014). Consumer-perceived signals of 'creative' versus 'efficient' advertising: Investigating the roles of expense and effort. *International Journal of Advertising*, 33(1), 137-154. doi:10.2501/IJA-33-1-137-154

Mollman, S. (2023, April 20,). Google will offer ad clients A.I.-generated marketing campaigns similar to ones created by humans at agencies. *Fortune* Retrieved from <https://fortune.com/2023/04/20/google-advertising-clients-ai-generated-marketing-campaigns/>

Nelson, P. (1974). Advertising as information. *The Journal of Political Economy*, 82(4), 729-754. doi:10.1086/260231

Norstat Sverige. (n.d.b). Dataskydd | Norstat Sverige. Retrieved from <https://www.norstatpanel.com/sv/dataskydd>

Norstat Sverige. (n.d.c). Metoder | Norstat Sverige. Retrieved from <https://norstat.se/metoder>

Norstat Sverige. (n.d.a) Om oss | Norstat Sverige. Retrieved from <https://norstat.se/om-oss>

Perdue, B. C., & Summers, J. O. (1986). Checking the success of manipulations in marketing experiments. *Journal of Marketing Research*, 23(4), 317. doi:10.2307/3151807

Poels, K., & Dewitte, S. (2019). The role of emotions in advertising: A call to action. *Journal of Advertising*, 48(1), 81 90. doi:10.1080/00913367.2019.1579688

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40(3), 879-891.

Raisch, S., & Krakowski, S. (2021). Artificial intelligence and management: The automation–

augmentation paradox. *The Academy of Management Review*, 46(1), 192-210.
doi:10.5465/AMR.2018.0072

Ramalingam, V., Palaniappan, B., Panchanatham, N., & Palanivel, S. (2006). Measuring advertisement effectiveness—a neural network approach. *Expert Systems with Applications*, 31(1), 159-163.

Rosengren, S., Eisend, M., Koslow, S., & Dahlen, M. (2020). A meta-analysis of when and how advertising creativity works. *Journal of Marketing*, 84(6), 39–56.
doi:10.1177/0022242920929288

Scipione, P. A. (1997). Too much or too little? public perceptions of advertising expenditures. *Journal of Advertising Research*, 37(3), 49-58.

Schaul, K., Shaban, H., Tan, S., Woo, M. & Tiku, N. (2022). AI can now create images out of thin air. see how it works. *The Washington Post* Retrieved from https://www.washingtonpost.com/technology/interactive/2022/ai-image-generator/?itid=mc_magnet-ai_inline_collection_1

Selnes, F. (1998). Antecedents and consequences of trust and satisfaction in buyer-seller relationships. *European Journal of Marketing*, 32(3), 305-322.
doi:10.1108/03090569810204580

Sensodyne. (n.d.). Sensodyne hem. Retrieved from <https://www.sensodyne.com/sv-se/>

Shamim, K., & Islam, T. (2022). Digital influencer marketing: How message credibility and media credibility affect trust and impulsive buying. *Journal of Global Scholars of Marketing Science*, 32(4), 601-626. doi:10.1080/21639159.2022.2052342

Shankar, V. (2018). How artificial intelligence (AI) is reshaping retailing. *Journal of Retailing*, 94(4), vi-xi. doi:10.1016/S0022-4359(18)30076-9

Sharma, M., Luthra, S., Joshi, S., & Kumar, A. (2022). Implementing challenges of artificial intelligence: Evidence from public manufacturing sector of an emerging economy. *Government Information Quarterly*, 39(4), 101624. doi:10.1016/j.giq.2021.101624

Shirikhodae, M., & Rezaee, S. (2014). The power of creative advertising and consumers' perceived risk. *Journal of Promotion Management*, 20(5), 590–606.
doi:10.1080/10496491.2014.946209

Smith, R. E., & Yang, X. (2004). Toward a general theory of creativity in advertising: Examining the role of divergence. *Marketing Theory*, 4(1-2), 31–58.
doi:10.1177/1470593104044086

Spence, M. (1977). Consumer misperceptions, product failure and producer liability. *The Review of Economic Studies; the Review of Economic Studies*, 44(3), 561-572. doi:10.2307/2296908

Statista. (2019). AI use in marketing. Retrieved from <https://www-statista-com.ez.hhs.se/study/57404/artificial-intelligence-use-in-marketing/>

Statista. (2021). *Concerns regarding artificial intelligence (AI) adoption in everyday life in the U.S. in 2021, by level of concern*. Retrieved from <https://www-statista-com.ez.hhs.se/statistics/1302334/negative-effects-of-ai-us/>

Statista. (2022). *Advertising in Sweden*. Retrieved from <https://www-statista-com.ez.hhs.se/study/115539/advertising-in-sweden/>

Statista. (2023). *Artificial intelligence (AI) adoption, risks, and challenges*. Retrieved from <https://www-statista-com.ez.hhs.se/topics/10548/artificial-intelligence-ai-adoption-risks-and-challenges/#editorsPicks>

Sturm, B. L. T., Iglesias, M., Ben-Tal, O., Miron, M., & Gómez, E. (2019). Artificial intelligence and music: Open questions of copyright law and engineering praxis. *Arts (Basel)*, 8(3), 115. doi:10.3390/arts8030115

Sundar, S. S. (2008). *The MAIN model: A heuristic approach to understanding technology effects on credibility*. MacArthur Foundation Digital Media and Learning Initiative Cambridge, MA.

Sundar, S. S. (2020). Rise of machine agency: A framework for studying the psychology of Human-AI interaction (HAI). *Journal of Computer-Mediated Communication*, 25(1), 74–88. doi:10.1093/jcmc/zmz026

Sundar, S. S., & Kim, J. (2019). Machine heuristic: When we trust computers more than humans with our personal information. Paper presented at the *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*, 1-9.

Söderlund, M. (2018). *Experiments in marketing* Studentlitteratur AB.

Tigre Moura, F., & Maw, C. (2021). Artificial intelligence became beethoven: How do listeners and music professionals perceive artificially composed music? *Journal of Consumer Marketing*, 38(2), 137-146.

Till, B. D., & Baack, D. W. (2005). RECALL AND PERSUASION: Does creative advertising matter? *Journal of Advertising*, 34(3), 47–57. doi:10.1080/00913367.2005.10639201

Vakratsas, D., & Wang, X. (2020). Artificial intelligence in advertising creativity. *Journal of Advertising*, 50(1), 39–51. doi:10.1080/00913367.2020.1843090

Varsha, P. S., Akter, S., Kumar, A., Gochhait, S., & Patagundi, B. (2021). The impact of artificial intelligence on branding: A bibliometric analysis (1982-2019). *Journal of Global Information Management (JGIM)*, 29(4), 221-246.

Vlačić, B., Corbo, L., Costa e Silva, S., & Dabić, M. (2021). The evolving role of artificial intelligence in marketing: A review and research agenda. *Journal of Business Research*, 128, 187-203.

von Krogh, G. (2018). Artificial intelligence in organizations: New opportunities for phenomenon-based theorizing. *Academy of Management Discoveries*, 4(4), 404-409. doi:10.5465/amd.2018.0084

Waddell, T. F. (2018). A robot wrote this?: How perceived machine authorship affects news credibility. *Digital Journalism*, 6(2), 236–255. doi:10.1080/21670811.2017.1384319

Wang, J., Li, S., Xue, K., & Chen, L. (2022). What is the competence boundary of algorithms? An institutional perspective on AI-based video generation. *Displays*, 73, 102240. doi:10.1016/j.displa.2022.102240

Wu, L., Dodoo, N. A., Wen, T. J., & Ke, L. (2022). Understanding twitter conversations about artificial intelligence in advertising based on natural language processing. *International Journal of Advertising*, 41(4), 685-702.

Wu, L., & Wen, T. J. (2021). Understanding AI advertising from the consumer perspective: What factors determine consumer appreciation of AI-created advertisements? *Journal of Advertising Research*, 61(2), 133–146. doi:10.2501/JAR-2021-004

YouGov. (2021). *International technology report 2021: Automation & AI*. (). Retrieved from https://commercial.yougov.com/rs/464-VHH-988/images/YouGov-International-Technology-Report-2021-Automation-and-AI.pdf?mkt_tok=NDY0LVZISC05ODgAAAGJfTm86Emd2DqCsJkTasE3mZRFqhseMS7eSidzq09V6ifG5Zxl7iSpg2cDm5IAFJ0sWyZwb3E5p0ggp4bdX2kYPjxkl7PW-SA-XFqoT9stTd0rrA

Youn, S., & Jin, S. V. (2021). “In A.I. we trust?” the effects of parasocial interaction and technopian versus luddite ideological views on chatbot-based customer relationship management in the emerging “feeling economy”. *Computers in Human Behavior*, 119, 106721. doi:10.1016/j.chb.2021.106721

Zhang, H., Sun, J., Liu, F., & G Knight, J. (2014). Be rational or be emotional: Advertising appeals, service types and consumer responses. *European Journal of Marketing*, 48(11/12), 2105–2126. doi:10.1108/EJM-10-2012-0613

Appendices

Appendix A - Preamble

Version 1

The preamble that states that human employees at a marketing agency creates all of Clearer's advertisements.

Helgintervjuer

Clearer anlitar en reklambyrå som en del av sin nya marknadsföringsstrategi

Publicerad: 9 mars 2023, 10:30

Trots den allt mer populära trenden att automatisera delar av marknadsföringen har Clearer, ett nytt tandkrämsvarumärke på den svenska marknaden, tagit det trendbrytande steget att anlita en reklambyrå som manuellt ska producera allt Clearer's reklam innehåll. Reklambyrån har producerat annonser under många år och använder sig av sin breda erfarenhet för att skapa nya annonser. "Vi tror att mänsklig kompetens är rätt väg att gå i en värld av digitalisering" säger Clearer's VD Christian Wallner.

Ämnen i artikeln: [Clearer](#) | [Marknadsföring](#) | [Reklambyrå](#) | [Helgintervju](#)

 **Maria Andersson**
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Message translation:

Weekend interviews

Clearer hires a marketing agency as a part of their new marketing strategy

Despite the increasingly popular trend of automating parts of the marketing process Clearer, a new toothpaste brand on the Swedish market, has instead decided to go against this trend and hire a marketing agency to manually produce all their advertisement material. The marketing agency has created advertisements for many years and has a lot of experience to draw on when creating new advertisements. “We believe that human competence is the way to go in this increasingly digitalized world” says Clearer’s CEO Christian Wallner.

Article topics: Clearer, Marketing, Marketing agency, Weekend interview

Version 2

The preamble that states that an AI-tool creates all of Clearer’s advertisements.

Helgintervjuer

Clearer implementerar AI som en del av sin nya marknadsföringsstrategi

Publicerad: 9 mars 2023, 10:30

I linje med den allt mer populära trenden att automatisera delar av marknadsföringen har Clearer, ett nytt tandkrämsvarumärke på den svenska marknaden, tagit det banbrytande steget att implementera ett AI-verktyg som automatiskt ska producera allt Clearer’s reklam innehåll. AI-verktyget har programmerats med data från en bred repertoar av tidigare annonser som den kan använda sig av för att skapa nya annonser. “Vi tror att AI är rätt väg att gå i en värld av digitalisering” säger Clearer’s VD Christian Wallner.

Ämnen i artikeln: [Clearer](#) | [Marknadsföring](#) | [AI](#) | [Helgintervju](#)

MA

Maria Andersson
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Message translation:

Weekend interviews

Clearer implements AI as a part of their new marketing strategy

In line with the increasingly popular trend of automating parts of the marketing process Clearer, a new toothpaste brand on the Swedish market, has taken the groundbreaking step of implementing an AI-tool to produce all of their advertisement material. The AI-tool has been programmed with data from a wide repertoire of previous advertisements which it can draw on to create new advertisements. “We believe using AI is the way to go in this increasingly digitalized world” says Clearer’s CEO Christian Wallner.

Article topics: Clearer, Marketing, AI, Weekend interview

Appendix B – Advertisement

Version 1 – High emotional message appeal



Advertisement message:

“Clearer Toothpaste – For a white and beautiful smile!*

*With continuous usage”

Version 2 – Low emotional message appeal



Advertisement message:

“Clearer Toothpaste – Efficient protection for sensitive teeth!*

*With continuous usage”

Appendix C - Survey

Questionnaire - Swedish

Hej,

Vi är två studenter på Handelshögskolan i Stockholm som för närvarande skriver vår masteruppsats. Enkäten som du kommer att ta del av är ett steg i datainsamlingen inför uppsatsen. Enkäten beräknas ta ca 7-9 minuter att besvara och svaren kommer att vara anonyma och hanteras på aggregerad nivå. Inga svar är rätt eller fel, utan enkäten besvaras helt baserat på din individuella uppfattning.

Tack på förhand!

-----Sidbrytning -----

Föreställ dig att du är inne och scollar på webbtidningen Resumé och att nedanstående ingress dyker upp. Du kommer senare att få besvara frågor kring ingressen, så vänligen läs noga. Du kommer inte att ha möjlighet att se ingressen igen.

Slumpvald version av ingressen visas för respondenten

-----Sidbrytning -----

Av en slump dyker en annons av varumärket “Clearer” upp i ditt flöde senare under dagen, se nedan. Du kommer senare att få besvara frågor kring annonsen, så vänligen studera annonsen noga. Du kommer inte ha möjlighet att se annonsen igen.

Slumpvald version av annonsen visas för respondenten

-----Sidbrytning -----

1. Vem sköter Clearers marknadskommunikation?

- ☐ En reklambyrå
- ☐ En AI
- ☐ En sjuksköterska

-----Sidbrytning -----

2. I vilken utsträckning håller du med om följande påståenden? (1=instämmer inte alls och 7=instämmer helt)

- a. 1-7: Varumärket Clearer är tilltalande
- b. 1-7: Jag har en positiv inställning till varumärket Clearer
- c. 1-7: Varumärket Clearer är bra

3. Vad är din generella attityd till annonsen?

- a. Dålig/Bra
- b. Otrevlig/Trevlig
- c. Oattraktiv/Attraktiv

4. I vilken utsträckning håller du med om följande påståenden? (1=instämmer inte alls och 7=instämmer helt)

- a. 1-7: Clearer är pålitliga
- b. 1-7: Clearer är övertygande
- c. 1-7: Clearer är trovärdiga

5. I vilken utsträckning håller du med om följande påståenden? (1=instämmer inte alls och 7=instämmer helt)
- a. 1-7: Jag är nyfiken på Clearer
 - b. 1-7: Jag vill veta mer om Clearer
 - c. 1-7: Jag är fascinerad av Clearer

6. I vilken utsträckning håller du med om följande påstående? (1=instämmer inte alls och 7=instämmer helt)
- a. 1-7: Om jag fick möjligheten hade jag handlat från Clearer

-----Sidbrytning -----

7. I vilken utsträckning håller du med om följande påståenden? (1=instämmer inte alls och 7=instämmer helt)
- a. 1-7: Annonsen är kreativ
 - b. 1-7: Annonsen innehåller unika element
 - c. 1-7: Annonsen innehåller ovanliga och fantasifulla ideér

8. I vilken utsträckning håller du med om följande påståenden? (1=instämmer inte alls och 7=instämmer helt)
- a. 1-7: Skaparen av annonsen och annonsen passar väl ihop
 - b. 1-7: Det finns en logisk relation mellan annonsen och skaparen av annonsen
 - c. 1-7: Skaparen av annonsen och annonsen matchar varandra bra

9. I vilken utsträckning håller du med om följande påståenden? (1=instämmer inte alls och 7=instämmer helt)
- a. 1-7: Clearer lägger ner mycket ansträngning på sin tandkräm
 - b. 1-7: Clearer lägger ner mycket resurser på sin tandkräm
 - c. 1-7: Clearer ägnar mycket tid och energi åt sin tandkräm

10. I vilken utsträckning håller du med om följande påståenden? (1=instämmer inte alls och 7=instämmer helt)
- a. 1-7 Clearer's annons verkar dyrare att producera jämfört med andra annonser för tandkräm
 - b. 1-7 Jag uppfattar kostnaden bakom denna annons som hög

- c. 1-7 Jämfört med andra annonser i denna produktkategori tror jag att denna annons kostade mer än medel att producera

-----Sidbrytning -----

11. Tack för att du tagit dig såhär långt. Här kommer en avstämning för att säkerställa din uppmärksamhet. Vänligen välj siffran 7 nedan.

☐ 1

☐ 7

☐ 3

-----Sidbrytning -----

12. I vilken utsträckning håller du med om följande påstående? (1=instämmer inte alls och 7=instämmer helt)

- a. 1-7: Annonsen från Clearer som du tidigare såg var trovärdig

I nedan del av enkäten behöver du endast svara utefter dina egna åsikter, och inte baserat på annonsen eller ingressen.

13. I vilken utsträckning instämmer du med följande påståenden? (1=instämmer inte alls och 7=instämmer helt)

- a. När en maskin utför en uppgift så är arbetet utfört mer objektivt jämfört med när människor utför samma uppgift
- b. När en maskin utför en uppgift så är arbetet mindre partiskt utfört jämfört med när människor utför samma uppgift
- c. När en maskin utför en uppgift så är arbetet mindre kreativt jämfört med när människor utför samma uppgift
- d. När en maskin utför en uppgift så är processen mer kostnadsbesparande jämfört med när människor utför samma uppgift

14. I vilken utsträckning håller du med om följande påståenden? (1=instämmer inte alls och 7=instämmer helt)

- a. Artificiell Intelligens kan komma att ta kontroll över människor
- b. Jag tycker att Artificiell Intelligens är farligt
- c. Artificiell Intelligens är spännande
- d. Det finns många fördelaktiga användningsområden för Artificiell Intelligens

-----Sidbrytning -----

15. Hur gammal är du?

Ålder: _____

16. Hur definierar du din könsidentitet?

- ☐ Man
- ☐ Kvinna
- ☐ Föredrar att inte uppge
- ☐ Annat: _____

Questionnaire – English

Hi,

We are two students who are currently conducting our Master Thesis at the Stockholm School of Economics. The survey that you are about to take part in is contributing to our data collection of the thesis. The survey will take approximately 7-9 minutes to fill in and your answers will be treated anonymously and managed at an aggregated level. No answers are right or wrong, and you are asked to answer solely on your individual opinions and thoughts.

Thank you in advance!

-----Page Break -----

Imagine that you are scrolling through the webb magazine Resumé, and you are stumbling upon the below preamble. You will later have to answer questions about this preamble, so please take a close look. You will not have the opportunity to see the preamble again.

A random version of the preamble is shown to the respondent

-----Page Break -----

By coincidence, an ad from the brand “Clearer” shows up in your feed later the same day, please find the ad below. You will later have to answer questions about the ad, so please take a close look. You will not have the opportunity to see the ad again.

A random version of the ad is shown to the respondent

-----Page Break -----

1. Who is in charge of the marketing communication at Clearer?

- ☐ A marketing agency

() An AI-tool

() A nurse

-----Page Break -----

2. To what extent do you agree with the following statements? (1 = completely disagree, 7 = completely agree)
 - a. 1-7: The brand Clearer is attractive
 - b. 1-7: I have a positive impression of Clearer
 - c. 1-7: The brand Clearer is good
3. What is your overall attitude of the ad?
 - d. Bad/Good
 - e. Unpleasant/Pleasant
 - f. Unattractive/Attractive
4. To what extent do you agree with the following statements? (1 = completely disagree, 7 = completely agree)
 - a. 1-7: Clearer are honest
 - b. 1-7: Clearer are believable
 - c. 1-7: Clearer are credible
5. To what extent do you agree with the following statements? (1 = completely disagree, 7 = completely agree)
 - a. 1-7: I am curious about Clearer
 - b. 1-7: I would like to know more about Clearer
 - c. 1-7: I am intrigued by Clearer
6. To what extent do you agree with the following statement? (1 = completely disagree, 7 = completely agree)
 - a. 1-7: If I had the opportunity I would have purchased from Clearer

-----Page Break -----

7. To what extent do you agree with the following statements? (1 = completely disagree, 7 = completely agree)
 - a. 1-7: The ad was creative
 - b. 1-7: The ad includes original elements
 - c. 1-7: The advertisement included unusual and imaginative ideas

8. To what extent do you agree with the following statements? (1 = completely disagree, 7 = completely agree)
- a. 1-7: The ad creator and the ad fit well together
 - b. 1-7: There is a logical connection between the advertisement setting shown and the sponsor brand
 - c. 1-7: The creator of the ad and the ad are a good match
9. To what extent do you agree with the following statements? (1 = completely disagree, 7 = completely agree)
- a. 1-7: Clearer devotes much effort to its toothpaste
 - b. 1-7: Clearer devotes great resources to its toothpaste
 - c. 1-7: Clearer devotes time and energy to its toothpaste
10. To what extent do you agree with the following statements? (1 = completely disagree, 7 = completely agree)
- a. 1-7 Clearer's ad seems more expensive to produce compared to other ads for toothpaste
 - b. 1-7 I perceive the cost of this advertisement to be high
 - c. 1-7 Compared to other ads in this product category, I believe that this ad was more expensive to produce than average

-----Page Break -----

11. Thank you for coming this far. Here is a check to ensure that you are paying attention. Please select number 7 below.
- ☐ 1
 - ☐ 7
 - ☐ 3

-----Page Break -----

12. To what extent do you agree with the following statement? (1 = completely disagree, 7 = completely agree)
- g. 1-7: The ad from Clearer that you were exposed to previously was believable

In the below part of the survey, you only have to answer according to your own opinion. Hence, not based on the ad or the preamble.

13. To what extent do you agree with the following statements? (1 = completely disagree, 7 = completely agree)

- a. When a machine performs a task, the work is more objective compared to when humans perform the same task
- b. When a machine performs a task, the work is less biased compared to when humans perform the same task
- c. When a machine performs a task, the work is less creative compared to when humans perform the same task
- d. When a machine performs a task, the process is more cost-saving compared to when humans perform the same task

14. To what extent do you agree with the following statements? (1 = completely disagree, 7 = completely agree)

- a. Artificial Intelligence might take control of people.
- b. I think Artificial Intelligence is dangerous.
- c. Artificial Intelligence is exciting.
- d. There are many beneficial applications of Artificial Intelligence.

-----Page Break -----

15. How old are you?

Age: _____

16. How do you define your gender?

- ☐ Male
- ☐ Female
- ☐ I prefer not to answer
- ☐ Other: _____

Appendix D – Additional Analysis

Mediator Analysis - Spending

Indirect effect	Product of coefficients		CI: 95%	
	Point estimate	SE	Lower	Upper
Values for indirect effects on Brand attitude				
<i>Indirect effect 1</i>	-0.02	0.02	-0.0670	0.0133
<i>Indirect effect 2</i>	-0.10	0.04	-0.1799	-0.0153
<i>Indirect effect 3</i>	-0.09	0.02	-0.1365	-0.0469
Values for indirect effects on Ad attitude				
<i>Indirect effect 1</i>	-0.03	0.02	-0.0831	0.0126
<i>Indirect effect 2</i>	-0.09	0.04	-0.1769	-0.0146
<i>Indirect effect 3</i>	-0.08	0.02	-0.1356	-0.0423
Values for indirect effects on Brand trust				
<i>Indirect effect 1</i>	-0.02	0.02	-0.0580	0.0185
<i>Indirect effect 2</i>	-0.10	0.05	-0.1962	-0.0155
<i>Indirect effect 3</i>	-0.09	0.02	-0.1468	-0.0500

Indirect effect 1: Ad creator → Spending → Brand attitude/Ad attitude/Brand trust

Indirect effect 3: Ad creator → Effort → Brand attitude/Ad attitude/Brand trust

Indirect effect 3: Ad creator → Spending → Effort → Brand attitude/Ad attitude/Brand trust

Mediator Analysis - Creativity

Indirect effect	Product of coefficients		CI: 95%	
	Point estimate	SE	Lower	Upper
Values for indirect effects on Brand attitude				
<i>Indirect effect 1</i>	-0.06	0.05	-0.1592	0.0279
<i>Indirect effect 2</i>	-0.06	0.02	-0.1090	-0.0240
<i>Indirect effect 3</i>	-0.01	0.01	-0.0401	0.0066
Values for indirect effects on Ad attitude				
<i>Indirect effect 1</i>	-0.06	0.05	-0.1627	0.0272
<i>Indirect effect 2</i>	-0.06	0.02	-0.1091	-0.0224
<i>Indirect effect 3</i>	-0.01	0.01	-0.0436	0.0065
Values for indirect effects on Brand trust				
<i>Indirect effect 1</i>	-0.06	0.04	-0.1430	0.0267
<i>Indirect effect 2</i>	-0.08	0.03	-0.1431	-0.0364
<i>Indirect effect 3</i>	-0.02	0.02	-0.0526	0.0104

Indirect effect 1: Ad creator → Creativity → Brand attitude/Ad attitude/Brand trust

Indirect effect 2: Ad creator → Effort → Brand attitude/Ad attitude/Brand trust

Indirect effect 3: Ad creator → Creativity → Effort → Brand attitude/Ad attitude/Brand trust