AI vs. Human: A Comparative Study of Visual and Textual Advertising Effects on Purchase Intention

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ABSTRACT

Title: AI vs. Human: A Comparative Study of Visual and Textual Advertising Effects on Purchase Intention

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Artificial intelligence (AI) is increasingly becoming an important part of our lives, and its recent technological advancements show no signs of deceleration. Nonetheless, as AI continues to develop at a rapid pace, it is becoming imperative to research and classify its potential impacts. This research examines the ability of AI to create effective advertisements in comparison to those created by humans within the smartphone industry. It further aims to analyze possible dissimilarities in the effect of advertisements created by AI and humans on purchase intention and brand preference under the consideration of distinct content forms within the hierarchy-of-effects framework.

After quantitively choosing brands as well as developing and validating the created stimuli in a focus group and interviews, the main experimental survey with eight distinct stimuli groups yielded supporting results. The findings of the research show that AI-generated advertisements can indeed be compared to human-created advertisements in their effect on purchase intention and brand preference. Moreover, all forms of content output created by AI show no significant difference in their effectiveness compared to human-created advertisements. Ultimately, the study suggests that AI might even be able to develop more effective advertisements than humans as technology continues to accelerate.

Overall, this research provides important insights into the applicability of AI in everyday work life within the marketing industry, which can help marketers realize how AI impacts the purchase intentions of consumers and how it can be employed to mitigate possible difficulties within the traditional creative process.

Keywords: advertisement effects, artificial intelligence, purchase intention, brand preference, visual marketing, textual marketing, smartphone industry

SUMÁRIO

Título: AI vs. Humano: Um Estudo Comparativo dos Efeitos da Publicidade Visual e Textual na Intenção de Compra

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A inteligência artificial (IA) está a tornar-se cada vez mais presente nas nossas vidas, e os recentes avanços tecnológicos não mostram sinais de desaceleração. No entanto, à medida que a IA continua a desenvolver-se a um ritmo acelerado, torna-se imperativo investigar e classificar os seus potenciais impactos.

Esta investigação examina a capacidade da IA para criar anúncios eficazes em comparação com os criados por humanos na indústria dos smartphones. Além disso, tem como objetivo analisar possíveis diferenças entre os anúncios produzidos por IA e humanos em relação à intenção de compra e preferência de marca, considerando diferentes tipos de conteúdo dentro da hierarquia de efeitos.

Após selecionar marcas quantitativamente e desenvolver estímulos validados em grupos focais e entrevistas, foi conduzida a pesquisa experimental principal com oito grupos de estímulos distintos. As conclusões da investigação mostram que os anúncios gerados por IA podem ser comparados aos anúncios criados por humanos em termos de impacto na intenção de compra e preferência de marca. Além disso, todas as formas de conteúdo produzidas por IA apresentam eficácia semelhante aos anúncios humanos. Finalmente, o estudo sugere que a IA pode até ser capaz de desenvolver anúncios mais eficazes do que os humanos, à medida que a tecnologia avança.

No geral, esta investigação fornece informações importantes sobre a aplicabilidade da IA no quotidiano da indústria do marketing, auxiliando os profissionais a compreender o impacto da IA nas intenções de compra dos consumidores e a forma como pode ser utilizada superar desafios no processo de criação tradicional.

Palavras-chave: efeitos de anúncio, inteligência artificial, intenção de compra, preferência de marca, marketing visual, marketing textual, indústria de smartphones

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While typing these acknowledgments, I cannot help but feel a variety of emotions. On the one hand, there is a feeling of pride and fulfillment, as this marks the end of my student life. On the other hand, I experience a hint of sadness, as I look back at six years that have shaped me in many ways. I am more than thankful, that my academic career has taken me to many different study environments, each with its novel challenges. From start to finish, I have been fortunate enough to call many beautiful places my home. I am extremely grateful for all the opportunities, and even more for all the amazing people I was fortunate to meet along the way.

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GLOSSARY

AI	-	Artificial Intelligence
BP	-	Brand Preference
PI	-	Purchase Intention

CHAPTER 1: INTRODUCTION

1.1 Background

AI is revolutionizing our way of living, working, and communicating with the world around us. From smart home devices to fraud detection, AI is becoming a change agent in various disciplines and industries and is evermore evolving into improving efficiency and transforming our daily lives. As AI advancements are occurring continuously, it becomes increasingly evident that it has the potential to transform the marketing landscape as well.

The traditional creative process in advertising is already steadily being disrupted by progress in technology and a changing media scenery (Chen et al., 2019; Davenport et al., 2020; Stuhlfaut & Windels, 2017). Most recently, AI in the form of programmatic advertising has made considerable developments in the industry (Chen et al., 2019). However, due to the infancy of AI-assisted or AI-generated advertising processes, there is a lack of research on its comparability to the traditional human-led creation process.

While human-made advertising is generally seen to increase purchase intention (PI) within traditional advertising frameworks (Bakpayev et al., 2022; Goode & Harris, 2007; Lavidge & Steiner, 1961; Mumtaz et al., 2011), AI-generated or -assisted advertising might not have the same hierarchy-of-effects given the prevailing concerns of its inability to copy human factors and its current early stage of advancement (Bakpayev et al., 2022; Yoon & Lee, 2021). Here, it is particularly interesting to examine possible differences in effects on brand preference (BP), as one crucial step in the hierarchy-of-effects towards a purchase (Lavidge & Steiner, 1961).

Furthermore, traditional advertisement has shown differences in effects concerning the single advertisement elements (Pieters & Wedel, 2004). Given a different stage of technology advancement in AI-generated/ -assisted textual versus visual content, these discrepancies might further influence the effect on PI.

Should AI-generated advertising indeed prove to be comparable to human-created advertising, difficulties within the traditional creation process, such as resource restrictions, time constraints, and client-agency miscommunication could be effectively mitigated (Hirschman, 1989).

1.2 Problem Statement

This research hence seeks to serve as a first starting point in the research of AI in the creative advertising field and evaluate in how far AI can compare to humans when it comes to creativity, effectiveness, and identification in the advertisement creation process. Understanding how AI-

generated content takes effect on the PI of consumers, will give crucial insights into the applicability of such technologies in everyday work lives within the marketing industry. It is however important to further examine differences in effects based on textual and visual content to evaluate the advancements of AI separately in both disciplines.

In essence, the problem statement for this research can be concluded as follows: "Evaluating in how far AI-generated advertisement compares to advertisement created by humans regarding its effects on purchase intention and brand preference under the consideration of the different content variations".

This problem statement results in the following research questions (RQ) that will be examined in the course of this study:

RQ1: Is there a difference in effect on consumers' purchase intention between AI-generated advertising and human-created advertising?

RQ2: Does AI-generated advertisement influence brand preference in the same way that human-created advertisement does?

RQ3: Does the advertising effect differ between visual-only, textual-only, or a combination of visual and textual stimuli and if so, is the difference in effect the same for AI-generated and human-created content?

1.3 Relevance

Due to the recent nature of the topic, there is a clear lack of studies or reviews on any form of AI-generated advertisement or programmatic creative, especially pertaining to comparing it with the traditional, human-created process within a hierarchy-of-effects framework. This dissertation, therefore, seeks to contribute to the research field and provide first insights into the applicability of AI in the creative advertisement process.

Not only does it enrich the academic literature, but it also further gives indications to marketing managers and creative agencies about how AI can be utilized to combine efficiency in the creative process with an effective outcome that drives demand.

The potential for AI to disrupt the creative marketing industry could be game-changing, and managers that embrace such technologies will have a superior positioning to succeed in an ever-dynamic world.

1.4 Research methods

To give answers to the research questions, primary data was used. After conceptualizing the findings of relevant academic literature, a pre-survey was run to determine the brands which serve as the foundation of the stimuli. Thereafter, stimuli were created with AI and tested through a focus group and cognitive interviews. Adjustments were made according to the received feedback.

Finally, the main study was conducted which randomly allocated each study participant into one of the eight stimuli groups, thus representing an experimental design.

After reaching a collection of 2000 participants in total through the panel provider Appinio, the data was examined based on the proposed hypotheses. Here, the focus was set on comparing AI-generated and human-created advertisements within the variable framework outlined in the conceptual model. It evaluated any differences in effects on PI and BP between the two types of advertisement as well as examined the effects of different types of content on PI with relation to the AI-generated versus human-created advertisement.

1.5 Dissertation outline

This dissertation is composed of five distinct chapters. The second chapter is specifically important for the development of the hypotheses that guide this study. This chapter provides a comprehensive literature review that critically analyzes the effects of human-created advertising in light of potential disadvantages that might be mitigated through the use of AI. It further gives insights into the current research state of AI in marketing. The third chapter focuses on describing the methodology used in this research in great detail. Each study is thoroughly depicted, including how data is collected, measured, and analyzed. This chapter also evaluates the findings from the pre-survey, focus group, and interviews. The fourth chapter is dedicated to presenting the results of the main study and interpreting the data based on the proposed hypotheses. Finally, the fifth and last chapter provides a conclusion that summarizes the key findings of the literature review, managerial and academic implications of this research, limitations, and suggestions for future research.

CHAPTER 2: LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

This chapter aims to present a theoretical framework on the topics related to the main research questions and study purpose. The subjects were explored by using previous studies' support and a summary of empirical evidence from various academic journals. Within the first part of this literature review, readers are introduced to the topic of advertising and its existing theories. A more detailed focus will be put on the hierarchy-of-effects model proposed by Lavidge & Steiner in 1961.

Thereafter, the traditional process of creative production within the advertising industry will be presented, and factors influencing its creative outcome discussed.

Then, the topic of AI in advertising will be introduced, giving relevant insights into the status quo and possibilities in mitigating the disadvantages of the traditional advertisement creation process as well as concerns surrounding the topic.

It is then followed by a more detailed literature summary of the effects of different types of content (visual and textual) within the advertising process and the effect that BP has on PI. The dissertation will showcase the gaps in the academic literature about AI in advertising and discuss relevant study fields.

2.1 Advertising and its Effects

2.1.1 Advertising Models and Theories

To comprehend the possible impact that advertising has on the consumer, several researchers have developed models that theorize how advertising affects the consumer and leads to certain actions (Vakratsas & Ambler, 1999).

The early stages of advertising research were predominantly shaped by the AIDA model, a theory coined by E. St. Elmo Lewis in 1898 (Strong, 1925). This model puts forward the notion of a hierarchy-of-effects within the advertising process, in that advertising first needs to attract a consumer, thereafter, keep them interested, evoke desire, and ultimately lead to an action, such as a purchase (T. M. Barry, 1987). The AIDA framework laid the foundation for several other hierarchical models, such as the "Hierarchy-of-effects" model (Lavidge & Steiner, 1961) or the "DAGMAR" model (Colley, 1961).

What these models have in common is the sequence of effects that they pursue, starting with a cognitive stage which then leads to affection and is ultimately followed by a behavior response. However, some researchers have recognized that the effects of advertisement do not solely rely on these three sequential steps but rather need to include experiential factors such as experiences

related to product trial (Vakratsas & Ambler, 1999). Thus, out of this recognition of the importance of prior experience, so-called "low-involvement hierarchy" models emerged (Ray, 1973). These models explain advertising as a tool for the reinforcement of behavior rather than causing behavior (Vakratsas & Ambler, 1999).

Later on, so-called "Integrative complex hierarchy models" emerged, which theorize a dependency between the order of the effects and the particular context (e.g. Vaughn, 1980, 1986). In Vaughn's model "FCB grid" the order of the effects is dependent upon the involvement of the consumer in the product category. However, the existence of such a hierarchy-of-effects has been contested (T. E. Barry & Howard, 1990), which led to the emergence of hierarchy-free models.

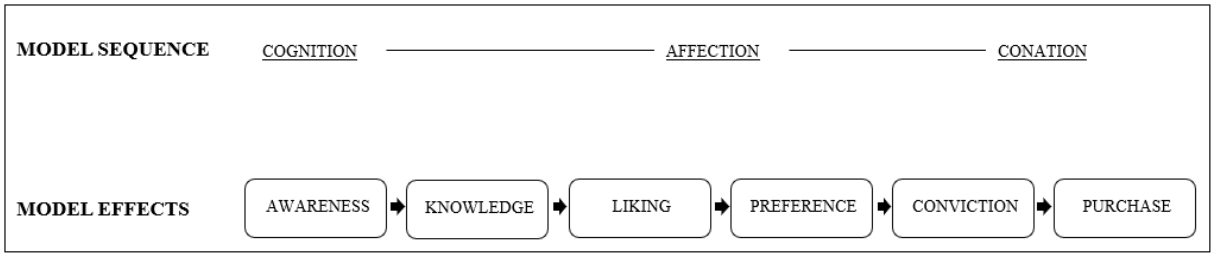
Nonetheless, given the considerable research and studies made within the hierarchical effect models, this dissertation will utilize the framework put forward by Lavidge & Steiner in 1961 and discuss the advertisement effectiveness through BP on PI comparing human versus artificially generated advertising content.

2.1.2 Lavidge & Steiner Hierarchy-of-Effects Model

Within the traditional sequential framework of hierarchical models of "Cognition to Affection to Conation", Lavidge & Steiner have expanded the AIDA model to include six effect factors that are illustrated below (Lavidge & Steiner, 1961).

Figure 1

Components of the Lavidge & Steiner Hierarchy-of-Effects Model



Note. Own figure based on Lavidge & Steiner, 1961, A Model for Predictive Measurements of Advertising Effectiveness, *Journal of Marketing*, Vol. 25 (6), pp.59

The researchers further clarify that the effectiveness of an advertisement can be measured based on following these steps, albeit the distances between these steps are not fixed. Furthermore, they specify that consumers might not need to follow these effects individually but rather can progress through several stages simultaneously. They moreover give examples of impulse purchases which might lead to simultaneously moving along the sequence and thus shorter

overall effect times compared to high involvement purchases such as industrial products (Lavidge & Steiner, 1961).

2.2 The Creative Process in Advertising Production

2.2.1 The Traditional Advertising Creation Process

Having determined the effects of advertising on PI, it remains to be examined how advertising is produced to be effective.

The process of creating appealing and effective advertising content has been studied extensively by researchers in the past decades. These studies predominantly focus on the traditional process from briefing to post-advertisement evaluation and further entail factors that influence or impact the creation process, such as role-centered perceptions, client-agency relationships, the assimilation of external insights or technological advances (Hirschman, 1989; O'Connor et al., 2022; Horsky, 2006; Stuhlfaut & Windels, 2017).

Often, the process of producing an advertisement will be outsourced to any type of chosen agency, ranging from a full-service advertising and media agency to a specialized niche agency (Horsky, 2006).

2.2.2 Disadvantages of Traditional Advertising Creation Processes

The inherent dynamics between the client and the agency can thereby pose difficulties during the creative process and thus have significant impacts on the created advertisement as well as its effectiveness (Hirschman, 1989; O'Connor et al., 2022). In the past, the following influencing factors have been identified.

Hirschman (1989) first defined complexities that hinder the creative process from the standpoint of the patronage relationship existing between the client and the creative practitioner(s). Through the imposition of (1) values set forth by the client through the corporate environment, (2) budgetary and time restrictions as well as the (3) commercializing nature of the creative production process, the creative output might be oriented rather towards the viewpoint of the client. Due to the inherent subjective bias that is explained by each actor's role-centered approach, a discrepancy between the agent's personal creative interests and the values or suggestions of the client arises (Hirschman, 1989).

O'Connor et. al (2022) extend this dynamic within the creative production process, by including the absorption of external information as a crucial factor thereof. Their research has shown that the utilization of external consumer insights has a significant effect on the strategic degree of the advertisement, however its impact on the ultimate originality and quality of the campaign

is limited by the agency's "absorptive capacity dynamics". These dynamics and thus the creative output is moderated by group dynamics within the agency – thus by the existing cohesion levels and interpersonal disagreements (O'Connor et al., 2022).

While these mentioned factors still prevail in a human-led creative process, technological advances have made it possible to circumvent or at least limit some of them (Stuhlfaut & Windels, 2017). On the one hand, emerging technology has been regarded as a source of additional inspiration within the production process (Stuhlfaut & Windels, 2017). On the other hand, technological advances in the advertising field are seen as disruptors of the traditional creative process (Chen et al., 2019; Davenport et al., 2020). Here, programmatic advertising fueled by ongoing AI developments, is seen to steadily disrupt the advertising industry and thus the traditional creative production process (Chen et al., 2019; Davenport et al., 2020; Dwivedi et al., 2021; Kumar & Gupta, 2016; Niininen, 2022; Weisbrich & Owens, 2016).

2.3 AI and its Impact on Advertising

AI has been evolving and by doing so changed many processes in the marketing landscape. Indeed, AI is already significantly transforming the procedure of buying media by increasing its levels of automation (Chen et al., 2019). However, the creative advertising process which entails the actual production and creation of the advertisement still remains mostly human-led (Chen et al., 2019; Niininen, 2022).

In recent years, consumer behavior has been shifting towards increased expectations of highly personalized, relevant advertisement that specifically targets their needs and wishes at the right time and place (Kumar & Gupta, 2016).

With the help of AI, high forms of personalization and automation are achievable, which is already widely used in recommendation-based systems, adaptive website layouts or chatbots (Davenport et al., 2020; Li, 2019). This process is known as programmatic advertising, which has been defined as the "automated serving of digital advertisements in real-time based on individual advertisement impression opportunities" (Busch, 2016). However, the creative process within the production of the advertisement has not been included in most definitions of programmatic advertising. Given its rapid traction in the past couple of years, Chen et al. (2019) have expanded the notion of programmatic advertising to include programmatic buying and programmatic creative. Since this dissertation focuses on the advertisement output and hence its creative production, only the latter form of programmatic advertising, namely programmatic creative, will be discussed.

Programmatic creative ultimately automatizes the process of advertisement creation and limits human creative input or even entirely replaces it (Chen et al., 2019). However, due to the infancy of AI in the advertisement creation and production process, there only exist very limited research papers and studies on this topic, making further research in this field indispensable (Bakpayev et al., 2022; Dwivedi et al., 2021; Niininen, 2022).

What specifically concerns AI-generated advertisement and its impact on PI, there is very little academic research. However, Bakpayev et al. (2022) have built a first foundation upon which further research can be based. They analyzed the difference in effect on PI of humanized (non-humanized) AI agents as well as human-made (AI-made) advertisement texts. In their findings, the researchers suggest refraining from using programmatic creative for emotional or hedonic messages since that leads to lower PIs compared to human-made emotional or hedonic messaging (Bakpayev et al., 2022).

In another comparative study, Thomas and Fowler (2020) analyzed whether a difference in brand responses (e.g. attitudes, PI) can be seen for AI influencers versus celebrity endorsers. Results have shown that AI influencers can create positive brand associations in the same way that celebrities can. However, when it comes to transgressions from the AI influencers, consumers generalize this behavior to all AI influencers, whereas the same cannot be said for celebrities who are viewed as independent in their actions (Thomas & Fowler, 2020).

Furthermore, a study by Ha et al. (2021) focused on utilizing AI to detect and resolve image-text disparities in content generated by consumers on Instagram. After analyzing 452,616 posts, they concluded that such a method is highly accurate and efficient in detecting mismatches, thus opening another avenue for AI possibilities in advertising (Ha et al., 2021).

Hayes et al. (2020) have, however, concluded in their study on social media listening platforms, that AI falls behind humans when it comes to identifying brand-specific categorizations such as identification of a brand. However, they further state that while current AI tools in that context might still need refinement to compete with humans, these technologies are rapidly evolving, making a change in these results very probable (J. L. Hayes et al., 2020).

Thus, while seeing which potentials AI has in advertising, there might still be some drawbacks compared to humans. But since AI technologies are evolving very quickly, these concerns might well be proven wrong today. There might thus not exist a discernable difference between the two types of advertising – AI-created and human-made, after all. Therefore, the following hypothesis emerges:

H1: *AI-generated advertising leads to the same purchase intention compared to human-created advertising*.

2.4 Brand Preference and Content Types

2.4.1 The Role of Brand Preference in the Hierarchy Towards Purchase

BP, as one of the sequential effects within the hierarchy-of-effects model proposed by Lavidge and Steiner in 1961, has a particularly high significance when it comes to predicting a purchase action. This has been researched and proven even before the model was created (Banks, 1950). Banks indeed has concluded through extensive research that BP is almost interchangeable with PI, making it an excellent predicting factor for an actual purchase action (Banks, 1950). This is supported in further studies in which BP is linked both to brand choice and PI, thus again emphasizing the relationship between these variables (Chang & Liu, 2009; Cobb-Walgren et al., 1995).

In further academic research, the entirety of the hierarchy-of-effects model was researched and the steps were confirmed as antecedents of a purchase action, hence explaining the effects of persuasive advertising (Eisend & Tarrahi, 2016; Smith et al., 2008). In Lavidge & Steiner's work, the BP step is described as those customers, whose favorable attitudes towards the brand develop into preference over all other available options (Lavidge & Steiner, 1961).

PI has been chosen as the dependent variable given Fishbein and Ajzen's findings that "the best single predictor of an individual's behavior will be a measure of his intention to perform that behavior." (Fishbein & Ajzen, 1975). Within Fishbein's model, the hierarchy-of-effects is further validated through research on attitudes towards advertising which were proven to affect behavior, such as a purchase. BP is a crucial factor in the model as it was validated to influence a consumer's attitude toward a product and thus their intention to purchase it.

Thus, following the logic of the hierarchy-of-effects model, the initial awareness through the advertising stimuli will eventually affect BP and, therefore, the PI (Banks, 1950; Cobb-Walgren et al., 1995b; Lavidge & Steiner, 1961; Tolba & Hassan, 2009). Given the considerable confirmatory research on the existence of this hierarchy-of-effects for human-made advertisement, it is expected that AI-generated advertising will follow the same sequential steps. Hence, both advertisement types (AI and human-made), should yield equally high BPs and thus PIs.

H2a: *AI-generated advertisement leads to the same brand preference compared to human-created advertisement.*

H2b: *Brand preference has a positive effect on purchase intention*.

2.4.2 Visual & Textual Content in Advertisement and its Impact on Purchase Intention

Effects of human-made advertising have been extensively studied as shown above, and some limited research has been done on the role of AI in advertising. However, there is a clear lack of detailed studies comparing the different types of advertisement, human versus AI-created advertising, and especially which factors it relates to.

As mentioned above, programmatic creative is a fairly new field that has yet to reach academic research. Thus, to the best of my knowledge, no studies have been conducted that pertain to the difference in advertising content, such as visual and textual, that has originated from AI and its effects on PI. Nonetheless, research has found a difference in the effects of advertisement content elements on consumers' attention when examining human-made advertisements (Pieters & Wedel, 2004). It was concluded that visual elements of an advertisement mainly drive the baseline attention of the consumer.

Childers et al. (2007) have further found that visual content is recalled more often and/or quicker than purely verbal/textual content in advertising that is human-made.

Keating and Latane (1976) have also found that text-only formats such as newspapers diminish the effectiveness of an advertising message compared to more rich media, such as television (Keating & Latané, 1976).

Given these findings of content elements created by humans, one would assume similar effects for AI-generated advertisement. However, given the fact that AI generation for images is still in its early stages compared to copywriting, and visuals are regarded as crucial elements in advertisements (Childers & Houston, 1984; Pieters & Wedel, 2004), there might be a difference in effect discernable between the types of content - visual-only, textual-only or a combination of these elements.

H3: *The type of content will moderate the effect of advertising type on purchase intention.*

H3a): *AI-generated textual-only advertising leads to the same (or higher) purchase intention compared to human-created textual-only advertising*.

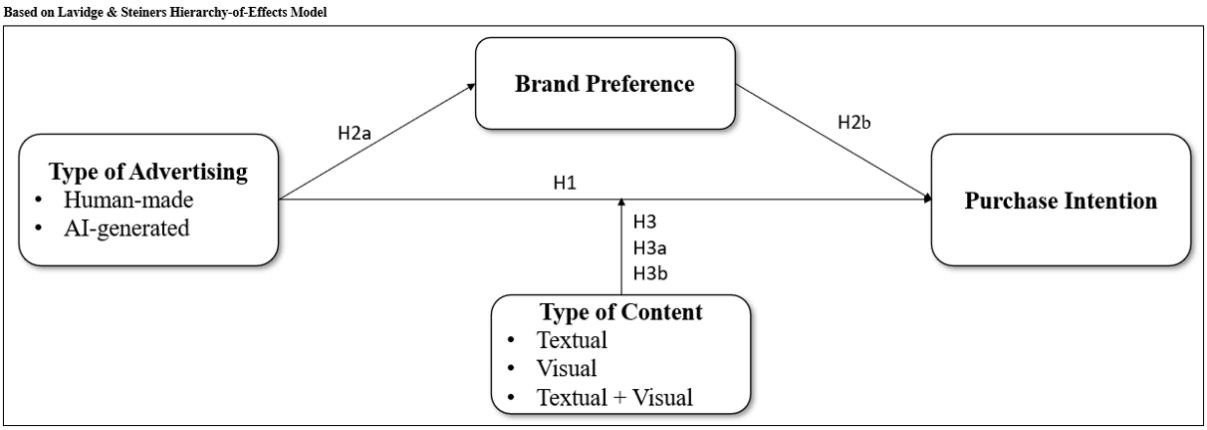
H3b): *AI-generated visual-only and visual + textual advertising leads to lower purchase intention compared to human-created visual-only and visual + textual advertising.*

2.5 Full Conceptual Model

Out of the presented research and hypotheses, the following conceptual model emerges:

Figure 2

The Full Conceptual Model



This dissertation hypothesizes that AI-generated advertising will lead to the same PIs compared to human-made advertisements. Differences in effect will be discernable between the different types of content, thus acting as a moderator. Hereby, AI-generated advertisements will differ in their effect on PI for visual/visual+textual advertisements (lower effect compared to human-made advertisements).

Furthermore, AI-generated advertisement is expected to lead to the same BP compared to human-created advertisement while BP has a significant positive effect on PI.

CHAPTER 3: METHODOLOGY

The third chapter of this dissertation deals with the methodology used to give answers to the proposed research questions and to examine the validity of the formulated hypotheses.
It starts with an overview of the research approach, followed by a thorough description of the data collection, stimuli development and measurements of the data. Thereafter, the methodology chapter will conclude with insights into the data analysis within the main experimental study.

3.1 Research Approach

To reach the objective of this dissertation and compare traditional advertising effects to AI-generated advertising effects, it is indispensable to understand the differences that emerge between these two creative processes and outputs and the underlying factors influencing such relationships. Hence, it is of crucial importance to develop comparable, unbiased stimuli.
Thus, the first step was to clearly define the research problem as well as possible underlying effects that influence the outlined variables. This has been achieved through an extensive literature review in exploratory and descriptive research forms (Kothari, 2004). Given the scarce academic literature on AI-generated advertising and its effects, a substantial portion of the literature review dealt with explaining pertinent advertising theories and the effects that have already been studied for human-made advertising.
Hence, out of this relevant research, the conceptual model and hypotheses were deducted, which serve as the basis for the operational model and consequently the confirmatory or explanatory portion of this dissertation (Creswell, 2009).
To limit any possible researcher bias to a minimum and thus increase data credibility (Kothari, 2004), all category and brand choices were either made through applicable primary data, quantitative or qualitative methods. The product category was chosen by examining advertising spending statistics, while the brands within that category were chosen through a pre-online survey.
Thereafter, based on the three preferred brands, human-made advertising was researched and modified to fit the different content stimuli, while AI-generated advertising was prompted with the help of the tools ChatGPT, Midjourney and DALL-E 2.
However, a subsequent focus group was indispensable to limit any researcher bias that might have emerged during the stimuli design and to achieve the highest possible comparability, especially in terms of the AI-generated content (Bradley, 2013). Thereafter, individual

interviews were conducted to evaluate the final stimuli that had been selected in the previous focus group.

Based on the received suggestions, the AI-generated content was further optimized until maximum comparability was achieved.

Finally, an extensive online survey in an experimental design with eight different stimuli was conducted as an explanatory study to verify or deny the predefined hypotheses (Kothari, 2004) and determine whether AI-generated advertising is comparable, in terms of its effects on BP and PI, to human-made advertisement under the differentiation of visual and textual stimuli.

3.2 Primary Data

To be able to answer the research questions and examine the hypotheses, data needs to be collected to extend the currently available research on the topic. This has been concluded by the following consecutive processes: (1) identification of the product category and relevant brands (2) stimuli creation and confirmation, and (3) main quantitative study.

3.2.1 Identification of the Product Category and Relevant Brands

Primary data from academic literature has been utilized in this dissertation as a supporting data source for matters at hand that could more efficiently be solved with such forms rather than newly collecting data through qualitative methods. Here, the product category has been determined by means of comparing categories based on their advertising spend. Given that the entire dissertation is framed within a relevant advertising theory and seeks to examine the effects of advertising, it was crucial to test advertising in a category that typically has high advertising spending.

Here, the product category of smartphones is particularly suitable. Samsung spent 2.3 billion U.S. dollars alone in the US on advertising in 2021, which was an increase of 25% in expenditure compared to the previous year (Samsung: Advertisement Spend in the U.S. 2021 | Statista, n.d.).

The testing of the different advertising forms must be done based on specific brands within the smartphone product category. To limit the number of stimuli while still testing for BPs, three brands needed to be selected.

3.2.1.1 Data Collection

To reach participants for the screening survey, the survey link was distributed among friends, colleagues and family members through social media platforms. This method was chosen to

reach screening results quickly and without costs while still offering reliable answering quality. Hereby, 109 participants were reached who answered the pre-survey.

3.2.1.2 Measurement

To determine the preference of brands, an underlying study by Statista has been chosen as the foundation for further research. Within this study, more than 5000 German consumers were surveyed regarding their smartphone habits, yielding a popularity statistic with the three brands Apple, Samsung, and Huawei ranked in the top three positions. However, since popularity and preference are two distinct concepts, the pre-survey needed to examine whether there is an overlap of these two concepts when it comes to smartphone brands.

Apart from demographics and general smartphone habit questions, BP was studied using a construct based on the one proposed by Sirgy et al. (Sirgy et al., 1997). Here, the combinations of Apple & Samsung, Samsung & Huawei, and Huawei & Apple were used to assess the general rank concerning preference.

3.2.1.3 Analysis and Results

In total, 109 responses could be recorded for the pre-survey. However, after cleaning the data, 68 responses were concluded as viable for further analysis given outliers, duplicate IP addresses and incomplete sets.

Given the utilized construct of BP, the mean of each combination of brands within the construct was examined. By comparing the means between these brand combinations, it became clear which brand ultimately leads in preference, which ranks in the middle, and which one comes in last.

By comparing the means of all three BP constructs of the brand combinations, Apple has been ranked highest in terms of preference, followed by Samsung and lastly Huawei. This can be seen when examining the means of the brand combinations: Samsung is not preferred over Apple (mean=2.108), but over Huawei (mean=3.696) and Apple is generally preferred over Huawei (mean=4.436). The relevant statistics for this comparison can be found in Appendix A. Hence, stimuli were created for those three, quantitatively confirmed, preferred smartphone brands, Apple, Samsung, and Huawei.

3.2.2 Stimuli Creation and Confirmation

The quality and interpretability of the stimuli are ultimately the most influential factors in the final survey, as they serve as the sole point of judgment in this scenario apart from previously

acquired beliefs of the brand. Hence, it is indispensable to dedicate a significant effort to developing and testing the stimuli.

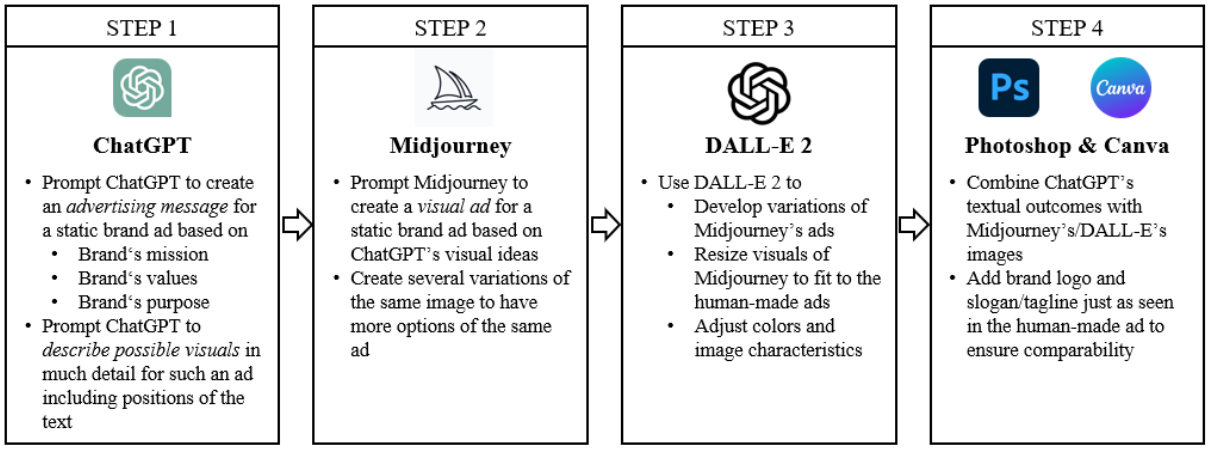
Here, two distinct approaches needed to take place to develop or extract human-made advertisements and AI-generated advertisements with as little researcher bias as possible.

The process for the human-made advertisements involved researching previous static advertisements of the brands. It was crucial, however, that all advertisements included the brand's logo as well as an advertising message on the stimuli. For one of the chosen brands (Apple), the textual and visual components had to be separated from testing the effects of the single elements in the final survey.

The process for the AI-generated advertisements was much more extensive and required several iteration rounds. Firstly, ChatGPT was prompted on relevant brand characteristics such as its mission, values, purpose, product specifications, and past advertisements to ensure a good fit between the advertisement and the company personality. Apart from developing several short advertising messages based on that information, ChatGPT further developed ideas for visuals. Thereafter, Midjourney was prompted using the results generated by ChatGPT. Here, several variations of images and alternative prompt descriptions were used to deliver satisfying results. In most instances, DALL-E 2 was utilized to further adjust the images based on size and colors. Lastly, the images and text components were combined using Photoshop or Canva and the brand logo and slogan were added to the advertising.

Figure 3

Process of Developing AI-generated Advertisement



After developing these creatives, the advertisements needed to be tested and chosen for the final survey in order to limit any form of researcher bias and to ensure that the participants understood the stimuli.

3.2.2.1 Data Collection

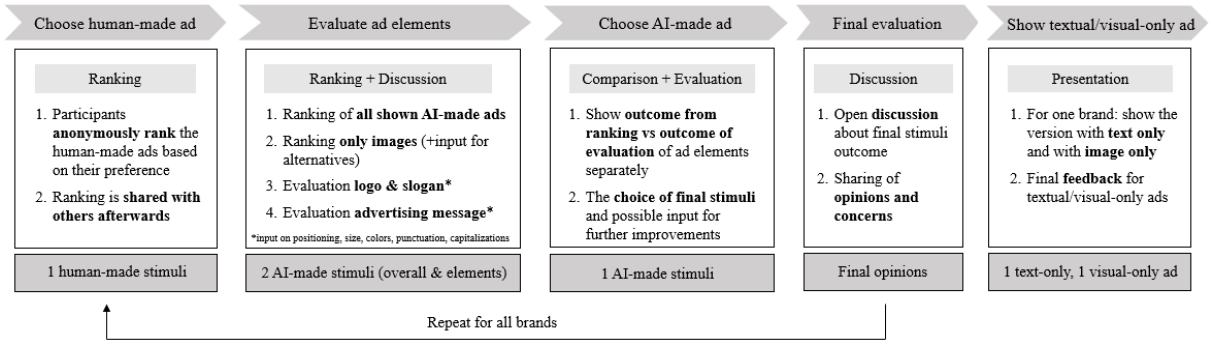
To examine the understandability and suitability, especially of the AI-generated advertisements, a focus group, and individual cognitive interviews were chosen as the superior form of research (Kothari, 2004). It aids in laying specific focus on the matter at hand and enabling detailed discussions while still giving enough freedom to the interviewer in terms of posing questions and guiding the group (Kothari, 2004).

Thus, one focus group with six participants was conducted to co-create or adjust the stimuli by receiving relevant feedback about all the alternatives shown. The participants were between the ages of 22 and 29, from three nationalities and had different academic/career backgrounds. Given the dispersed location of the participants, the focus group was conducted online via Zoom and in English.

The process of the focus group was pre-defined by a given flow and written script while still leaving room for unanticipated discussion points.

Figure 4

Focus Group Flow



The chosen stimuli within the focus group discussions then needed to be further tested in individual cognitive interviews to ensure their fit for the final survey in terms of correct interpretation. Here, five different participants were asked to take part in such cognitive interviews to examine their evaluation of the given stimuli and to clarify any confusions that might come up.

By combining the co-creation (in focus groups) and the evaluation of final stimuli (interviews), researcher bias could be extensively limited.

3.2.2.2 Results

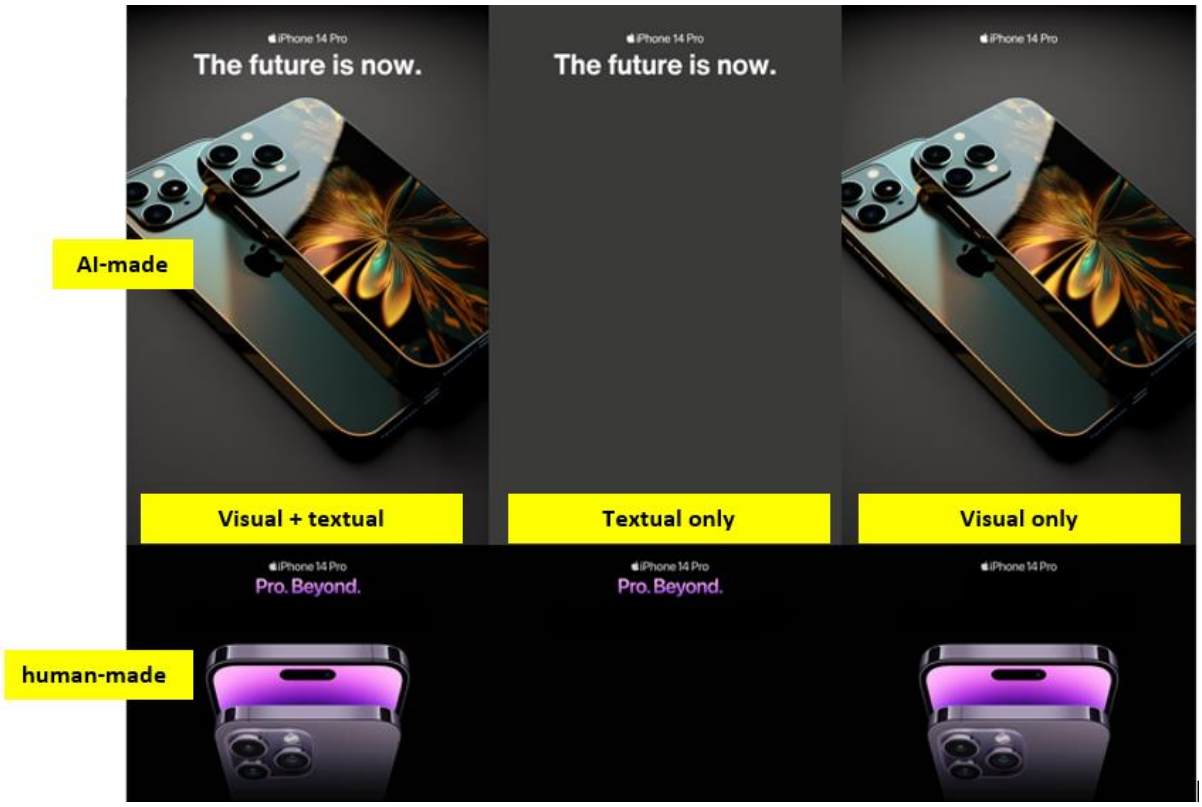
By following the above-mentioned focus group flow, the participants identified their preferred human-made and AI-made stimuli and gave relevant insights into the individual advertisement

elements. The detailed results including feedback on a multitude of different advertisement variations can be found in Appendix B.

For Apple, textual-only and visual-only advertisements needed to be created. First of all, participants ranked their favorite human-made advertisement. After ranking the AI-created advertisements, evaluations of the specific content elements yielded only little adjustments. In general, AI-made advertisements which showed humans were somewhat disliked as they showed difficulties in portraying humans realistically. Thus, ultimately a product shot of an iPhone was chosen as the stimulus, and minor adjustments were made according to feedback. Lastly, the textual and visual elements were separated to create the final stimuli. Feedback showed that participants were concerned about the effects that these textual- and visual-only stimuli might have on survey participants. Several participants mentioned that they believe the effects of especially the textual-only stimuli will be significantly lower because when consumers think of an advertisement they do not expect to just see the text without an image.

Figure 5

Final Apple Stimuli for Interviews



The same process has been followed for Samsung.

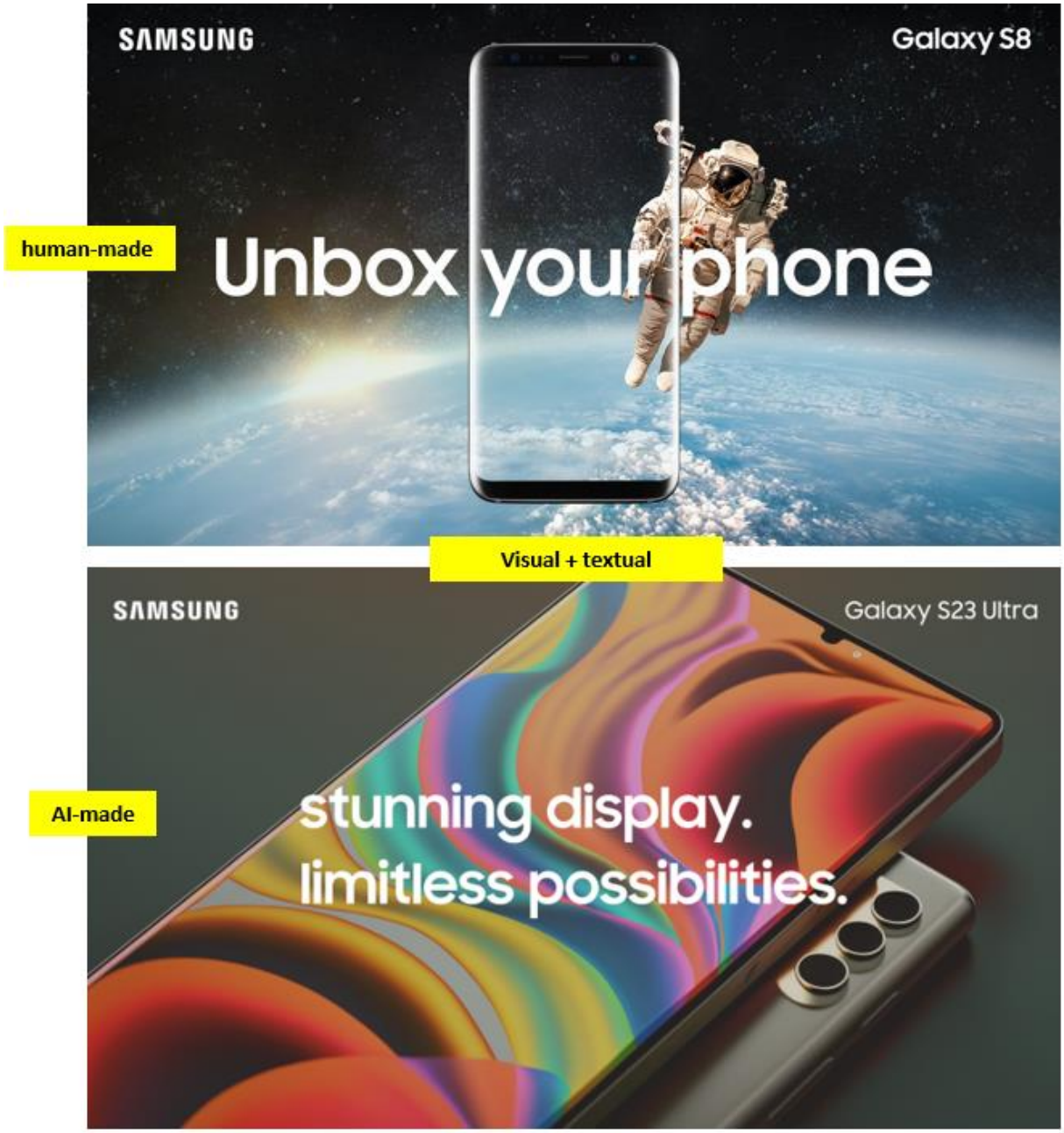
Here, the choice of the human-made advertisement was a fairly unanimous matter. When it came to the AI-generated stimuli, however, some adjustments needed to be undertaken to yield

satisfying results. The chosen overall preferred AI-made stimulus was adjusted in terms of message positioning and punctuation.

Hence, the following stimuli were chosen for entering the interviews for further evaluation.

Figure 6

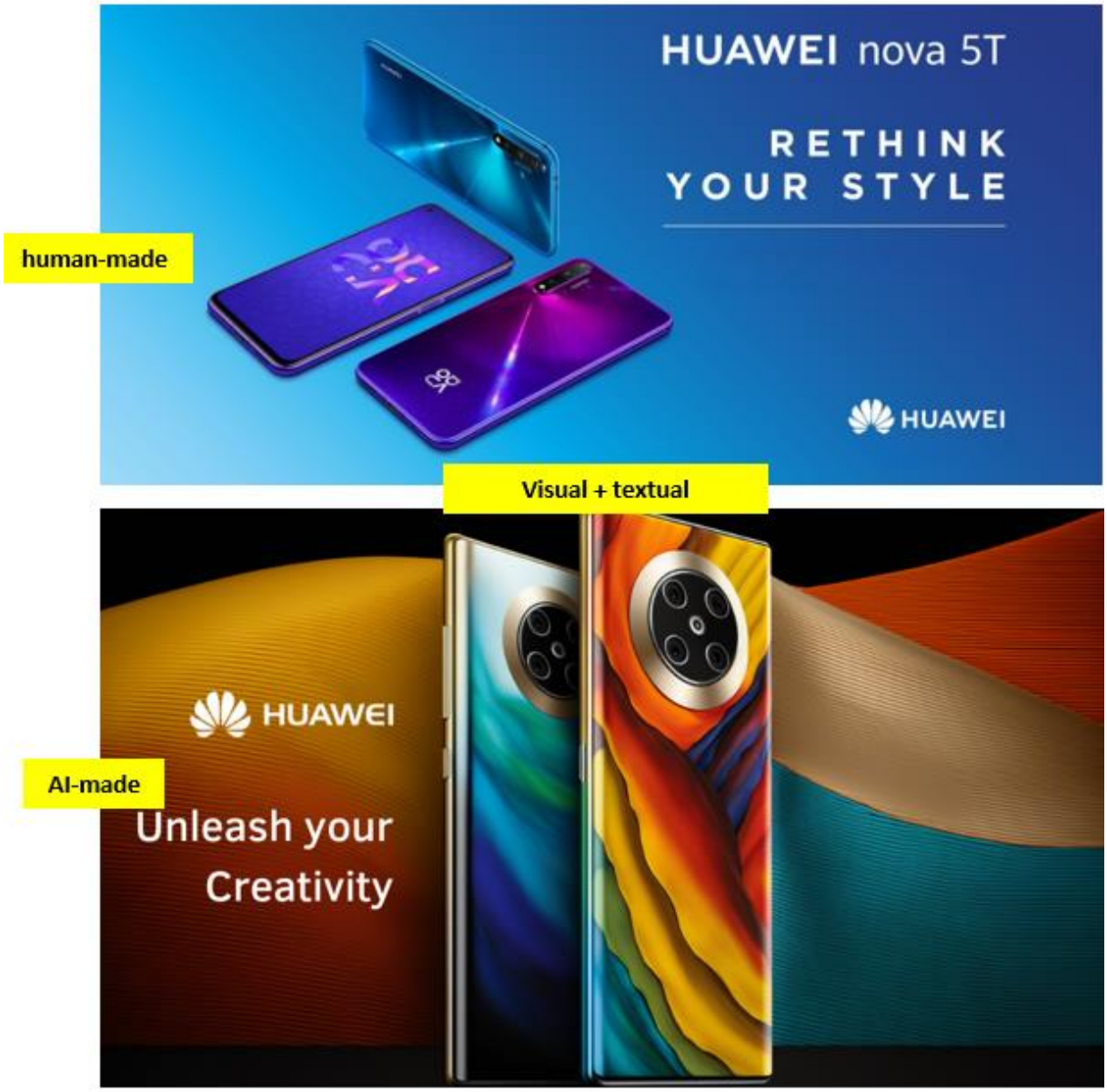
Final Samsung Stimuli for Interviews



Following the same process for Huawei, a human-made advertisement was chosen and an AI-generated advertisement was adjusted after evaluations of advertisement elements were made. Here, the justification/positioning of the text was changed to the left side and the logo was moved up.

Figure 7

Final Huawei Stimuli for Interviews

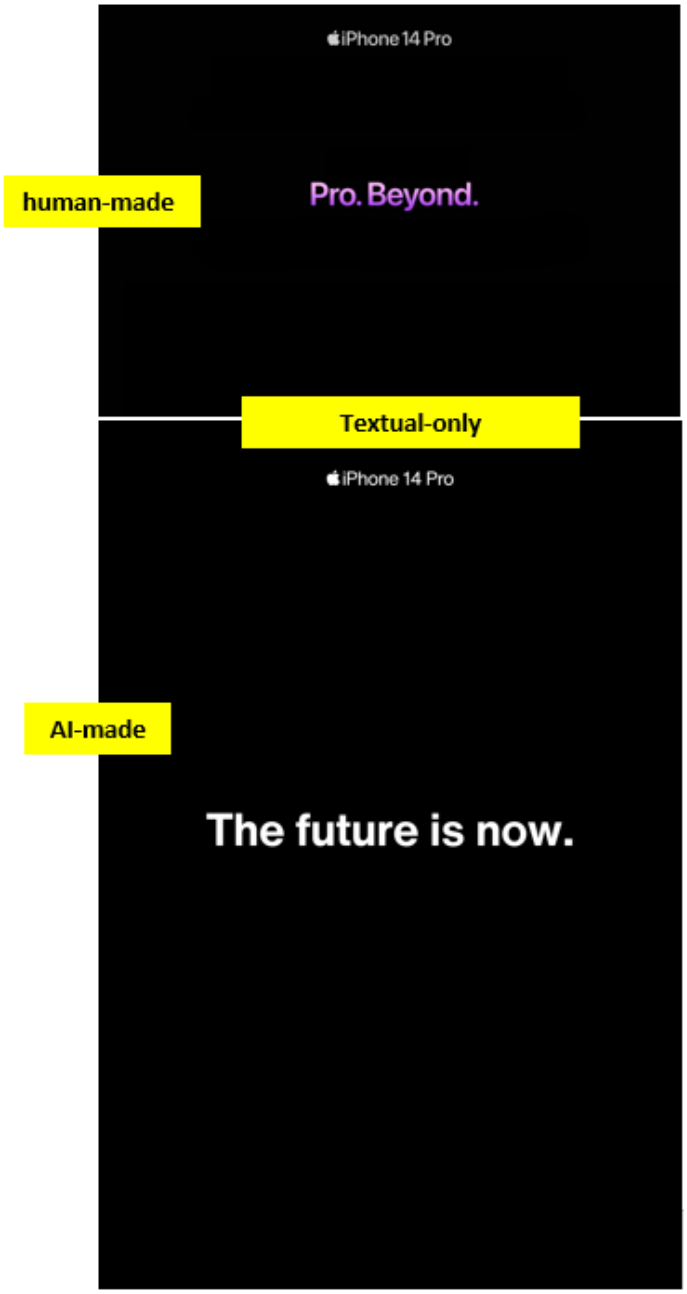


After these stimuli have been co-created, five follow-up individual cognitive interviews were conducted to make sure these stimuli were interpreted correctly and to test whether the mentioned concerns remained. Participants were asked about what they thought the advertisements' overall message was, their clarity and effectiveness, and any concerns they might have. Furthermore, two manipulation questions were asked to confirm that participants indeed saw only a text or only an image or both. Here, the interpretations of the advertisements were mostly coinciding among participants, whereas some advertisements (such as the Samsung human-made advertisement) were seen as more creative and thus leaving room for more interpretations. In general, all advertisements have been regarded as clear, however, the

textual-only and visual-only advertisements were seen as less effective due to the missing content element. A recommendation was a clarification within the survey or a changed design. Based on the feedback, the textual-only advertisements were further adjusted.

Figure 8

Textual-Only Stimuli After Interviews



A detailed summary of the interview results can be found in Appendix C.

3.2.3 Main Quantitative Study

To test the conceptual model and give a reliable answer to the proposed hypotheses, the relationship between variables needed to be tested. This has been done by collecting quantitative data and analyzing it through an experimental research design (Kothari, 2004). It allows for a more systematic and logic-driven process for answering the research questions (Kothari, 2004).

3.2.3.1 Data Collection

A survey was spread through a mobile panel of the company "Appinio" which specializes in high-quality B2B market research. The panel participants were located in Germany. The survey was live on the 21st of April 2023 and within a couple of hours a total of 2034 participants answered the survey.

The survey was conducted using a monadic method, splitting the participants into eight different monads, thus only exposing each participant to one specific stimulus. This represents a typical method of an advertising concept test (Bradley, 2013). Thus, each group had an equal participant count of approximately 250 respondents. The experimental design included three distinct variables: (1) type of advertisement (2) type of content and (3) brand. Hence for the visual and textual advertisements, a 2x2x1 design was employed, comparing Samsung and Huawei advertisements created by humans vs those created by AI (Monad 1, 2, 3, 4). For the visual-only and textual-only advertisements a 2x1x2 design was employed, comparing Apple visual-only and textual-only advertisements which have been created either by a human or by AI (Monad 5, 6, 7, 8).

Table 1

Monadic Experimental Survey Design

M1	Samsung: Human-created ad, visual+textual	M2	Samsung: AI-created ad, visual+textual
M3	Huawei: Human-created ad, visual+textual	M4	Huawei: AI-created ad, visual+textual
M5	Apple: Human-created ad, visual only	M6	Apple: AI-created ad, visual only
M7	Apple: Human-created ad, textual only	M8	Apple: AI-created ad, textual only

The participants were randomly allocated to one of the groups. Once entered the survey, after two filter questions, each participant was shown the respective stimuli. A heatmap measure was included to examine which part of the advertisement aroused the highest attraction. To be able

to analyze the effect of the stimuli on BP, the before mentioned construct was used. Then, questions about the PI followed. Lastly, some demographic questions, manipulation, and attention checks were further included.

3.2.3.2 Measurement

To measure the effects of the different stimuli on BP and PI, the following constructs were used. For BP, a 5-point agreement Likert scale including four items was used, as proposed by Sirgy, M.J. et al. in 1997. They used it across eight product categories and yielded Cronbach's alphas between 0.72 and 0.98 (Sirgy et al., 1997). The survey included the items "I like (focal brand) better than (referent brand).", "I would use (focal brand) more than I would use (referent brand).", "(Focal brand) is my preferred brand over (referent brand).", and "I would be inclined to buy (focal brand) over (referent brand).". It was incorporated three times to test the different brand combinations (Samsung/Apple, Samsung/Huawei, Apple/ Huawei).

For PI, the construct proposed by Putrevu, S. & Lord, K.R. in 1994 with a Cronbach's alpha of 0.91 was used. The original agreement Likert scale was measured on 7 points, however, to be able to have an equal basis for analysis, it was converted to a 5-point Likert scale. The items "It is very likely that I will buy (brand).", "I will purchase (brand) the next time I need a (product)," and "I will definitely try (brand)." (Putrevu & Lord, 2013) were used. The 5-point Likert scales ranged from 1=Strongly Agree to 5=Strongly Disagree.

Table 2

Operational Model

Framework	**Measure**	**Items**	**Scale**	**Reference**	**Cronbach α**
IV	Ad Type	Stimuli	na	na	na
Moderator	Content Type	Stimuli	na	na	na
Mediator	BP	4	5-point Likert Scale	Sirgy, M.J. et al. (1997)	0.72-0.98 across eight products
DV	PI	3	5-point Likert Scale (*)	Putrevu, S. & Lord, K.R. (1994)	0,91

** Scale was adapted from original 7-point Likert Scale*

3.2.3.3 Data Analysis

Data was collected and analyzed through Appinio's dashboard and SPSS.

First of all, the data was translated into English and recoded into numeric variables. Some identifying variables such as the monadic group, brand name, advertising type (binary), and content type were added. Subsequently, the data was cleaned by deleting all failed manipulation checks, outliers, and incomplete sets. The outliers were detected by using the Mahalanobis distance analysis and a probability estimate of conservative nature amounting to $p<0.001$ (Tabachnick & Fidell, 2013). Thereafter, the BP and PI constructs were created and tested in terms of their reliability using Cronbach's Alpha measure (Field, 2009). The values and hence the constructs' quality were classified according to Kline's recommendation (Kline, 1999).

Finally, the sample was characterized demographically by visualizing their frequency statistics.

It is important to mention the unusual research approach in this hypothesis testing procedure. Here, for the majority of the mentioned hypotheses, the goal was to not find a statistically significant difference between the type of advertisement, thus concluding that AI-vs. human-created advertisement is indeed comparable in terms of its effects on the dependent variables.

The first hypothesis relating to the comparison between AI-generated and human-made advertising in terms of PI was tested by using the Mann-Whitney U Test. Here, all groups with human-made stimuli were aggregated into one group and all groups with AI-generated stimuli were summarized in another group, hence creating a dummy variable and making an Independent Samples Test possible. Furthermore, a Linear Regression was performed to test the impact of the dummy variable on the metric dependent variable.

Hypothesis 2a regarding the comparison of the type of advertisement in terms of BP, was tested in the same way as hypothesis one. Here, the tests were however conducted three times, with each BP construct separately.

The second sub-hypothesis of a positive effect of BP on PI was tested using a Linear Regression.

The third hypothesis on the moderating effect of the type of advertising was tested by conducting a Kruskall-Wallis Test with all three content variations (textual-only, visual-only, and textual+visual) and testing for differences in means in terms of PI. While it will not entirely explain a possible moderating effect, it gives insights into whether the different types of content result in different PIs. This was conducted exclusively within each advertisement type group, thus not contrasting AI and human-made stimuli in the first step. However, thereafter, the AI-made and human-made advertisements were again compared in their means regarding the

textual-only and visual-only as well as visual and textual stimuli separately with Mann-Whitney U Tests. Lastly, Hayes' PROCESS macro model 1 was run to test the moderation.

To test the moderating and mediating effects as well as the conceptual model as a whole, Haye's PROCESS model 5 was utilized (A. F. Hayes, 2018). The existence of a multicategorical moderation variable required the execution of a general linear modeling approach proposed by Hayes and Preacher (2014) while using an indicator coding method (A. F. Hayes & Preacher, 2014).

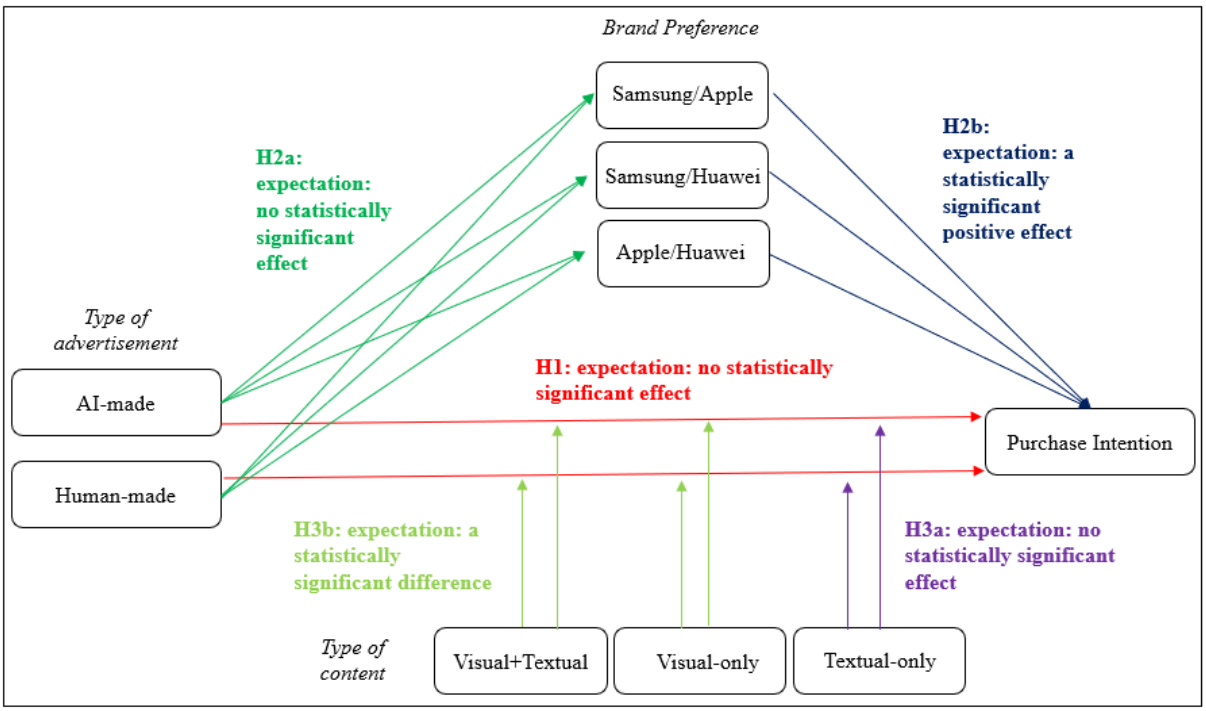
Heatmaps of each advertisement were further included to examine the parts of each advertisement that aroused the highest interest. Lastly, an additional analysis of BP was conducted.

Given the mentioned variables, conceptual model, and hypotheses, the following operational model emerges. For clearer overview reasons, the distinct hypotheses were marked in different colors.

For all statistical hypothesis tests, a p-value of 0.05 is established as the significance level.

Figure 9

Visual Representation of Operational Model



CHAPTER 4: RESULTS

4.1 Results

4.1.1 Data Preparation

A total of 2034 participants responded to the survey. Given the fact that incomplete survey responses were automatically deleted by Appinio's panel system and immediately resampled, all 2034 participants answered the entire questionnaire. Every participant has a certain set of demographic data saved in Appinio's database. This includes demographics such as age, gender, city, marital status, household income, and various more. Not every participant has disclosed data for every single demographic variable, however, given that these demographics were not part of the questionnaire but rather an add-on for further analyses, these cases were kept in the survey. After all, they merely amounted to less than 2% of the total sample and were never part of the hypothesis testing. The crucial characteristics such as age, gender, job status, and education level were given for all 2034 participants. Thus, no missing cases were detected and the data preparation continued with the full sample. Thereafter, the manipulation checks were examined. Each stimuli group had a specific response pattern for these manipulation check questions that needed to be adhered to.

Table 3

Filter Logic for Manipulation Check Questions

Stimuli Group	**Manipulation Check 1**: The advertisement shows an advertising image of a smartphone.	**Manipulation Check 2:** The advertisement shows an advertising text.
M1	Yes	Yes
M2		
M3		
M4		
M5	Yes	No
M6		
M7	No	Yes
M8		

Every respondent who did not answer correctly for his specific stimuli was filtered out. Ultimately, 521 cases needed to be deleted from the dataset given the failed manipulation checks. This left a dataset of 1513 for further tests.

Hereafter, the Mahalanobis distance analysis was performed which yielded 143 outliers, reducing the sample size to 1370. An outlier analysis for the response duration in seconds was additionally performed but resulted in no detected outlying cases.

Thus, the final sample for the following statistical tests amounted to the number of 1370 participants.

As an initial preparation for the hypothesis tests, grouping variables needed to be computed. Here the variables Group_Monad{1,…,8}, Brand{1=Samsung, 2=Huawei, 3=Apple}, Advertisement_Type{0 = Human-made, 1 = AI-made}, Content_Type{1 = Visual+Text, 2 = Visual-Only, 3 = Text-Only} were created.

Lastly, all variables in the dataset were translated into English and recoded into numeric values.

4.1.2 Sample Characterization

The entire sample was approximately evenly distributed among the eight groups. In total, the participants were made up of slightly more females (54.8%) than males (45.2%). All ages from 18 to 65 were represented with a mean age of 32.22 years, however, younger participants (18-34: 63%) were more common than older participants (35-65 or above: 37%). More or less half of the sample had at least one child and a household size of two or three people. Household net incomes ranged from less than 1000€ to more than 5000€ and respondents were fairly evenly distributed among these income groups (between 9.7% and 22.4%). Approximately one-third were single (35.8%), one-third were in a relationship (33.1%) and the other third were married (29.4%). The majority lived in non-urban (less than 100k inhabitants) areas (59.1%) and possessed an Android phone (59.8%) rather than an iOS operating system (40.2%). The most represented education class were people in training (27.5%) followed closely by middle school degrees (21.8%) and A-levels (18.7%). The majority of the participants were employed (63.9%) followed by students (15.1%). The sample characterization in a concise table can be found in Appendix D. While the data succeeds to represent the general German population quite well, it fails to be nationally representative given the underlying census data (Federal Office of Statistics, 2011). The statistics among the eight present groups did not differ to a great extent, thus a fairly even demographic distribution can be concluded.

4.1.3 Descriptive Statistics and Measure Reliability

The main metric variables have been analyzed in terms of their mean, minimum, and maximum value as well as their standard deviation. Moreover, all constructs have been assessed in their reliability using Cronbach's Alpha. First of all, the three BP and PI constructs were created and their reliability was assessed. The Cronbach's Alpha's were all extremely high with more than 0.9, resulting in a very high reliability (Kline, 1999).

Table 4

Cronbach's Alpha for Brand Preference and Purchase Intention

Construct	Cronbach's Alpha	Quality	N of items
Brand Preference Samsung/Apple	0.978	Excellent	4
Brand Preference Samsung/Huawei	0.957	Excellent	4
Brand Preference Apple/Huawei	0.976	Excellent	4
PI	0.959	Excellent	3

For the entire sample of 1370 participants one can conclude that Samsung is generally preferred over Huawei with a mean of 3.9, and over Apple with a mean of 3.4 and Apple preferred over Huawei with a mean of 3.6. This results in a ranking from most preferred to least preferred of Samsung, followed by Apple and then Huawei. By comparing the standard deviations across the three constructs, it becomes evident that for the Samsung over Huawei preference, participants were less spread out around the mean, thus having a more unanimous opinion. The other two standard deviations amounted to values around 1.5, thus having a slightly wider dispersion around the mean, hence concluding slightly less unanimous preferences. The PI yielded a mean of 3.2, thus on average, the study participants would rather intend to purchase the respective brand than not purchase it. Once again, the standard deviation can be classified as moderate according to Cohen (Cohen, 1988). The SPSS output can be found in Appendix E.

4.1.4 Results of Hypothesis Tests

To choose the correct tests in SPSS for the data at hand, a normality analysis was run on all metric variables (PI construct, BP constructs). The normality tests put forward the null hypothesis that the variables follow a normal distribution. Hence, to comply with the normality distribution, the null-hypothesis should not be rejected, thus a p-value above the significance level of 5% should be the goal. However, after running the normality test, all p-values for all four metric variables were below 0.001, thus rejecting the null hypothesis of normal distribution. Hence, non-parametric tests needed to be conducted and the results of the hypothesis tests (especially the Linear Regressions) need to be interpreted with caution. The independence of observations is given as one participant only entered into one group exclusively.

All relevant SPSS output for the normality, assumptions, and hypotheses tests can be found in Appendix F and G.

Hypothesis 1) *AI-generated advertising leads to the same purchase intention compared to human-created advertising.*

Since the goal is to assess whether a statistically significant difference is evident between the two distinct types of advertisement, a Mann-Whitney U Test was conducted between the four human-created stimuli groups (1,3,5,7) and the four AI-created stimuli groups (2,4,6,8). More specifically, the means of the combined groups were contrasted against each other. Given the above-mentioned hypothesis of no expected statistical differences the null hypothesis of no difference between groups is aimed to not be rejected, thus a p-value of above 0.05 is expected. Furthermore, a Linear Regression with the metric dependent variable PI and the dummy coded independent variable of advertisement type was conducted.

H0: $\mu_{human\_PI} = \mu_{AI\_PI}$ → *Expectation: not rejected*

$$PI = \beta_0 + \beta_1 Ad_i + \varepsilon_i,$$

$i=1,...N$

Where PI is Purchase intention, Ad is the advertisement type (0=human, 1=AI) and N is equal to 1370.

All the assumptions of the Mann-Whitney U Test were verified, thus the correct variable measurement level, independence of observations, and the same distribution of scores within the independent variable.

All the assumptions of a Linear Regression were approximately verified, thus the nonexistence of multicollinearity, no autocorrelation, independence of observations, approximately normally distributed data, and the linearity and normality of residuals including the homoscedasticity. Since normality is not entirely given, results need to be interpreted with caution.

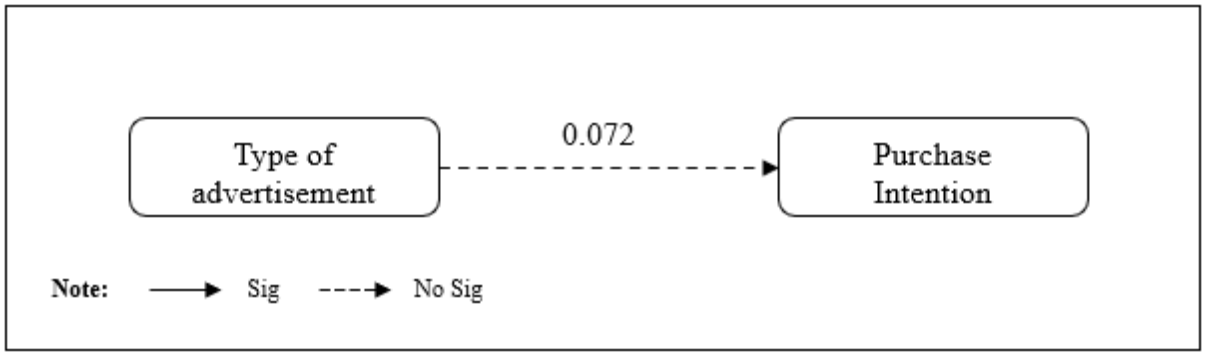
The descriptive statistics indicate a higher PI for AI-generated stimuli groups than for human-created stimuli groups (μ_{human}:3.18<μ_{AI}:3.25). However, there is no statistically significant difference discernable between AI-generated and human-created advertisements in terms of PI, since the p-value amounts to 0.303 and is consequently higher than the established threshold value of rejection of 0.05. Furthermore, the Linear Regression model shows an effect of the advertisement type on PI, in that AI advertisements will have a PI that is higher by 0.072 than human-generated advertisements. However, with a p-value of 0.359, this effect is also not statistically significant. Thus, although the PI for participants exposed to AI-generated

advertisements is higher than those exposed to human-created advertisements, there is no statistically significant difference evident in this case.

Subsequently, **Hypothesis 1 is verified.** The null hypothesis that there is no difference in PI between the AI-generated stimuli group and human-created stimuli group, could not be rejected.

Figure 10

Statistical Model with Coefficients (H1)



Hypothesis 2A) *AI-generated advertisements will lead to the same brand preference as human-made advertisements.*

Once again, this test seeks to analyze the existence of a statistically significant difference between the two distinct types of advertisement. A Mann-Whitney U Test was conducted between the four human-created stimuli groups (1,3,5,7) and the four AI-created stimuli groups (2,4,6,8). More specifically, the BP means of the combined groups were contrasted against each other. Given the three BP constructs, the test was conducted three times. Due to the above-mentioned hypothesis of no expected statistical differences, the null hypothesis of no difference between groups is aimed to not be rejected, thus a p-value of above 0.05 is expected. Furthermore, a Linear Regression with the metric dependent variable BP and the dummy coded independent variable of advertisement type was tested.

H0: $\mu_{human\_BP} = \mu_{AI\_BP}$ → *Expectation: not rejected*

$$BP = \beta_0 + \beta_1 Ad_i + \varepsilon_i,$$

$$i=1,\ldots,N$$

Where BP is Brand preference, Ad is the advertisement type (0=human, 1=AI) and N is equal to 1370.

All the assumptions of the Mann-Whitney U Test were verified, thus the correct variable measurement level, independence of observations, and the same distribution of scores within the independent variable.

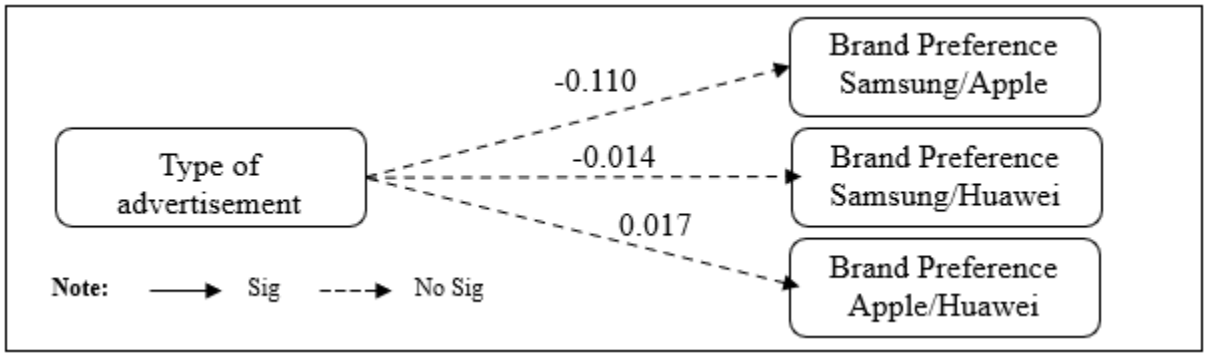
The assumptions of a Linear Regression were approximately verified, thus the nonexistence of multicollinearity, no autocorrelation, independence of observations, normally distributed data, and also approximately the linearity and normality of residuals including the homoscedasticity. Since normality is not entirely given, results need to be interpreted with caution.

The descriptive statistics indicate the same preference rank for smartphone brands among both advertisement type groups with Samsung being preferred over Apple (μ_{human}=3.46, μ_{AI}=3.35) and Huawei (μ_{human}=3.89, μ_{AI}=3.87) while Apple is preferred over Huawei (μ_{human}=3.55, μ_{AI}=3.57). The human-created advertisement groups showcase slightly higher BP means for two of the three brand combinations, while the AI-generated advertisement groups show a slightly higher mean for the BP combination of Apple and Huawei. However, there is no statistically significant difference discernable between AI-generated and human-created advertisements in terms of BP, since the p-values amount to 0.498 for the Samsung/Apple combination, 0.845 for the Samsung/Huawei combination, and 0.464 for the Apple/Huawei combination. These values are all consequently higher than the established significance level. Thus, there is no statistically significant difference evident in this case. This is further supported by the Linear Regression analyses. All p-values are higher than the significance level of 5% (BP_S&A: p=0.193 B=-0.11, BP_S&H: p=0.813 B=-0.014, BP_A&H: p=0.833 B=0.017). Hence, AI advertisement leads to a slightly lower BP of Samsung over Apple and Huawei and a slightly higher BP for Apple over Huawei. However, as already stated, these effects are not statistically significant.

Subsequently, **Hypothesis 2a is verified.** The null hypothesis that there is no difference in BP between the AI-generated stimuli group and human-created stimuli group, could not be rejected.

Figure 11

Statistical Model with Coefficients (H2a)



Hypothesis 2b) *Brand preference has a positive effect on purchase intention.*

Given the existence of metric variables, BP, and PI, a Linear Regression was conducted.

$$PI = \beta_0 + \beta_1 BP\_SA_i + \beta_2 BP\_SH_i + \beta_3 BP\_AH_i + \varepsilon_i,$$

$i=1,...N$

Where PI is purchase intention, BP_SA is the preference combination of Samsung over Apple, BP_SH the preference combination of Samsung over Huawei, BP_AH the preference combination of Apple over Huawei, and N is equal to 1370.

The assumptions of a Linear Regression were approximately verified, thus the non-existence of multicollinearity, no autocorrelation, independence of observations, normally distributed data, and also approximately the linearity and normality of residuals including the homoscedasticity. Since normality is not entirely given, results need to be interpreted with caution.

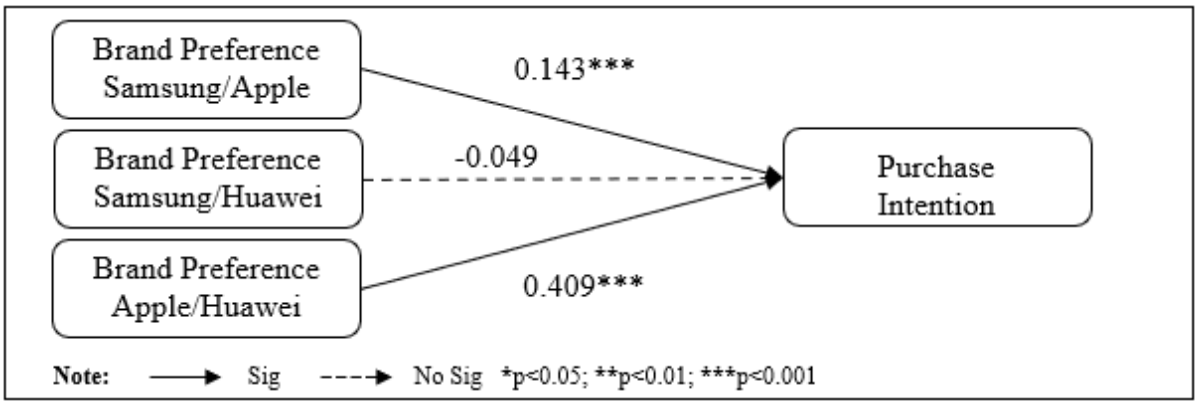
The correlation matrix already indicates a moderate correlation between BP_AH and PI (0.321), and a small correlation between BP_SA and PI (-0.086) and between BP_SH and PI (0.085). All of these correlations are statistically significant with a p-value of equal to or below 0.001. The regression model itself is highly significant ($p<0.001$) and with a R^2 of 0.116, it can explain about 12% of the variation of the PI with the three BP constructs. By looking at the BP variables, one can see a statistical significance of the effect of BP_SA on PI ($p<0.001$) and BP_AH on PI ($p<0.001$). However, the effect of BP_SH on PI is not statistically significant ($p=0.214$). Furthermore, the coefficients of the significant effects are both positive, meaning that the higher the BP for Samsung over Apple and Apple over Huawei, the higher the PI. Thus, for every unit increase of BP_SA, the PI increases by 0.143, and for every increase in BP_AH, the PI

moreover increases by 0.409. The non-significant effect of BP_SH on PI is small with a coefficient of -0.049, meaning that for every unit increase of BP_SH, the PI decreases by -0.049.

Consequently, **Hypothesis 2b is partially verified**. BP has a significant positive effect on PI for the brand combinations of Samsung and Apple as well as Apple and Huawei, but not for the combination of Samsung and Huawei.

Figure 12

Statistical Model with Coefficients (H2b)



Hypothesis 3) *The type of content will moderate the effect of advertising type on purchase intention.*

While the moderating effect will be evaluated later on with the PROCESS macro model 1 in SPSS, it is useful to first establish whether the different types of content differ in terms of their effects on the PI means. Thus, the goal is to find at least one statistically significant difference in PI means between the three groups of content types. The Kruskal-Wallis One-way ANOVA Test will be run for both the human-created and AI-generated groups separately to assess differences within each advertisement type, before then contrasting the content types in the sub-hypotheses.

H0: $\mu_{visual+textual\_PI} = \mu_{visual\_PI} = \mu_{textual\_PI}$ → Expectation: reject null hypothesis

All the assumptions of the Kruskal-Wallis Test were verified, thus the correct variable measurement level, independence of observations, and the same distribution of scores within the independent variable.

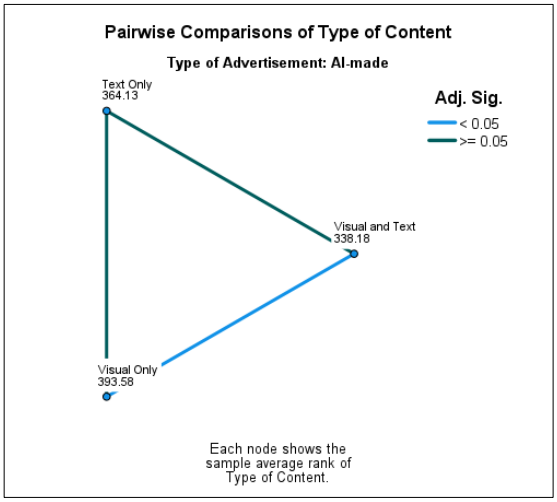
By first examining the human-created stimuli group, one can see that the differences in PI means across the different types of content do not vary much. While visual-only advertisement

has the highest mean (μ_{visual_PI} =3.23) followed by visual and textual advertisement ($\mu_{visual+textual\_PI}$ =3.19) and textual advertisement scores the lowest ($\mu_{textual\_PI}$ =3.05), these differences are not statistically significant with a p-value of 0.489. Thus, the content types do not differ statistically significantly within the human-created stimuli groups. Thus, the null hypothesis cannot be rejected and equal means are assumed.

By then examining the AI-created stimuli group, differences in means between the content types occur. However, in this case, visual-only advertisement scores the highest (μ_{visual_PI} =3.23), while textual-only advertisement comes in second ($\mu_{textual\_PI}$ =3.27), followed by visual and textual advertisement ($\mu_{visual+textual\_PI}$ =3.15). The p-value is statistically significant with a value of 0.015 and thus below the significance level. Hence, there is a statistically significant difference between the different types of content in their PI. While examining the pairwise comparison table it becomes evident that this statistical effect lies in the difference between visual-only and visual+textual advertisements, which shows a p-value of 0.005. The other pairings have p-values higher than 5% and do not differ statistically significantly.

Figure 13

Results of Kruskal-Wallis Test in the AI-group



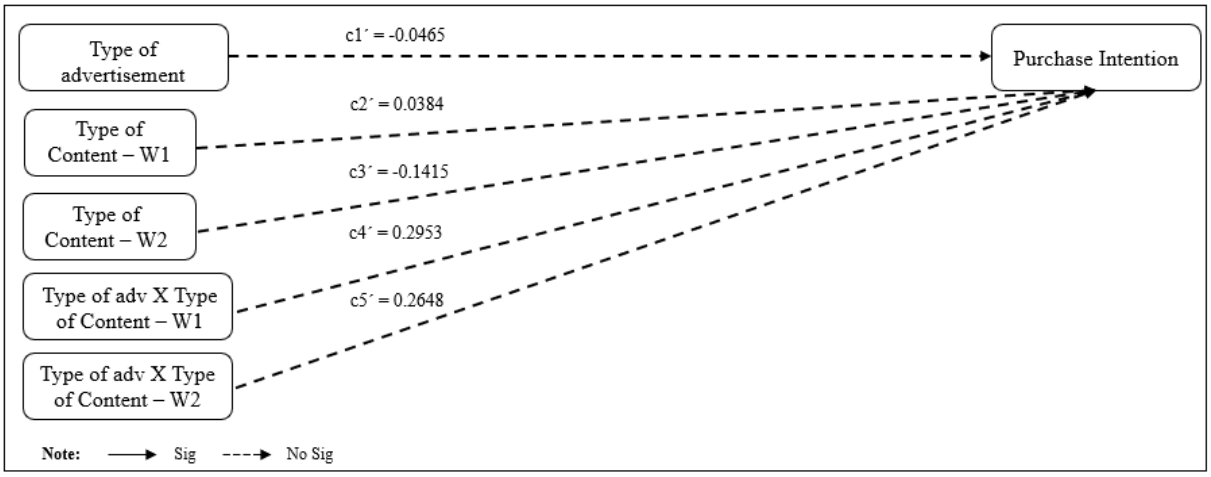
To conclude this analysis, the PROCESS macro with the simple moderation model number 1 was run. Given the categorical nature of the moderation variable, the variable was coded into two dummy variables automatically by the system. The resulting model is not statistically significant given a p-value of 0.1681 which is higher than the significance level of 5%. Furthermore, the R^2 is very low with a value of 0.0057, meaning that the model is merely able

to explain 0.6% of the variance in PI. The direct effect of advertising type on PI is not statistically significant with a p-value of 0.6586, thus supporting the first hypothesis once again. Neither the moderator dummy variables nor the interaction effects of the moderators with the advertising type are statistically significant with p-values ranging from 0.1371 to 0.7848.

Subsequently, **hypothesis 3 is not verified**. While the PROCESS macro test does not yield any significant difference between the content types, the Kruskal-Wallis Test concludes a statistically significant difference in PI between AI-generated visual-only and visual+textual advertisements.

Figure 14

Statistical Model with Coefficients (H3)-PROCESS Macro



Hypothesis 3A) *AI-generated textual-only advertising leads to the same purchase intention compared to human-created textual-only advertising*.

To assess an existence of a statistically significant difference between the PI means of the AI-generated textual-only versus the human-created textual-only advertisements, another Mann-Whitney U Test was conducted. Hence, group seven and group eight of the experiment were contrasted against each other. Given the above-mentioned hypothesis of no expected differences, the null hypothesis is aimed to not be rejected.

H0: $\mu_{human\_Text\_PI} = \mu_{AI\_Text\_PI}$ → Expectation: not rejected

All the assumptions of the Mann-Whitney U Test were verified, thus the correct variable measurement level, independence of observations, and the same distribution of scores within the independent variable.

By first examining the descriptive statistics it becomes evident that the textual advertisement created by AI yielded a higher PI than the one created by humans ($\mu_{human\_Text\_PI}$ =3.05 vs. $\mu_{AI\_Text\_PI}$ =3.27). However, this difference cannot be concluded as statistically significant given a p-value of 0.183. Thus, the null hypothesis of no difference in means cannot be rejected.

Consequently, **hypothesis 3a is verified**. AI-generated textual-only advertising leads to the same PI compared to human-created textual-only advertising.

Hypothesis 3B) *AI-generated visual-only and visual + textual advertising leads to lower purchase intention compared to human-created visual-only and visual + textual advertising.*

Once again, two Mann-Whitney U Tests were conducted to assess whether a statistically significant difference exists between the PI means of the respective advertising type groups in terms of the distinct content types. To test for differences among the visual-only stimuli, group five is compared with group six. To test for any differences among the visual and textual stimuli, groups one and three are collectively contrasted with groups two and four. Given the above-mentioned hypotheses, it is expected to reject the null hypothesis of no difference in means.

H0: $\mu_{visual\_PI\_Human} = \mu_{visual\_PI\_AI}$ → Expectation: reject null hypothesis

H0: $\mu_{visual\_textual\_PI\_Human} = \mu_{visual\_textual\_PI\_AI}$ → Expectation: reject null hypothesis

All the assumptions of the Mann-Whitney U Test were verified, thus the correct variable measurement level, independence of observations, and the same distribution of scores within the independent variable.

While looking at the means of the visual-only stimuli descriptively, it becomes evident that the PI in the AI-generated stimuli group is higher than in the human-created group ($\mu_{visual\_PI\_Human}$ =3.23, $\mu_{visual\_PI\_AI}$ =3.48). However, with a p-value of 0.275 the threshold value of p=0.05 to reject the null hypothesis is exceeded, thus the null hypothesis applies.

Next, while examining the means of the visual+textual stimuli among the two types of advertisement, it becomes clear that human-made advertising leads to a slightly higher PI than AI-created advertising ($\mu_{visual\_textual\_PI\_Human}$=3.20, $\mu_{visual\_textual\_PI\_AI}$=3.15). However, once again, the p-value of 0.619 exceeds the threshold value of 0.05, and, therefore, the null hypothesis cannot be rejected.

Consequently, **hypothesis 3b is not verified**. It cannot be assumed a statistically significant difference between AI-created and human-created visual-only and visual+textual stimuli in terms of PI.

The Full Model

To test the entire model and thus also moderating and mediating effects, the PROCESS macro developed by Hayes was utilized. Here, model 5 was used to accommodate the multiple parallel mediation, the dichotomous independent variable, and the categorical moderator. It tests whether BP represents a mediator between the effect of the advertising type on PI, and whether the content type acts as a moderator to that same relationship.

By examining the PROCESS output, it can be deduced that the majority of effects are indeed not statistically significant. Starting with the mediator tests, all three regression models have p-values above 0.05 and an extremely low R^2. This information alone already results in BP not acting as a mediator in this framework. This further **verifies hypothesis 2a** of no difference in BP means between the two advertising types.

The relationship between the advertisement type and the BP of Samsung over Apple has a p-value of 0.19, thus above the 0.05 threshold and a R^2 of 0.12%, which is very low. Thus, advertisement type cannot be regarded as a suitable predicting variable for the BP of Samsung over Apple (a_1: -0.1097).

The relationship between the advertisement type and the BP of Samsung over Huawei has a p-value of 0.81, thus above the 0.05 threshold and an R^2 of 0.00. Thus, advertisement type cannot be regarded as a suitable predicting variable for the BP of Samsung over Huawei (a_2: -0.0143).

The relationship between the advertisement type and the BP of Apple over Huawei has a p-value of 0.83, thus above the 0.05 threshold and an R^2 of 0.00. Thus, advertisement type cannot be regarded as a suitable predicting variable for the BP of Apple over Huawei (a_3: 0.0168).

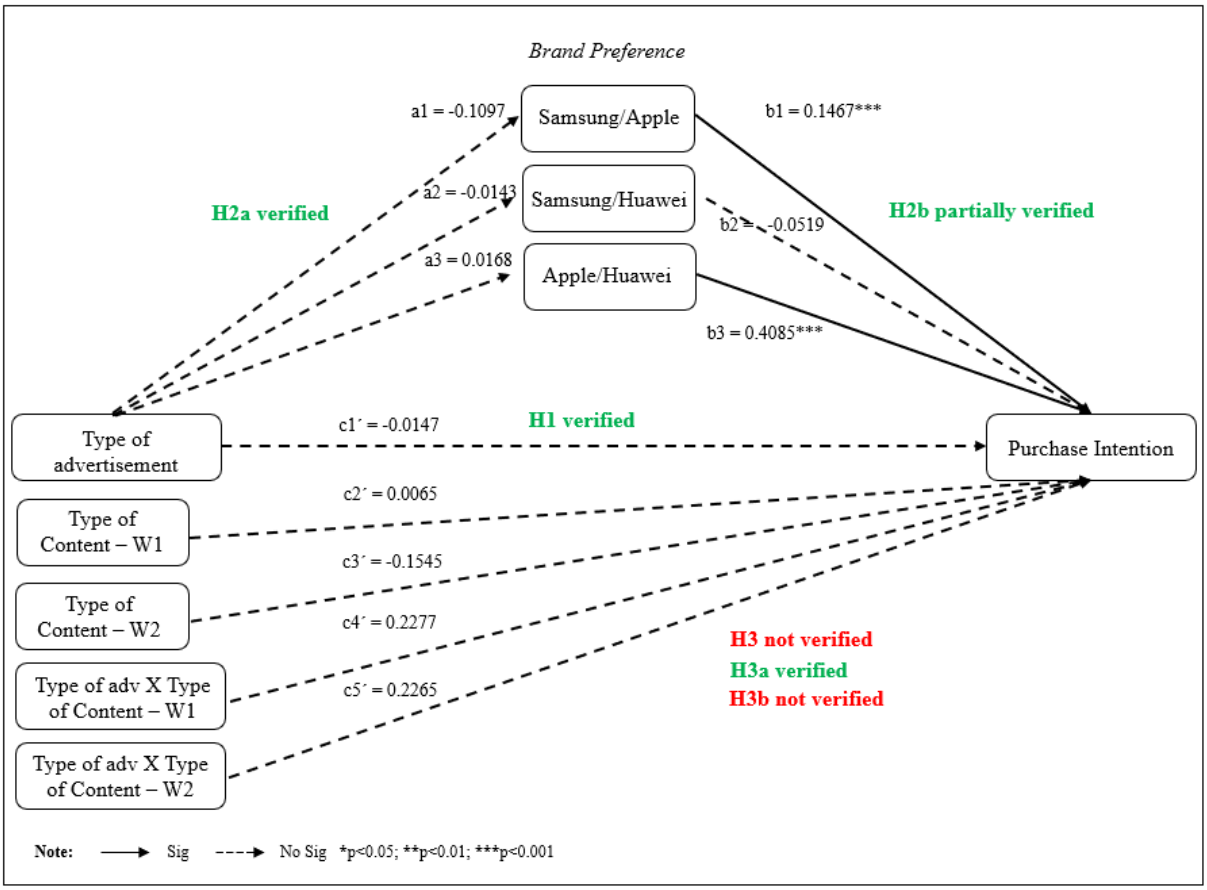
The ineptness of BP as a mediator is also confirmed when looking at the confidence intervals of its bootstrapping, which in all cases cross the value of 0, hence nullifying any mediation (M1: BootLLCI=-0.0442, BootULCI=0.0083; M2: BootLLCI=-0.0074, BootULCI=0.0105, M3: BootLLCI=-0.0579, BootULCI=0.0703).

When evaluating the overall model with PI as the outcome variable, the model itself is statistically significant with a p-value of less than 0.0001, thus below the significance level of 0.05. The R-squared value is fairly low at 12%, thus explaining only some of the variation of

the dependent variable, PI. When examining the p-values of each model factor separately, it becomes evident that two effects are statistically significant: the effect of BP of Samsung over Apple (p=0.000, b_1=0.1467) and BP of Apple over Huawei (p=0.000, b_3=0.4085) on PI. This supports the findings from the previous regression analysis and **partially verifies hypothesis 2b**. All other variables, including advertisement type (p=0.8822, c1´=-0.0147), BP of Samsung over Huawei (p=-0.1893, b2=-0.0519) first content type dummy variable (p=0.9610, c2=0.0065), the second content type dummy variable (p=0.2686, c3=-0.1545) and both interaction terms between advertising type and the content type (Int_1: p=0.2238, c4=0.2277, Int_2: p=0.2294, c5=0.2265) do not show a statistically significant effect on PI. Given these results, **hypothesis 3 is not validated and hypothesis 1 is validated.** The figure below summarizes the above-mentioned results and their effects on the verification of the stated hypotheses:

Figure 15

Full Statistical Model with Regression Coefficients



4.1.5 Summary of Hypothesis Results

The results of the hypotheses testing are further summarized in the following table:

Table 5

Overview of Hypothesis Testing Outcome

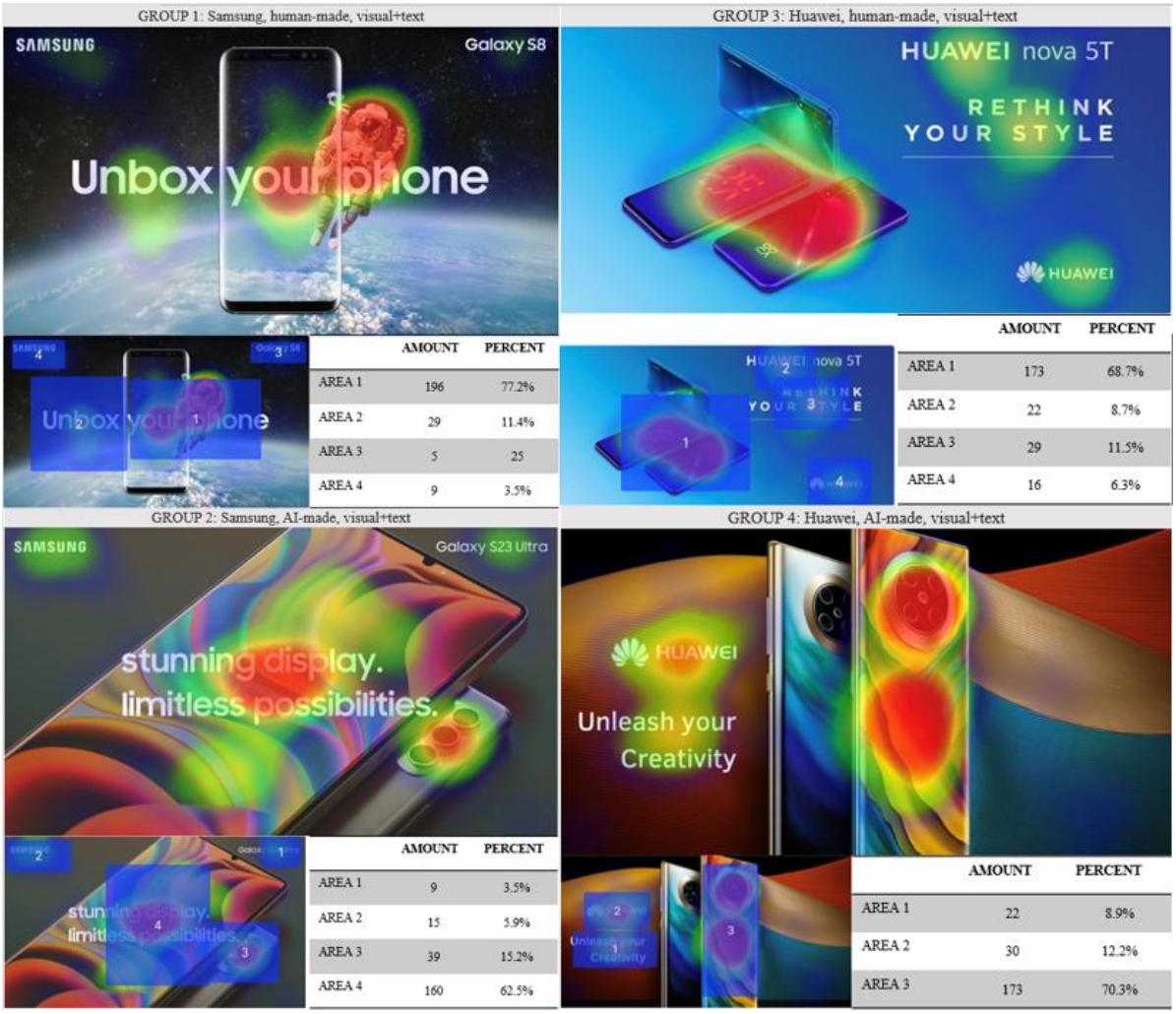
Hypothesis	Description	Outcome
H1	AI-generated advertising leads to the same purchase intention compared to human-created advertising.	Verified
H2a	AI-generated advertising leads to the same brand preference compared to human-created advertising.	Verified
H2b	Brand preference has a positive effect on purchase intention.	Partially verified
H3	The type of content will moderate the effect of advertising type on purchase intention.	Not verified
H3a	AI-generated textual-only advertising leads to the same (or higher) purchase intention compared to human-created textual-only advertising.	Verified
H3b	AI-generated visual-only and visual+textual advertising leads to lower purchase intention compared to the same human-created advertising.	Not verified

4.1.6 Additional Analysis

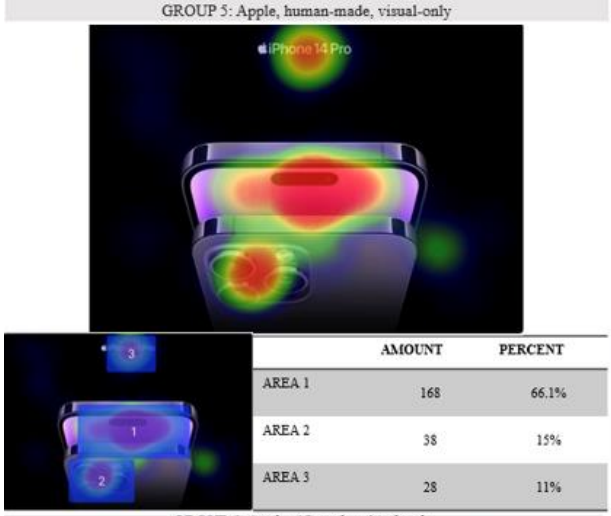
For further insights into the different stimuli, the heatmap results have been visualized and analyzed in the following figure. It becomes evident that in every advertisement, several different elements such as the logo, smartphone, or text attracted a lot of attention. However, what supports the hypothesis that visuals tend to attract attention significantly more, is the high percentage of respondents, who clicked on some part of the visual element on the stimulus.

Figure 16

Stimuli Heatmaps and their Statistics

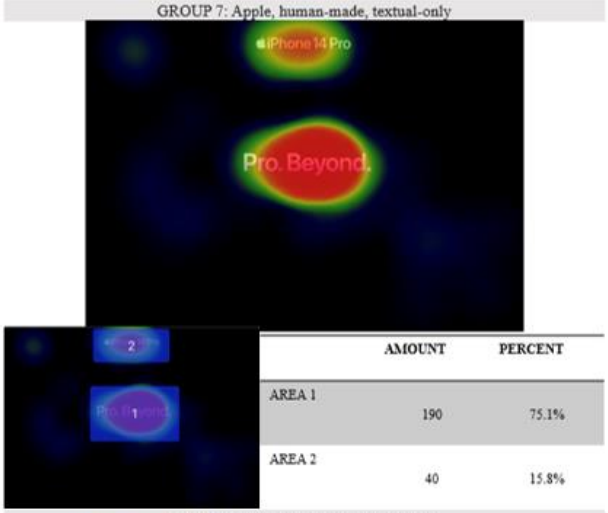


GROUP 5: Apple, human-made, visual-only



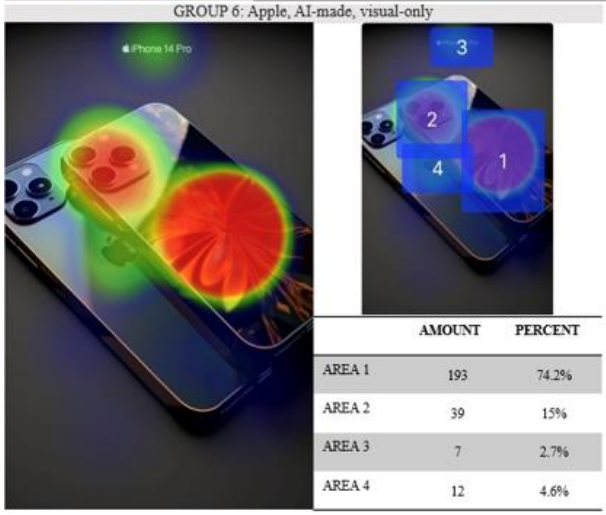
	AMOUNT	PERCENT
AREA 1	168	66.1%
AREA 2	38	15%
AREA 3	28	11%

GROUP 7: Apple, human-made, textual-only



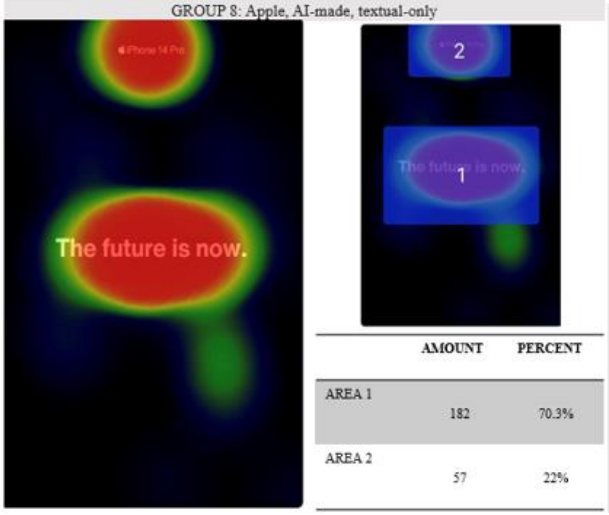
	AMOUNT	PERCENT
AREA 1	190	75.1%
AREA 2	40	15.8%

GROUP 6: Apple, AI-made, visual-only



	AMOUNT	PERCENT
AREA 1	193	74.2%
AREA 2	39	15%
AREA 3	7	2.7%
AREA 4	12	4.6%

GROUP 8: Apple, AI-made, textual-only



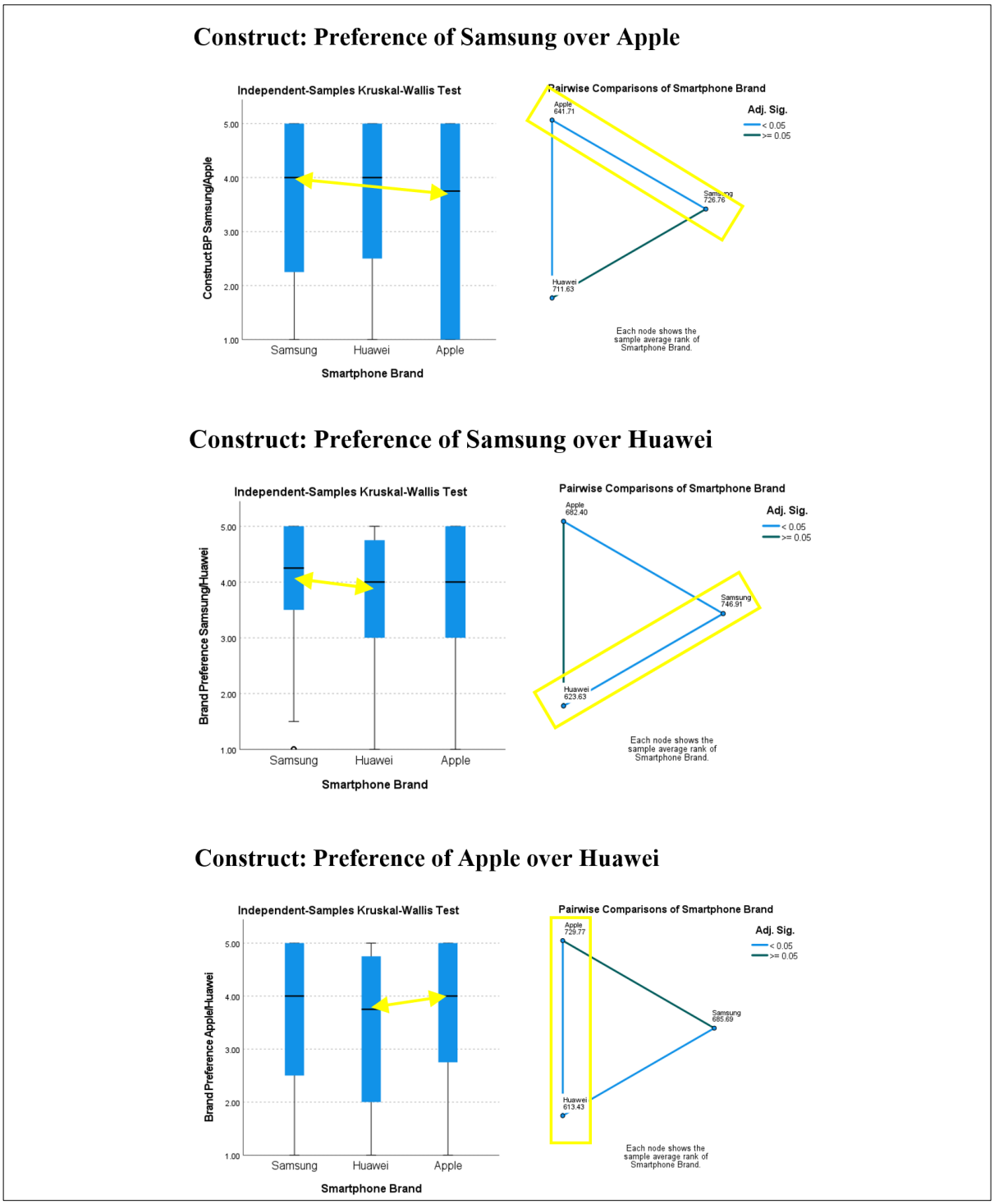
	AMOUNT	PERCENT
AREA 1	182	70.3%
AREA 2	57	22%

Lastly, although not part of the conceptual model nor the proposed hypotheses, it was interesting to analyze whether the BP for the respective brand was statistically significantly higher after being exposed to its stimuli in comparison to being exposed to a competing brand. Thus, a Kruskal-Wallis Test has been conducted to test, whether such differences between the three brands could be seen.

For the BP construct that assessed the preference of Samsung over Apple, one would expect a higher mean in the Samsung group after being exposed to the Samsung advertisement and a lower mean in the Apple group after being exposed to the Apple advertisement (the lower the mean the lower the preference of Samsung over Apple). Thus, a statistically significant difference is expected between the Apple and Samsung group for the BP combination of Samsung over Apple. The same logic applies to the other two BP constructs with their respective brand combinations. With a p-value of $p<0.001$ in all three cases, it is indeed confirmed that being exposed to a brand's stimuli, will lead to a higher BP for this brand.

Figure 17

Brand Preference Differences across the Three Brands



CHAPTER 5: CONCLUSIONS AND LIMITATIONS

This final chapter will summarize the key findings of the research and come to conclusions while linking back to relevant academic literature. Moreover, it will delineate how these findings contribute to academic literature and marketing practices. Finally, some crucial limitations are highlighted, and recommendations for further research made.

5.1 Main Findings & Conclusions

RQ1*: Is there a difference in effect on consumers' purchase intention between AI-generated advertising and human-created advertising?*

Within this study's context of smartphone brands, the findings show that AI-generated advertisement can indeed be compared to human-created advertisement in terms of its effect on PI. No statistically significant differences in effect have been found, thus concluding that AI can be regarded as equivalent to humans in its ability to create effective advertising output. In fact, when looking at the isolated effect of the advertisement type on PI, AI-generated advertisement even surpasses human-created advertisement. However, when analyzing this effect within the context of the full model, it does not yield the same results but rather shows a very minimal negative effect, thus indicating that AI-generated advertisement in the interplay of moderating and mediating variables, marginally reduces PI. While this difference is not statistically significant, it demonstrates how far advanced AI technologies already are. Thus, it can be assumed that AI, with its steady technological advancements, will eventually have the ability to create more effective advertisements than humans. Ultimately, this research shows, that, at least within the given study context, AI-generated advertisements follow the same general effect of human-created advertisements of attention to purchase proposed by Lavidge and Steiner and supported by academic literature (Fishbein & Ajzen, 1975; Lavidge & Steiner, 1961).

RQ2: *Does AI-generated advertisement influence brand preference in the same way that human-created advertisement does?*

The findings of this research do not show any significant differences in effect on BP between AI-created and human-created advertisement, once again confirming that AI can indeed be compared to humans in terms of its ability to create advertisements that affect BP. While the foregoing analysis shows that both types of advertisements have different effects on different BP combinations, e.g. AI advertisements generally led to a higher preference for Apple over

Huawei, while human-created advertisements showed higher preference for Samsung over Huawei and Apple, again, these differences were not statistically significant in their nature.

The additional BP analysis has further shown that, when exposed to a brand's advertisement, the BP for this brand will be higher. Given no statistically significant difference in effect between AI-created and human-created stimuli on BP, it can be concluded, that AI is equally able to create advertisements that drive preference for a brand. Furthermore, it can be concluded, just as already confirmed through pertinent literature of preference effects on PI, that BP, at least in the combinations of Samsung/Apple and Apple/Huawei does affect PI statistically significantly in that PI will increase slightly when the preference of Samsung over Apple and Apple over Huawei is higher (Banks, 1950; Chang & Liu, 2009; Cobb-Walgren et al., 1995).

RQ3*: Does the advertising effect differ between visual-only, textual-only or a combination of visual and textual stimuli and if so, is the difference in effect the same for AI-generated and human-created content?*

Contrary to findings in academic literature, this research does not show an effect of the content type on PI when looking at the full model (Childers & Houston, 1984; Pieters & Wedel, 2004). Hence, it cannot generally be assumed that visual-only, textual-only, or a combination of both differ in their effect on PI. Thus, in general, without the contrast made between the two advertisement types, it cannot be assumed that visual+textual advertisement leads to higher PI, but rather that no forms of content are inferior in their effectiveness.

However, a quite surprising result is the comparability of AI-generated content with human-created content. All forms of content do not show any statistically significant differences between the types of advertisement, thus diminishing the concern that AI is not able to create visuals that possess the same effectiveness as human-created visuals. Thus, given the exceptionally high speed of AI advancements, it is expected that this ability in creating compelling visuals will improve even further.

Furthermore, contrary to general beliefs, within AI-created advertisements, visual-only stimuli perform statistically significantly better in terms of PI than visual+textual stimuli when examining the effect isolated. A possible explanation could be the fact that the textual and visual elements have been created with two different AI tools since no tool exists yet that can create visuals with integrated textual components.

5.2 Managerial and Academic Implications

In terms of **managerial implications**, these findings may be relevant for marketers and employees of creative agencies who either work in or produce content for the smartphone industry. Given the findings within the study's context, AI shows high potential in the creation of effective advertisement output. As it is comparable in terms of effects to human-created advertisement and even surpasses it in terms of PI, it can be integrated into existing creative processes and thus mitigate certain constraints of traditional advertisement development relating for instance to limited resources.

Since product-based visuals created by AI are shown to be in no way inferior to visuals created by humans, the speed and scale of advertisement generation by AI should be imposed on. The AI-created visuals can then be further adapted manually if need be. However, when it comes to visuals with human characteristics, it is advised that AI should be merely used as a source of inspiration rather than as a replacement given its difficulty in depicting realistic features. Furthermore, caution must be employed when combining textual and visual elements produced by different AI tools, since a possible mismatch might lead to lower PIs.

Ultimately, it needs to be mentioned that due to the rapid advancements of AI technologies, it becomes crucial for marketers to engage with forms of AI to be able to succeed in the competitive landscape. After all, given the speed of content generation by AI, such technologies could be used to create highly personalized, context-specific advertisements in mere seconds that are tailored to a single consumer's purchase and consumption habits. Marketers who capitalize on such technologies in the future will be able to capture attention, drive BP, and ultimately turn consumers into customers with significantly fewer resources and higher conversion rates.

When it comes to **academic implications**, this study contributes significantly given the lack of research conducted in this field to date. It not only widens the traditional advertising literature but further builds a basis in research within the creative advertising process upon which future studies can be based on. This study provides relevant conclusions in terms of the ability of AI-created advertisements to compare to human-created advertisements in the context of a section of the hierarchy-of-effects model (Lavidge & Steiner, 1961). This includes its comparability in terms of effects on BP and PI as proposed for human-created advertisements (Banks, 1950; Chang & Liu, 2009; Cobb-Walgren et al., 1995a; Eisend & Tarrahi, 2016; Smith et al., 2008).

It provides interesting findings which serve as first insights into hypotheses formulated by Chen et al. (2019) about the rapid advancements of AI. It gives a basis to the idea of extending the

programmatic advertising field to include programmatic creative. This study, moreover, lines up with previous comparative research such as those conducted by Bakpayev et al. (2022) on chatbots, by Thomas and Fowler (2020) on AI influencers or by Ha et al. (2021) on AI's abilities in detecting content disparities on social media. While it broadens the insights into fields of applications of AI, it further creates a foundation for replicating this research in a more comparable form that includes other crucial factors which influence consumers' PIs.

5.3 Limitations and Further Research

This conducted research has some considerable limitations which need to be addressed to correctly interpret the findings.

First of all, the conclusions made based on the conducted analyses, only show merit in the specific context of this research, hence it cannot be generalized a comparability of human and AI-created advertisements but it rather needs to be evaluated in the context of smartphone brands and German consumers. Thus, neither nationality-, category- nor brand-overarching conclusions can be drawn from this research. Hence, other industries or categories might lead to different results given deviations in consumer behavior and market dynamics.

Furthermore, a lack of ideal comparability between AI-created and human-created stimuli becomes evident. To achieve perfect comparability between the two advertisement types, an identical briefing would need to be presented to a creative agency and the AI tool(s). However, due to resource constraints, a creative agency could not be hired in the context of this research. It would be advised to replicate this study design in a realistic A/B test setting with newly created advertisements by an agency rather than using existing human-created content. Also, the use of more than one AI tool for the combination of content can lead to possible mismatches and thus lower cohesiveness of the overall advertising message is possible.

Moreover, the advertisements differ in their conveyance of benefits, as some portray rather functional than emotional cues, hence again impairing ideal comparability.

Out of these drawbacks, relevant recommendations for future research emerge.

This research should be replicated with a wider nationality base and different product categories. These could differ in terms of their utilitarian versus hedonic dimensions or regarding other characteristics such as portrayal of luxury, purchase frequency, and purchase occasion. The advertisements themselves should be contrasted in their portrayal of functional versus emotional benefits. Based on Bakpayev et al.'s (2022) findings, it is expected that AI-created advertising lacks in terms of effectiveness on PI when hedonic or emotional content/product categories are employed. Due to AI's limits in creating realistic human features

in its images, it is further recommended to study any difference in effects between product-based visuals and more context-based (e.g. showing humans) advertisements.
Furthermore, such a study of comparing different kinds of advertisement should be conducted in a proper A/B test setting as already described above which is also designed in a longer time horizon and can take into consideration the attitudes that develop in consumers over time.
Finally, it would be interesting to analyze how possible existing biases toward AI affect the PI of consumers. Consumers having stronger negative perceptions about the advancement of AI might generally score lower in their PI and other demand-related variables when knowing that the advertisement was created by AI.

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APPENDICES

Appendix A: Brand Preference Mean Statistics (Pre-Survey)

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Brand Preference: Samsung and Apple	68	1.00	5.00	2.1078	1.42989
Brand Preference: Samsung and Huawei	68	1.00	5.00	3.6961	1.07703
Brand Preference: Apple and Huawei	68	1.00	5.00	4.4363	.90742
Valid N (listwise)	68				

Statistics

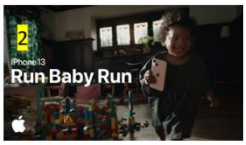
		Brand Preference: Samsung and Apple	Brand Preference: Samsung and Huawei	Brand Preference: Apple and Huawei
N	Valid	68	68	68
	Missing	0	0	0
Mean		2.1078	3.6961	4.4363
Std. Deviation		1.42989	1.07703	.90742
Minimum		1.00	1.00	1.00
Maximum		5.00	5.00	5.00

Appendix B: Focus Group Script and Results

Short Introduction:

- Welcome participants to focus group and express thanks and gratitude for spending time to help out with research
- Shortly explain the main purpose of the focus group: to evaluate and co-create advertising stimuli for Apple, Huawei and Samsung
- Explain specifics: they will see and evaluate human-made advertisements and AI-created advertisements (created through ChatGPT and Midjourney)
- Let them know that their feedback is very much appreciated and will serve as valuable input in the unbiased creation of stimuli and the finalization of the master thesis
- Reminder: there are no right or wrong answers, every opinion is valued and respected
- Shortly give an overview of the focus group process (steps and to-dos)

Brand 1: Apple
Choice of stimuli



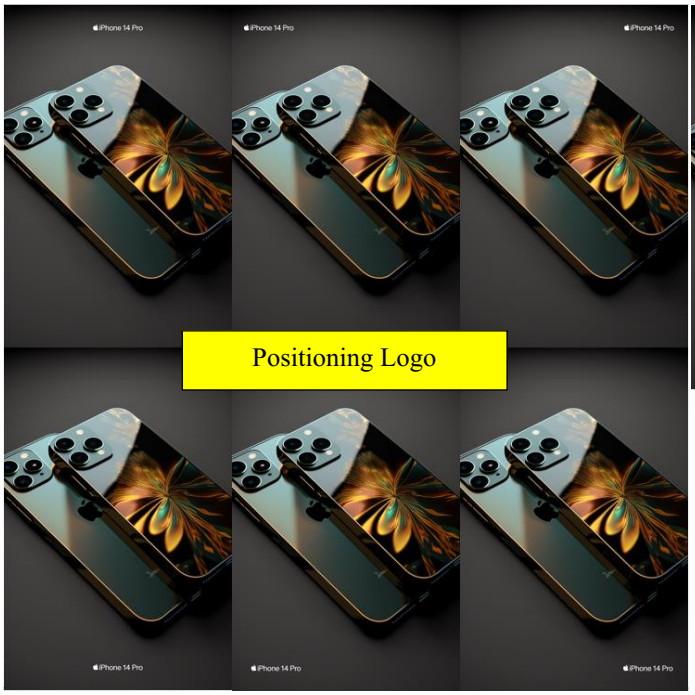
Human-made

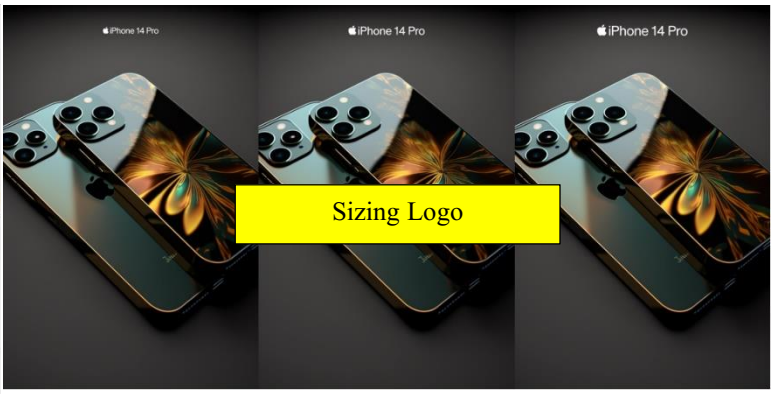
AI-made

Questions/Participants	A	B	C	D	E	F
Human-made ads: Ranking						
Please, anonymously, rank the shown advertisements based on your own preference or liking.	5-6-4-7-3-1-2	5-4-6-7-1-3-2	4-7-6-5-3-2-1	6-7-5-4-2-3-1	5-4-3-1-6-7-2	5-4-7-6-2-1-3
Please tell me why you chose your highest ranked ad as your most preferred one?	looks clean, very focused on the smartphone, like the advertisement text	likes minimalistic style (purple, grey, black), very focused on most important facts	likes the minimalistic style, looks futuristic and modern, catches attention the most	likes the design of the smartphones with the different colors and the text	very simple but effective, names all important specifics in exe-catching way	likes the minimal colors, it's not overcrowded but simple and shows the camera the best
Can you tell me what stood out to you the most?	the phone, the color, the text	the camera of the phone, the apple logo	the phone	the phones	the phone, the "Pro" in the advertising text	the colors, the advertising text
Were there any elements of any advertisement that were confusing or unattractive?	the privacy text is not very appealing, 6 and 7 is too white, the one with the baby is too much – there is too much in the background it is distracting					
Would you say the different ads differed in their ability to promote the brand? If so, how?	Yes: 4,5,6,7 are more focused on the phone itself and promote it better in my opinion, the second one doesn't promote the brand at all, I don't understand how the advertising text has anything to do with an iPhone, 4 and 5 have the clearest slogans – the rest is very vague					

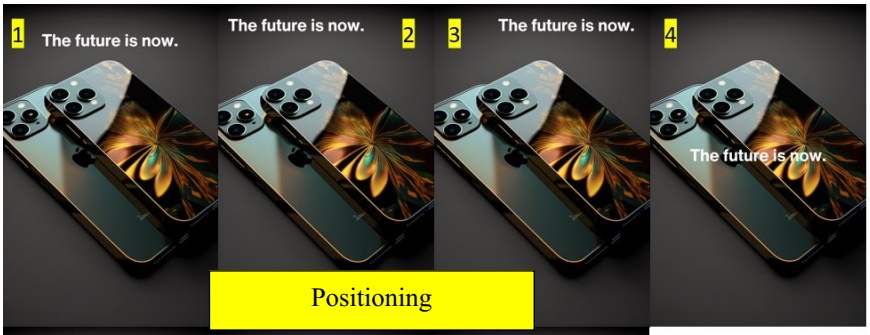
Questions/Participants	A	B	C	D	E	F
AI-made ads: Ranking	5-7-8-6-1-2-3-4	7-1-2-8-6-3-5-4	7-8-6-3-2-1-5-4	1-2-5-6-7-8-3-4	8-7-2-1-3-6-5-4	7-5-2-1-3-6-8-4
Please tell me why you chose your highest ranked ad as your most preferred one?	cool idea with the phone and the selfie	very modern, very clean, shows the phone the best	like the colors, focus on phone, like the slogan	really cool picture, likes the neon lights and the text above the person	likes the text the most	likes minimalistic design and the advertising text the most
Can you tell me what stood out to you the most?	the phone in the foreground in selfie mode	the colors and design on the right phone	the phones	the colors (fit perfect into gaming scene)	the message	the colors and lights
Were there any elements of any advertisement that were confusing or unattractive?	the people look unrealistic, hands of the people are not realistic (too many fingers), people look like dolls and the faces are a bit off					
Would you say the different ads differed in their ability to promote the brand? If so, how?	Yes, the ads with the people are more targeted towards the emotions and the others more focused on the phone itself and the quality, I think the clean product focus ads fit better to Apple, → I don't think I would see the rest (people, families etc.) on an Apple billboard or anything like that, I think the ads where the text is above the picture are better at promoting the brand, because you directly see the logo and what the ad wants to tell you, In the family picture ads the message is a bit lost, the focus is drawn directly to the people rather than to the phone/logo/slogan					

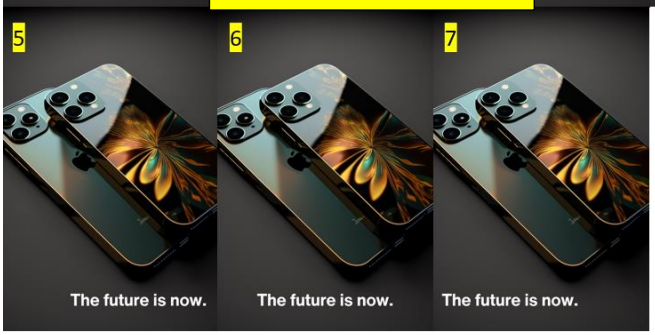
AI-made ads: Ranking images only	5-7-1-2-8-3-6-4	1-2-7-3-8-6-5-4	7-2-1-5-8-3-6-4	1-2-5-7-6-8-3-4	2-7-1-8-6-3-5-4	7-5-2-1-3-8-6-4
Please give some input as to which images need to be altered how in order to be regarded as an effective advertisement for the brand?	I really like the images with the people – I think the idea is great and the colors etc. however, what I don't like is the fact that they do not look 100% real, not like real people from a photo, if I would look longer at the ad, I think I would get a bit confused - the idea is really good, just the human "touch" is missing, not sure if the iPhones shown in the image exist like that, I think the real ones have a different camera or design? Maybe try again to design it just like the real phone, - I really like all the images, especially the one of the boy in his bed – the only thing that needs to be improved are the fingers, once you notice that they always have more than 5 fingers, you just find it weird, Image 7 is generally liked a lot, but the writing on the phone needs to be deleted/retouched, since it doesn't look like that in the real iPhones					
AI-made ads: Evaluation logo and model name/slogan						
Let's start with the logo. please tell me what you think is the logo?	The white Apple logo/Apple image					
Positioning: Please tell me which one appeals to you the most and why	in the middle/centered either above the phone or below, it catches attention the quickest, most prominent	Generally, above the phone, but doesn't matter if centered or left/right, looks empty if it's not above	centered above the phone, starts looking at ads from the top, so would be good to see the brand logo right in the beginning	centered below the phone, because it aligns better with the image of the phones, but would have to see it/evaluate it together with the advertising text	above the phone, either middle or right side, eyes go directly to the area above the phone but not below	centered either above or below the phones
Sizing: Please tell me which one appeals to you the most and why	Small	Small	Middle	Small	Small	Middle
Color: do you see any other options other than white that could make sense for you?	No, only white makes sense because of the dark background, only white, white because that is how the logo of Apple always looks like					

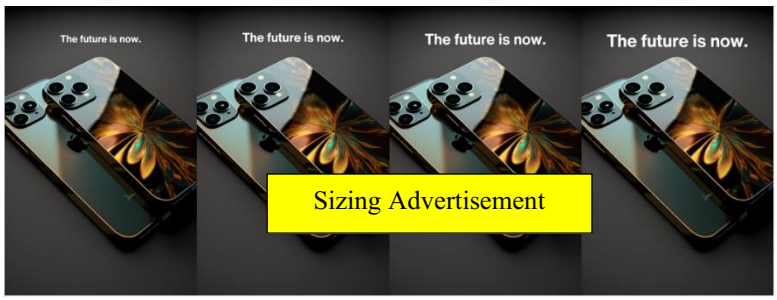


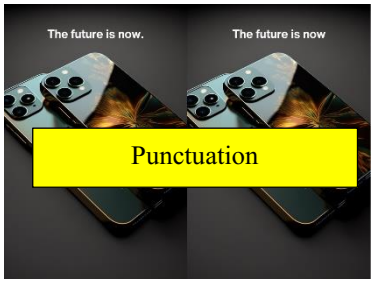


AI-made ads: Evaluation advertising message						
Can you please tell me what you think is the advertising message?	The future is now (the text below the logo)					
Positioning: Please tell me which one appeals to you the most and why	1	1	1	3	1	1
Sizing: Please tell me which one appeals to you the most and why	Small	Medium	Medium	Medium	Small	Small
Color: do you see any other options other than white that could make sense for you?	No, they find white is the most suitable option and any other color would make the message less visible					
Punctuation & Capitalization(#): Please let me know what you prefer out of these options and why?	Punctuation, 1	Punctuation, 1	No punctuation, 1	Punctuation, 3	Punctuation, 2	Punctuation, 1

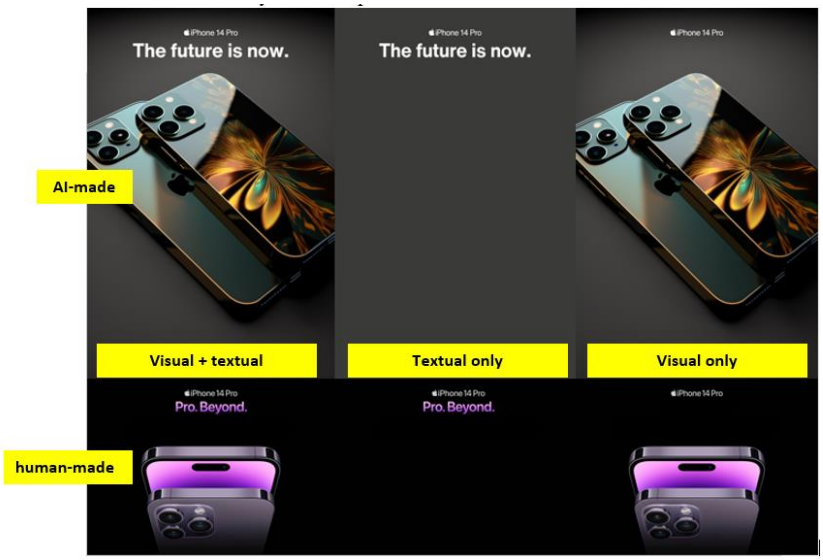


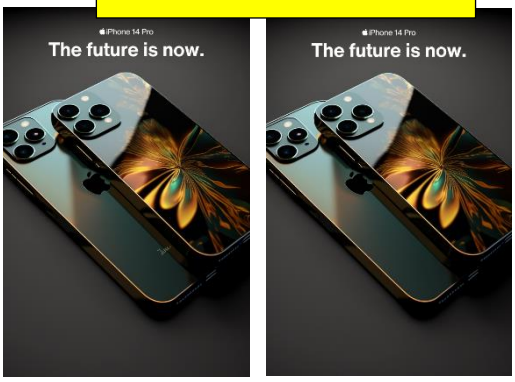




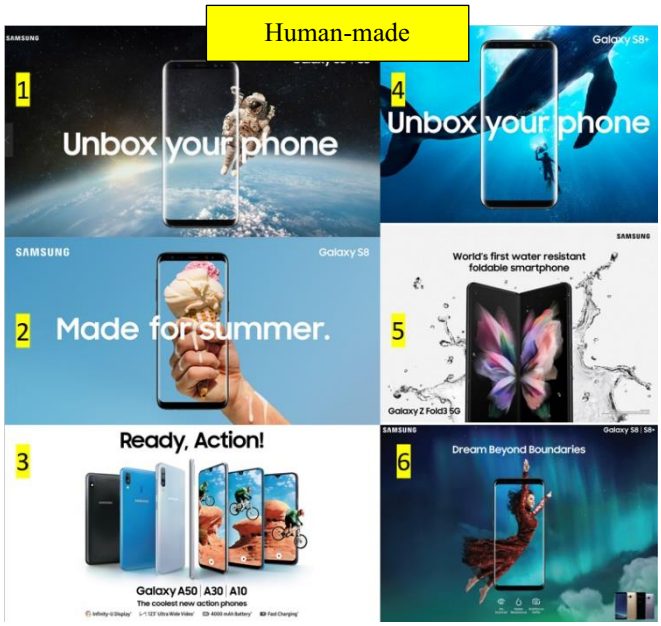


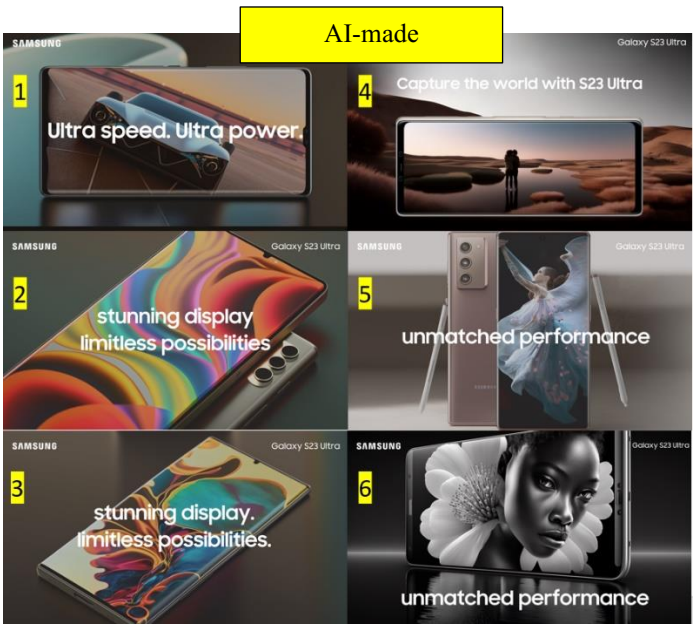
AI-made ads: overall evaluation of elements	Option 1	Option 1	Option 2	Option 2	Option 2	Option 2
Comparison overall ranking vs. Separate evaluation of elements	After separate evaluation	After separate evaluation	After separate evaluation	After separate evaluation	After separate evaluation	After separate evaluation
Textual/Visual-Only ads: final opinions and concerns	When you compare the effects of each advertising, I think the effects of especially textual only will be significantly lower/worse because when people think of an ad, they don't expect just text and then a black/grey space filled with nothing, for those people who only see the text/image, you need to clarify that they shouldn't evaluate based on what's missing but on what is visible to them					





Brand 2: Samsung





Questions/Participants	A	B	C	D	E	F
Human-made ads: Ranking						
Please, anonymously, rank the shown advertisements based on your own preference or liking.	5-1-4-2-3-6	1-4-2-3-6-5	1-4-3-5-2-6	3-2-4-1-5-6	4-1-5-2-3-6	1-4-6-2-3-5
Please tell me why you chose your highest ranked ad as your most preferred one?	likes the advertising message the most, seems very innovative, the others are too far away from reality/don't know what they mean	likes all the ones with the phone it the middle, but likes number one the most because of the picture in space	also likes all the ones with the phone in the middle the best, but the 4th one has the coolest shot	very unique, cool design, hasn't seen anything like this before, nice colors	has the most information and specifics of the phone, cool design of the 7 phones	likes the idea a lot, also the colors and the setting in outer space
Can you tell me what stood out to you the most?	the foldable phone	advertising message/astronaut	the phone and advertising message	the background image (space with astronaut)	the phones, the "ready, action"	the advertising text
Were there any elements of any advertisement that were confusing or unattractive?	Unbox your phone – what is that supposed to mean?, the "made for summer" is very vague, doesn't give any hints about the phone or why it's good					
Would you say the different ads differed in their ability to promote the brand? If so, how?	Yes: 1,2,4 and 6 are more creative and want to catch your attention because of the nice background images and the cool idea with the phone, but 3 and 5 are more product focused and actually tell you the benefits of the phone, Yes: those where the phone is in the middle are more focused on grabbing your attention, whereas the other two are rather targeted towards those people who need more information/seek to know more about the phone					

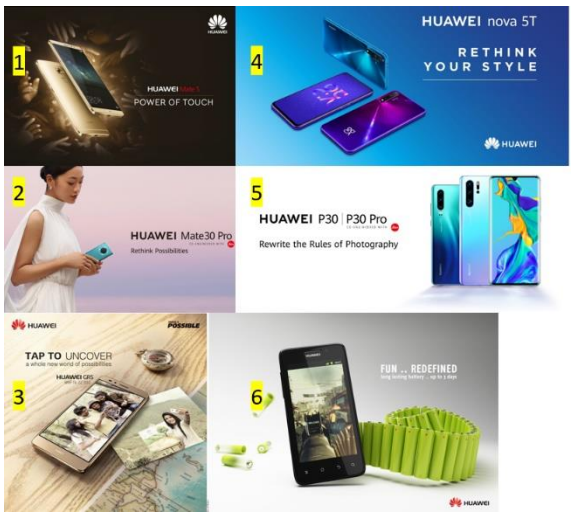
X

Questions/Participants	A	B	C	D	E	F
AI-made ads: Ranking	2-5-6-1-3-4	1-2-6-5-4-3	4-2-3-5-6-1	2-5-4-6-3-1	2-5-6-1-3-4	3-2-4-1-5-6
Please tell me why you chose your highest ranked ad as your most preferred one?	really likes the colors	cool shot with the car, likes the text with "ultra" – relates to the phone model	like the picture the most	cool colors, looks modern, likes the text	nice colors	likes the colors and the design on the display here more than for number 3
Can you tell me what stood out to you the most?	the colors	the advertising text	the phone with the two people	the phone	the display of the phone	the design on the display, the fun colors
Were there any elements of any advertisement that were confusing or unattractive?	Number five is too girly and number one too masculine, Black and white not ideal for smartphone, you want to advertise the good camera, Number 4 is hard to read, would need a different text color, maybe black					
Would you say the different ads differed in their ability to promote the brand? If so, how?	Not necessarily, they are all unique in their design, but I can see how certain ads are targeted more towards certain people					
AI-made ads: Ranking images only	2-5-1-6-3-4	1-2-5-6-3-4	4-2-3-5-6-1	2-5-6-4-1-3	2-5-6-1-3-4	3-2-1-4-6-5
Please give some input as to which images need to be altered how in order to be regarded as an effective advertisement for the brand?	In some images, the phone doesn't look realistic, e.g. ad number 4 shows a too wide phone, image 5 should show something less "feminine" on the phone to be able to speak to the whole target audience, also for number four the text cannot be read well because of the light background and light text colour, I think number 6 would look better in color instead of black and white					
AI-made ads: Evaluation logo and model name/slogan						
Let's start with the logo. please tell me what you think is the logo?	Samsung					
Positioning: Please tell me which one appeals to you the most and why	Top left Samsung and top right the model – makes the ad complete and then there is not too much text in one spot	Top left and top right because the background is uniform, everything else would make it hard to read	Top left and right maybe also both (logo and model) underneath each other in the top left but definitely not one top and one bottom looks confusing	Top left logo and top right – looks the best and the „cleanest", similar to Samsung human ads		
Sizing: Please tell me which one appeals to you the most and why	smaller	smaller	smaller	smaller	smaller	smaller
Color: do you see any other options other than white that could make sense for you?	no					
AI-made ads: Evaluation advertising message						
Can you please tell me what you think is the advertising message?	Stunning display. Limitless possibilities					
Positioning: Please tell me which one appeals to you the most and why	In the middle, centered	In the middle, but left aligned	In the middle, left aligned	In the middle, left aligned	In the middle centered	In the middle, centered
Sizing: Please tell me which one appeals to you the most and why	medium	medium	medium	medium	medium	medium
Color: do you see any other options other than white that could make sense for you?	No, everything else would not be readable on the background picture					
Punctuation & Capitalization(#): Please let me know what you prefer out of these options and why?	Punctuation, no capitalization	No punctuation, no capitalization	Punctuation, first letter of first words capitalized	Punctuation, no capitalization	Punctuation, no capitalization	No punctuation, no capitalization
Comparison overall ranking vs. Separate evaluation of elements	After separate evaluation	After separate evaluation	After separate evaluation	After separate evaluation	After separate evaluation	After separate evaluation

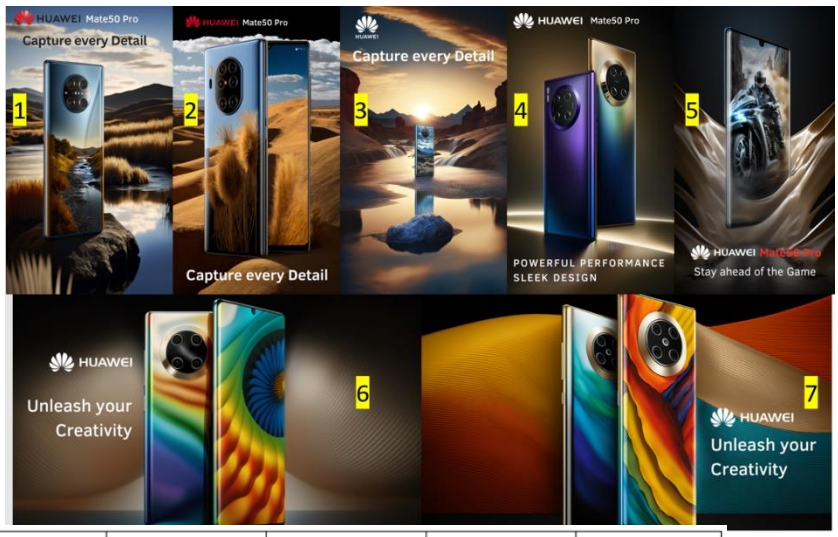
Brand 3: Huawei

Questions/Participants	A	B	C	D	E	F
Human-made ads: Ranking	1-4-5-2-6-3	4-5-1-2-6-3	5-4-2-1-3-6	4-5-2-6-1-2	4-5-6-1-2-3	5-1-4-2-6-3
Please tell me why you chose your highest ranked ad as your most preferred one?	the image with the hands looks nice	really nice colors, shows the phone very well, likes the text	it's simple and focuses on the phone the most	likes the colors and the phones on the image	blue ad is very attention grabbing, likes the text	looks clean, shows the phones off well, likes the add-on: co-engineered with Leica
Can you tell me what stood out to you the most?	the hands on the phone	the color	the phones	the phones	the colors and the text	the phones
Were there any elements of any advertisement that were confusing or unattractive?	Number three looks very cluttered and unprofessional, Number 6 is kind of disturbing, don't like the reference to shooting guns					
Would you say the different ads differed in their ability to promote the brand? If so, how?	Kind of: the 1,2,4 and 5 are more focused on the product so the phone itself and its benefits whereas the 3rd and 6th one are more appealing to emotions but not well done I think, 3 and 6 are not super professional or modern, especially the third one					

Human-made



AI-made



Questions/Participants	A	B	C	D	E	F
AI-made ads: Ranking	7-6-2-1-3-4-5	7-6-1-4-2-3-5	3-6-7-4-5-2-1	6-7-1-2-4-3-5	2-1-3-4-7-6-5	4-3-1-2-7-6-5
Please tell me why you chose your highest ranked ad as your most preferred one?	liked both 6 and 7 but 7 looked nicer overall with the text	nice colors, the others look a bit unrealistic	really nice image, looks super modern and the lighting is awesome	liked last two most, image 7 is nicer bc of colors, but text & logo placement in general is better in 6	shows phone off the best	very clean and phones stand out the most, likes the text
Can you tell me what stood out to you the most?	the colors and text	the phone	the image/scenery	phones and colors	the phones	the phones and text
Were there any elements of any advertisement that were confusing or unattractive?	Number 5 looks kind of undone, the first 3 ones are nice, I like the idea, but there is a bit too much going on, the phones don't look the same in every picture although they are always advertised as the same phone models					
Would you say the different ads differed in their ability to promote the brand? If so, how?	the first 3 ones are more creative/visually appealing but also a bit overstimulating, some are simpler and others, so have more focus on the phone					
AI-made ads: Ranking images only	7-6-2-1-3-5-4	7-6-1-3-2-4-5	3-7-1-2-6-5-4	6-7-1-2-3-4-5	2-1-3-4-7-6-5	4-7-6-3-1-2-5
Please give some input as to which images need to be altered how in order to be regarded as an effective advertisement for the brand?	Phone needs to be more in the foreground not like in image 3 in the background, number 5 looks a bit unrealistic, generally, all images look really nice especially the first three look hyper realistic					
AI-made ads: Evaluation logo and model name/slogan						
Let's start with the logo. please tell me what you think is the logo?	Huawei (+sometimes the model)					
Positioning: Please tell me which one appeals to you the most and why	Logo should be positioned with the text, otherwise it will look chaotic, a separation of logo and advertising message makes the logo less visible since everyone concentrates on the text only, then the brand recognition will be lost a bit					
Sizing: Please tell me which one appeals to you the most and why	medium	medium	medium	medium	medium	medium
Color: do you see any other options other than white that could make sense for you?	No, you would not be able to read it if it was not white, also from the previous ads in the ranking, the red logo was disliked, since the picture is already so colorful, the text should stay clean and white					
AI-made ads: Evaluation advertising message						
Can you please tell me what you think is the advertising message?	Unleash your Creativity					
Positioning: Please tell me which one appeals to you the most and why	Left in the middle, right aligned	Right, left aligned, more towards the bottom	Left side in the middle and right aligned	Left towards the bottom, right aligned	Left in the middle, right aligned	Left in the middle, right aligned
Sizing: Please tell me which one appeals to you the most and why	medium	small	medium	medium	medium	medium
Color: do you see any other options other than white that could make sense for you?	No, you would not be able to read it if it was not white, also from the previous ads in the ranking, the red logo was disliked, since the picture is already so colorful, the text should stay clean and white					
Punctuation & Capitalization(#): Please let me know what you prefer out of these options and why?	No punctuation, unleash capitalized	No punctuation, unleashed & creativity capitalized	No punctuation, unleashed & creativity capitalized	No punctuation, unleashed & creativity capitalized	No punctuation, unleash capitalized	No punctuation, unleashed,creativity capitalized
Comparison overall ranking vs. Separate evaluation of elements	After separate evaluation	After separate evaluation	After separate evaluation	After separate evaluation	After separate evaluation	After separate evaluation

Appendix C: Summary Table of Cognitive Interviews

Stimuli / Questions	**Samsung** human-made (image+text)	**Samsung** AI-made (image+text)	**Huawei** human-made (image+text)	**Huawei** AI-made (image+text)	**Apple** human-made (text only)	**Apple** AI-made (text only)	**Apple** human-made (image only)	**Apple** AI-made (image only)
What message do you think is this advertisement trying to convey?	Advertising the Samsung S8 phone, showing the display of the phone, showing the endless possibilities when having a Samsung phone, promoting edge-less display	Samsung has a good display, high quality of display, display specifics (quality of colors, size etc.), it's focused on the display of the phone and how well it performs	Wants to convince you to buy a Huawei phone, Huawei as modern/stylish phone, Huawei as the phone that fits better to your style, seems as if they want to convince you to buy Huawei and not any other phone – as if speaking to someone who doesn't own a Huawei phone yet	That you can be more creative with a Huawei phone, that it helps you with your creativity, it advertises a Huawei phone, colors indicate the creativity that is seen in the text	That the iPhone is better overall, iPhone is better or has better phones than other brands, pro means that they have the best features, the phone is "beyond" your imagination so better than expected in some ways	That iPhone is futuristic/modern, iPhones are very innovative, the new iPhone is more modern than other phones, innovation	It shows an iPhone, so it wants to advertise it, wants to advertise the brand and maybe the camera, not 100% sure, but just a general ad for an iPhone	Shows a clean image of two iPhones, iPhones are high quality, status-symbol, very modern smartphones, high quality
Did you find the advertisement clear and effective?	Effective yes, I think it's open for several interpretations, „unbox your phone" can mean many things, but it certainly catches your attention, clear and shows off phone	Yes, very clear in what it wants to convey, clear because you know it is about the display, the colors on the display are effective relating to the advertising message, image and text fit together very well and therefore it is clear and effective	Clear what phone they want to advertise and in general clear, but it wouldn't convince me to buy a Huawei just from that ad, it's effective in that it advertises the phone but not so effective that I would buy it because I like other options better, the ad wouldn't change my opinion to buy an iPhone but it's clear	Yes, the colors are very prominent and fun, looks very good, clear and effective but still wouldn't necessarily buy a Huawei phone, I like the advertisement, but I would still buy another brand	Yes, the text was clear and effective, text is convincing, I like the message – it advertises the phone very well, but image is missing if it were a real poster/banner, I think it would be more effective with an image	It's clear what it wants to say with the text, but I would like to see a picture of an iPhone, iPhone is missing to actually proof the statement, I believe the statement in itself, but I would need a picture for more effectiveness	Not super clear, the phone speaks for itself, phone is already an ad without any message, but it would be more effective with a text, there is a text missing relating to the image so it could be even more effective or clear	Yes, clear that it is an ad for iPhones and effective because the phones look really good/modern, clear and effective overall, could be clearer with some sort of slogan/text
Did the advertisement lead to any concerns or confusion?	No concerns, a bit of confusion about the setting/message, but I think that it is supposed to be more creative	Generally, no, one participant wasn't sure if this is really how the Samsung S23 Ultra looks (he remembers the camera to look different)	No concerns/confusions	No concerns/confusions	Not necessarily, but the lack of an image was very unusual, if I would see it in public, I would think something is missing, confusing to not see an image	Just as with the other one with only text – image was missing which led to confusion, they don't see it as a full advertisement	Some were confused because the space above the phone indicates that something is missing	No confusion or concern, maybe some advertising text would make it clearer

Stimuli / Questions	**Samsung** human-made (image+text)	**Samsung** AI-made (image+text)	**Huawei** human-made (image+text)	**Huawei** AI-made (image+text)	**Apple** human-made (text only)	**Apple** AI-made (text only)	**Apple** human-made (image only)	**Apple** AI-made (image only)
Can you tell me what the advertising text was?*	Unbox your phone	(stunning) display. Limitless possibilities *not everyone remembered „stunning“, but „something“ with display	Rethink your style, * Not everyone could remember the exact words, but that i had to do with style	Unleash your creativity *not everyone remembered the word „unleash“ but that it was about creativity	Pro beyond	The future is now	No text except the iPhone model name	No text except the iPhone model name
Can you tell me what the advertising image was?*	Outer space with smartphone display, astronaut and earth with phone, outer space, earth from space with Samsung smartphone	A phone with a colorful display, Samsung phone with colors on display and another phone with the outer camera shown	Some phones positioned in different layouts, 3 Huawei phones, phones in blue and purple	Two phones with colorful background, two phones and their back camera in many colors	No image/black background	No image shown	A purple iPhone	Two iPhones, showing back camera and one with colorful design

*manipulation checks

Appendix D: Sample Characterization

Frequency Statistics			
Variable	**Values**	**Frequency**	**Percentage**
Gender	Male	619	45.2%
	Female	751	54.8%
Age	18-24	441	32.2%
	25-34	422	30.8%
	35-44	284	20.8%
	45-54	164	11.9%
	55-64	56	4.0%
	65 or older	3	0.2%
Kids in household	No kids	705	51.5%
	At least one	642	46.9%
	Undisclosed	23	1.7%
Household size	1 person	217	15.8%
	2 people	359	26.2%
	3 people	310	22.6%
	4 people	317	23.1%
	More than 4 people	144	10.5%
	Undisclosed	23	1.7%
Household net income	<1000€	184	13.4%
	1000€ - 2000€	307	22.4%
	2000€ - 3000€	276	20.1%
	3000€ – 4000€	232	16.9%
	4000€ - 5000€	133	9.7%
	>5000€	215	15.7%
	Undisclosed	23	1.7%
Marital status	In a relationship	454	33.1%
	Single	490	35.8%
	Married	403	29.4%
	Undisclosed	23	1.7%

Frequency Statistics			
Variable	**Values**	**Frequency**	**Percentage**
Urban (above 100k inhabitants)	Less than 100k	809	59.1%
	More than 100k	561	40.9%
Platform/Operating system	Android	819	59.8%
	iOS	551	40.2%
Highest educational qualification	No schooling	19	1.4%
	Middle school	298	21.8%
	A-levels	256	18.7%
	Training	377	27.5%
	Bachelor degree	173	12.6%
	Master degree	136	9.9%
	Doctoral degree/PhD	14	1.0%
	Other (e.g.. state examination)	97	7.1%
Job status	Employed	874	63.8%
	Job-seeking	69	5.0%
	Unable to work	26	1.9%
	Unemployed. not job-seeking	48	3.5%
	Retired	20	1.5%
	Self-employed	92	6.7%
	Student	207	15.1%
	Other	34	2.5%
Smartphone purchase frequency	In the last 12 months	522	38.1%
	Over one year ago	359	26.2%
	Over 2 years ago	292	21.3%
	Over 3 years ago	187	13.6%
	Never. but plan to	10	0.7%

Frequency Statistics									
		G1 N=189	G2 N=213	G3 N=189	G4 N=180	G5 N=150	G6 N=150	G7 N=131	G8 N=168
Variable	Values	Percentage (%)							
Gender	Male	47.6	46.5	48.7	46.1	45.3	43.3	37.4	43.5
	Female	52.4	53.5	51.3	53.9	54.7	56.7	62.6	56.5
Age	18-24	29.6	31.0	33.3	28.3	36.7	31.3	33.6	35.1
	25-34	32.8	26.7	30.2	28.4	32.6	34.0	31.3	32.2
	35-44	20.7	23.5	19.6	25.0	18.7	20.0	18.3	18.4
	45-54	13.2	13.6	12.1	13.9	8.0	11.4	13.0	9.5
	55-64	3.7	5.2	4.3	3.8	3.3	3.3	3.8	4.8
	65 or older	0	0	0.5	0.6	0.7	0	0	0
Kids in household	No kids	46	51.2	43.9	52.8	58.7	49.3	60.3	53.6
	At least one	51.9	47.9	55.6	45.6	40.0	48.0	37.4	44.0
	Undisclosed	2.1	0.9	0.5	1.7	1.3	2.7	2.3	2.4
Household size	1 person	16.4	13.6	14.8	17.2	20.0	14.0	16.8	14.9
	2 people	22.8	27.7	22.8	30.0	25.3	24.7	27.5	29.2
	3 people	23.8	25.8	27.0	18.9	20.0	20.7	22.9	20.2
	4 people	23.8	22.5	24.3	19.4	24.7	25.3	24.4	21.4
	More than 4 people	11.1	9.4	10.6	12.8	8.7	12.7	6.1	11.9
	Undisclosed	2.1	0.9	0.5	1.7	1.3	2.7	2.3	2.4
Household net income	<1000€	13.2	10.3	17.5	12.8	13.3	12.7	13.0	14.9
	1000€ - 2000€	22.8	23.5	22.2	26.1	17.3	21.3	26.0	19.6
	2000€ - 3000€	20.1	21.1	19.6	23.9	22.0	17.3	16.8	19.0
	3000€ – 4000€	14.8	19.7	15.9	13.9	22.7	19.3	14.5	14.9
	4000€ - 5000€	7.4	10.8	13.2	6.7	6.7	11.3	9.9	11.3
	>5000€	19.6	13.6	11.1	15.0	16.7	15.3	17.6	17.9
	Undisclosed	2.1	0.9	0.5	1.7	1.3	2.7	2.3	2.4
Marital status	In a relationship	31.2	32.9	32.8	32.8	29.3	33.3	35.9	37.5
	Single	36.0	37.1	36.5	35.0	41.3	32.0	35.9	32.1
	Married	30.7	29.1	30.2	30.6	28.0	32.0	26.0	28.0
	Undisclosed	2.1	0.9	0.5	1.7	1.3	2.7	2.3	2.4

Frequency Statistics									
		G1 N=189	G2 N=213	G3 N=189	G4 N=180	G5 N=150	G6 N=150	G7 N=131	G8 N=168
Variable	**Values**	**Percentage (%)**							
Urban (above 100k inhabitants)	Less than 100k	54.5	58.2	58.2	63.3	54.7	59.3	61.8	63.1
	More than 100k	45.5	41.8	41.8	36.7	45.3	40.7	38.2	36.9
Platform/ Operating system	Android	60.8	62.0	63.5	59.4	63.3	50.7	63.4	54.2
	iOS	39.2	38.0	365	40.6	36.7	49.3	36.6	45.8
Highest educational qualification	No schooling	2.6	1.4	1.1	1.7	1.3	1.3	0.8	0.6
	Middle school	24.9	21.1	26.5	17.8	18.0	18.0	22.9	23.8
	A-levels	19.0	20.7	18.5	16.7	24.0	16.7	15.3	17.9
	Training	23.8	29.1	25.4	31.7	27.3	33.3	25.2	24.4
	Bachelor degree	12.2	10.8	11.1	11.1	11.3	13.3	18.3	14.9
	Master degree	11.6	9.9	8.5	9.4	11.3	9.3	8.4	10.7
	Doctoral degree/PhD	1.6	0.5	1.1	0	3.3	0.7	0.8	0.6
	Other (e.g.. state examination)	4.2	6.6	7.9	11.7	3.3	7.3	8.4	7.1
Job status	Employed	65.6	65.3	60.8	66.1	64.0	62.0	61.8	63.7
	Job-seeking	7.9	4.7	7.4	3.3	4.0	3.3	3.8	4.8
	Unable to work	1.6	0.5	1.1	3.9	1.3	2.0	3.1	2.4
	Unemployed. not job-seeking	3.2	3.8	2.6	3.3	3.3	4.0	3.8	4.2
	Retired	2.1	1.9	2.1	1.1	0	2.0	0	1.8
	Self-employed	6.9	7.5	8.5	7.8	4.0	6.7	6.1	5.4
	Student	10.1	14.6	15.9	10.6	22.0	16.0	16.8	17.3
	Other	2.6	1.9	1.6	3.9	1.3	4.0	4.6	0.6
Smartphone purchase frequency	In the last 12 months	39.7	36.2	39.2	41.7	40.7	39.3	38.2	30.4
	Over one year ago	24.9	24.9	27.0	29.4	28.0	19.3	25.2	30.4
	Over 2 years ago	23.3	25.4	21.2	13.3	19.3	28.7	17.6	20.8
	Over 3 years ago	11.6	12.7	12.7	15.0	12.0	11.3	17.6	17.3
	Never. but plan to	0.5	0.9	0	0.6	0	1.3	1.5	1.2

Appendix E: Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Age	1370	18	65	32.22	11.192
BP Samsung/Apple	1370	1.00	5.00	3.3995	1.55941
BP Samsung/Huawei	1370	1.00	5.00	3.8799	1.11464
BP Apple/Huawei	1370	1.00	5.00	3.5626	1.47020
Purchase Intention	1370	1.00	5.00	3.2131	1.46040
Valid N (listwise)	1370				

Appendix F: Test of Normality

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Purchase Intention	.124	1370	<.001	.885	1370	<.001
Brand Preference Apple/Huawei	.171	1370	<.001	.832	1370	<.001
Brand Preference Samsung/Huawei	.157	1370	<.001	.872	1370	<.001
Construct BP Samsung/Apple	.175	1370	<.001	.825	1370	<.001

[a] Lilliefors Significance Correction

Appendix G: SPSS Output Hypotheses tests

HYPOTHESIS 1

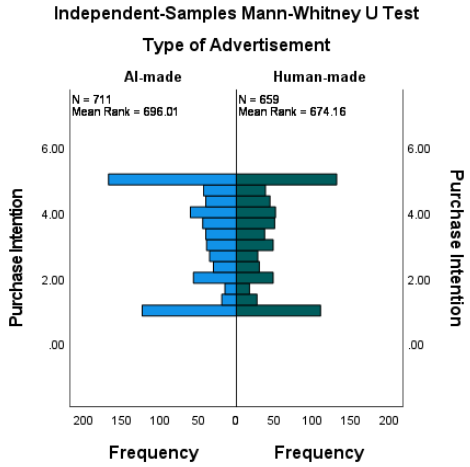
Mann-Whitney U test

Group Statistics

	Type of Advertisement	N	Mean	Std. Deviation	Std. Error Mean
Purchase Intention	Human-made	659	3.1755	1.44529	.05630
	AI-made	711	3.2480	1.47443	.05530

Independent-Samples Mann-Whitney U Test Summary

Total N	1370
Mann-Whitney U	241749.500
Wilcoxon W	494865.500
Test Statistic	241749.500
Standard Error	7251.846
Standardized Test Statistic	1.031
Asymptotic Sig.(2-sided test)	.303



Linear Regression

Correlations

		Purchase Intention	Type of Advertisement
Pearson Correlation	Purchase Intention	1.000	.025
	Type of Advertisement	.025	1.000
Sig. (1-tailed)	Purchase Intention		.179
	Type of Advertisement	.179	.
N	Purchase Intention	1370	1370
	Type of Advertisement	1370	1370

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.025[a]	.001	.000	1.46048	1.914

a. Predictors: (Constant), Type of Advertisement

b. Dependent Variable: Purchase Intention

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.797	1	1.797	.843	.359[b]
	Residual	2917.966	1368	2.133		
	Total	2919.764	1369			

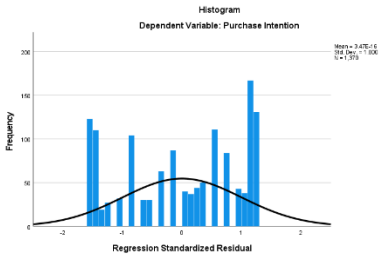
a. Dependent Variable: Purchase Intention

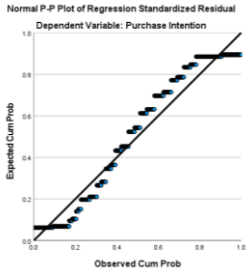
b. Predictors: (Constant), Type of Advertisement

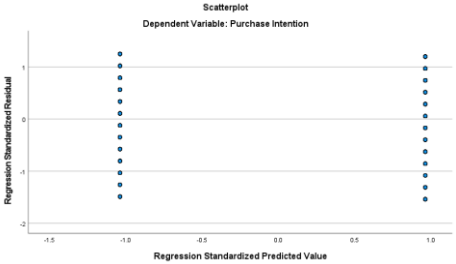
Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	3.103	.126		24.572	.001
	Type of Advertisement	.072	.079	.025	.918	.359

a. Dependent Variable: Purchase Intention







HYPOTHESIS 2A

Mann-Whitney U test

Group Statistics

	Type of Advertisement	N	Mean
Brand Preference Samsung/Apple	Human-made	659	3.4564
	AI-made	711	3.3467
Brand Preference Samsung/Huawei	Human-made	659	3.8873
	AI-made	711	3.8731
Brand Preference Apple/Huawei	Human-made	659	3.5539
	AI-made	711	3.5707

Hypothesis Test Summary

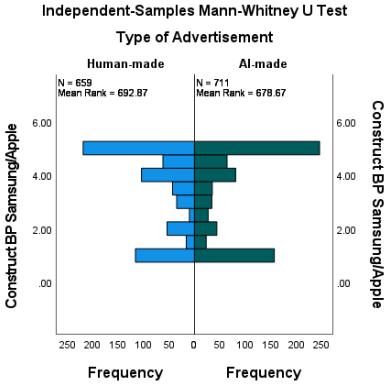
	Null Hypothesis	Test	Sig.[a,b]	Decision
1	The distribution of Construct BP Samsung/Apple is the same across categories of Type of Advertisement.	Independent-Samples Mann-Whitney U Test	.498	Retain the null hypothesis.
2	The distribution of Brand Preference Samsung/Huawei is the same across categories of Type of Advertisement.	Independent-Samples Mann-Whitney U Test	.845	Retain the null hypothesis.
3	The distribution of Brand Preference Apple/Huawei is the same across categories of Type of Advertisement.	Independent-Samples Mann-Whitney U Test	.464	Retain the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

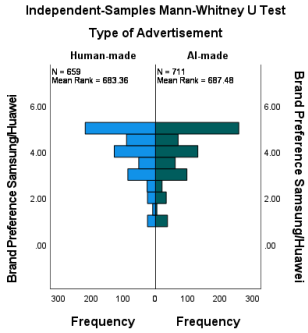
Independent-Samples Mann-Whitney U Test Summary

Total N	1370
Mann-Whitney U	229415.000
Wilcoxon W	482531.000
Test Statistic	229415.000
Standard Error	7179.528
Standardized Test Statistic	-.677
Asymptotic Sig.(2-sided test)	.498



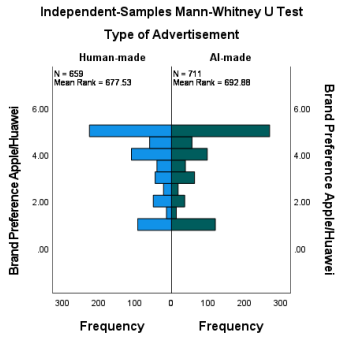
Independent-Samples Mann-Whitney U Test Summary

Total N	1370
Mann-Whitney U	235684.500
Wilcoxon W	488800.500
Test Statistic	235684.500
Standard Error	7190.813
Standardized Test Statistic	.196
Asymptotic Sig.(2-sided test)	.845



Independent-Samples Mann-Whitney U Test Summary

Total N	1370
Mann-Whitney U	239524.000
Wilcoxon W	492640.000
Test Statistic	239524.000
Standard Error	7164.464
Standardized Test Statistic	.733
Asymptotic Sig.(2-sided test)	.464



Linear Regression (1)

Correlations

		Construct BP Samsung/Apple	Type of Advertisement
Pearson Correlation	Construct BP Samsung/Apple	1.000	-.035
	Type of Advertisement	-.035	1.000
Sig. (1-tailed)	Construct BP Samsung/Apple	.	.097
	Type of Advertisement	.097	.
N	Construct BP Samsung/Apple	1370	1370
	Type of Advertisement	1370	1370

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.035[a]	.001	.001	1.55902	1.968

a. Predictors: (Constant), Type of Advertisement

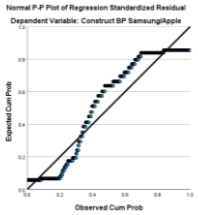
b. Dependent Variable: Construct BP Samsung/Apple

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.114	1	4.114	1.693	.193[b]
	Residual	3324.973	1368	2.431		
	Total	3329.087	1369			

a. Dependent Variable: Construct BP Samsung/Apple

b. Predictors: (Constant), Type of Advertisement



Coefficients[a]

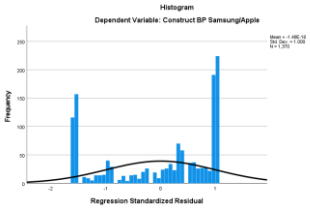
Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	3.566	.135		26.454	<.001		
	Type of Advertisement	-.110	.084	-.035	-1.301	.193	1.000	1.000

a. Dependent Variable: Construct BP Samsung/Apple

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions Type of Advertisement
1	1	1.950	1.000	.03	.03
	2	.050	6.241	.97	.97

a. Dependent Variable: Construct BP Samsung/Apple



Linear Regression (2)

Correlations

		Brand Preference Samsung/Huawei	Type of Advertisement
Pearson Correlation	Brand Preference Samsung/Huawei	1.000	-.006
	Type of Advertisement	-.006	1.000
Sig. (1-tailed)	Brand Preference Samsung/Huawei	.	.407
	Type of Advertisement	.407	.
N	Brand Preference Samsung/Huawei	1370	1370
	Type of Advertisement	1370	1370

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.006[a]	.000	-.001	1.11502	2.036

a. Predictors: (Constant), Type of Advertisement

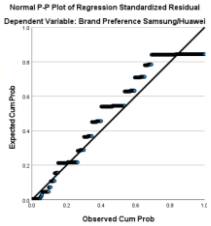
b. Dependent Variable: Brand Preference Samsung/Huawei

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.070	1	.070	.056	.813[b]
	Residual	1700.803	1368	1.243		
	Total	1700.873	1369			

a. Dependent Variable: Brand Preference Samsung/Huawei

b. Predictors: (Constant), Type of Advertisement



Coefficients[a]

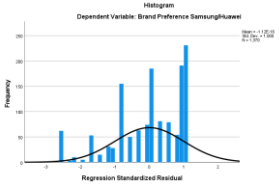
Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	3.902	.096		40.468	<.001		
	Type of Advertisement	-.014	.060	-.006	-.237	.813	1.000	1.000

a. Dependent Variable: Brand Preference Samsung/Huawei

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions Type of Advertisement
1	1	1.950	1.000	.03	.03
	2	.050	6.241	.97	.97

a. Dependent Variable: Brand Preference Samsung/Huawei



Linear Regression (3)

Correlations

		Brand Preference Apple/Huawei	Type of Advertisement
Pearson Correlation	Brand Preference Apple/Huawei	1.000	.006
	Type of Advertisement	.006	1.000
Sig. (1-tailed)	Brand Preference Apple/Huawei	.	.416
	Type of Advertisement	.416	.
N	Brand Preference Apple/Huawei	1370	1370
	Type of Advertisement	1370	1370

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.006[a]	.000	-.001	1.47071	1.958

a. Predictors: (Constant), Type of Advertisement

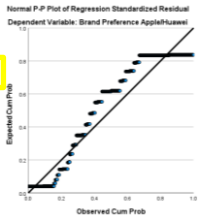
b. Dependent Variable: Brand Preference Apple/Huawei

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.097	1	.097	.045	.833[b]
	Residual	2958.974	1368	2.163		
	Total	2959.070	1369			

a. Dependent Variable: Brand Preference Apple/Huawei

b. Predictors: (Constant), Type of Advertisement



Coefficients[a]

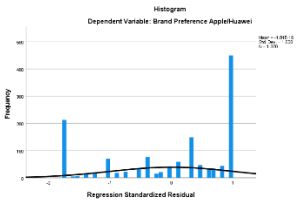
Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	3.537	.127		27.815	<.001		
	Type of Advertisement	.017	.080	.006	.211	.833	1.000	1.000

a. Dependent Variable: Brand Preference Apple/Huawei

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions Type of Advertisement
1	1	1.950	1.000	.03	.03
	2	.050	6.241	.97	.97

a. Dependent Variable: Brand Preference Apple/Huawei



HYPOTHESIS 2B

Linear Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Purchase Intention	3.2131	1.46040	1370
Construct BP Samsung/Apple	3.3995	1.55941	1370
Brand Preference Samsung/Huawei	3.8799	1.11464	1370
Brand Preference Apple/Huawei	3.5626	1.47020	1370

Correlations

		Purchase Intention	Construct BP Samsung/Apple	Brand Preference Samsung/Huawei	Brand Preference Apple/Huawei
Pearson Correlation	Purchase Intention	1.000	-.086	.085	.321
	Construct BP Samsung/Apple	-.086	1.000	.326	-.551
	Brand Preference Samsung/Huawei	.085	.326	1.000	.176
	Brand Preference Apple/Huawei	.321	-.551	.176	1.000
Sig. (1-tailed)	Purchase Intention	.	<.001	<.001	<.001
	Construct BP Samsung/Apple	.001	.	.000	.000
	Brand Preference Samsung/Huawei	.001	.000	.	.000
	Brand Preference Apple/Huawei	.000	.000	.000	.
N	Purchase Intention	1370	1370	1370	1370
	Construct BP Samsung/Apple	1370	1370	1370	1370
	Brand Preference Samsung/Huawei	1370	1370	1370	1370
	Brand Preference Apple/Huawei	1370	1370	1370	1370

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.341[a]	.116	.114	1.37450	1.975

a. Predictors: (Constant), Brand Preference Apple/Huawei, Brand Preference Samsung/Huawei, Construct BP Samsung/Apple

b. Dependent Variable: Purchase Intention

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	339.033	3	113.011	59.818	<.001[b]
	Residual	2580.731	1366	1.889		
	Total	2919.764	1369			

a. Dependent Variable: Purchase Intention

b. Predictors: (Constant), Brand Preference Apple/Huawei, Brand Preference Samsung/Huawei, Construct BP Samsung/Apple

Coefficients[a]

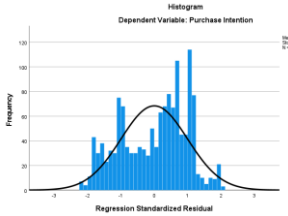
Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	1.458	.189		7.728	<.001		
	Construct BP Samsung/Apple	.143	.033	.153	4.304	<.001	.513	1.951
	Brand Preference Samsung/Huawei	-.049	.039	-.037	-1.243	.214	.713	1.403
	Brand Preference Apple/Huawei	.409	.034	.412	12.080	<.001	.556	1.799

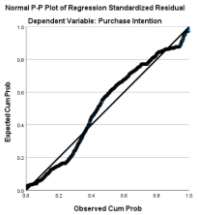
a. Dependent Variable: Purchase Intention

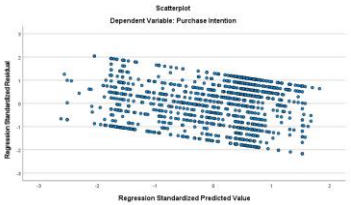
Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Construct BP Samsung/Apple	Brand Preference Samsung/Huawei	Brand Preference Apple/Huawei
1	1	3.686	1.000	.00	.01	.00	.01
	2	.243	3.857	.00	.18	.00	.16
	3	.041	9.488	.19	.12	.94	.07
	4	.026	12.003	.81	.69	.05	.77

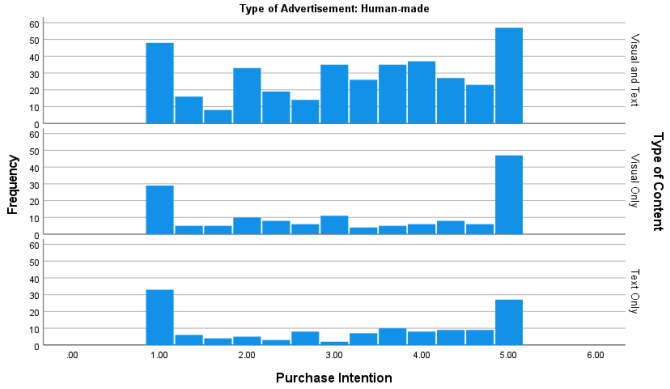
a. Dependent Variable: Purchase Intention

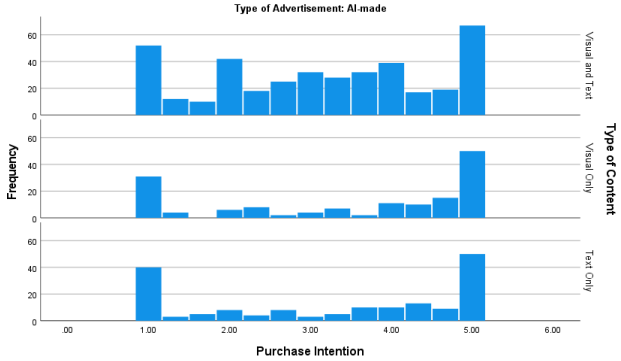






HYPOTHESIS 3





Independent-Samples Kruskal-Wallis Test Summary

Total N	659
Test Statistic	1.432[a,b]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.489

a. The test statistic is adjusted for ties.

b. Multiple comparisons are not performed because the overall test does not show significant differences across samples.

Independent-Samples Kruskal-Wallis Test Summary

Total N	711
Test Statistic	8.413[a]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.015

a. The test statistic is adjusted for ties.

Pairwise Comparisons of Type of Content

Sample 1-Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]
Visual and Text-Text Only	-25.942	18.738	-1.384	.166	.499
Visual and Text-Visual Only	-55.397	19.510	-2.839	.005	.014
Text Only-Visual Only	29.455	22.836	1.290	.197	.591

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is .050.

a. Significance values have been adjusted by the Bonferroni correction for multiple tests.

```
Run MATRIX procedure:

*************** PROCESS Procedure for SPSS Version 4.2 beta ***************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2022). www.guilford.com/p/hayes3

**************************************************************************
Model  : 1
    Y  : PI
    X  : Advertisement_Type
    W  : Content

Sample
Size:  1370

Coding of categorical W variable for analysis:
 Content      W1      W2
   1.000    .000    .000
   2.000   1.000    .000
   3.000    .000   1.000

**************************************************************************
OUTCOME VARIABLE:
 PI

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .0754      .0057     2.1284     1.5611     5.0000  1364.0000      .1681

Model
              coeff         se          t          p       LLCI       ULCI
constant     3.1949      .0750    42.5769      .0000     3.0477     3.3421
Advertisement_Type      -.0465      .1051     -.4420      .6586     -.2526      .1597
W1            .0384      .1408      .2731      .7848     -.2377      .3146
W2           -.1415      .1479     -.9563      .3391     -.4316      .1487
Int_1         .2953      .1986     1.4874      .1371     -.0942      .6849
Int_2         .2648      .1999     1.3248      .1854     -.1273      .6570

Product terms key:
 Int_1    :        Advertisement_Type  x        W1
 Int_2    :        Advertisement_Type  x        W2

Test(s) of highest order unconditional interaction(s):
```

```
       R2-chng           F        df1         df2           p
X*W      .0023      1.5559     2.0000   1364.0000       .2114

************************ ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
  95.0000

------ END MATRIX -----
```

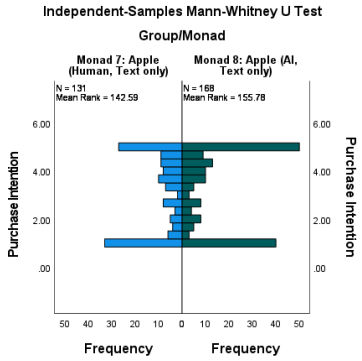
HYPOTHESIS 3A

Group Statistics

	Group/Monad	N	Mean	Std. Deviation	Std. Error Mean
Purchase Intention	Monad 7: Apple (Human, Text only)	131	3.0534	1.58077	.13811
	Monad 8: Apple (AI, Text only)	168	3.2718	1.62058	.12503

Independent-Samples Mann-Whitney U Test Summary

Total N	299
Mann-Whitney U	11974.500
Wilcoxon W	26170.500
Test Statistic	11974.500
Standard Error	729.365
Standardized Test Statistic	1.331
Asymptotic Sig.(2-sided test)	.183



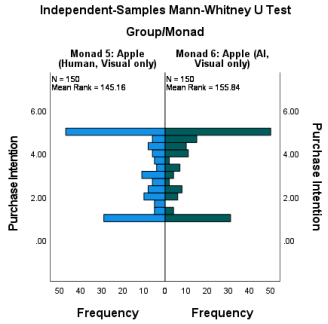
HYPOTHESIS 3B

Group Statistics

	Group/Monad	N	Mean	Std. Deviation	Std. Error Mean
Purchase Intention	Monad 5: Apple (Human, Visual only)	150	3.2333	1.58090	.12908
	Monad 6: Apple (AI, Visual only)	150	3.4822	1.60142	.13076

Independent-Samples Mann-Whitney U Test Summary

Total N	300
Mann-Whitney U	12051.500
Wilcoxon W	23376.500
Test Statistic	12051.500
Standard Error	734.891
Standardized Test Statistic	1.091
Asymptotic Sig.(2-sided test)	.275

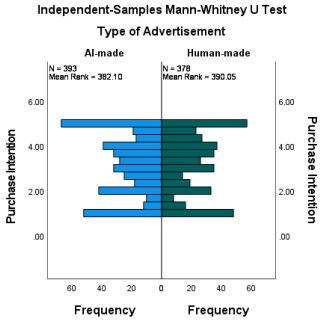


Visual and textual:

	Type of Advertisement	N	Mean	Std. Deviation	Std. Error Mean
Purchase Intention	Human-made	378	3.1949	1.33772	.06881
	AI-made	393	3.1484	1.34635	.06791

Independent-Samples Mann-Whitney U Test Summary

Total N	771
Mann-Whitney U	72746.000
Wilcoxon W	150167.000
Test Statistic	72746.000
Standard Error	3075.127
Standardized Test Statistic	-.498
Asymptotic Sig.(2-sided test)	.619



Full Model

```
Run MATRIX procedure:

*************** PROCESS Procedure for SPSS Version 4.2 beta ***************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2022). www.guilford.com/p/hayes3

**************************************************************************
Model  : 5
    Y  : PI
    X  : Advertisement_Type
   M1  : BP_SA
   M2  : BP_SH
   M3  : BP_AH
    W  : Content

Sample
Size:  1370

Coding of categorical W variable for analysis:
 Content      W1      W2
   1.000    .000    .000
   2.000   1.000    .000
   3.000    .000   1.000

**************************************************************************
OUTCOME VARIABLE:
 BP_SA

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .0352      .0012     2.4305     1.6927     1.0000  1368.0000      .1935

Model
              coeff         se          t          p       LLCI       ULCI
constant     3.4564      .0607    56.9131      .0000     3.3372     3.5755
Ad_Type      -.1097      .0843    -1.3010      .1935     -.2751      .0557

**************************************************************************
OUTCOME VARIABLE:
 BP_SH
```

```
Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .0064      .0000     1.2433      .0560     1.0000  1368.0000      .8130

Model
             coeff         se          t          p       LLCI       ULCI
constant    3.8873      .0434    89.4973      .0000     3.8021     3.9725
A_Type      -.0143      .0603     -.2366      .8130     -.1325      .1040

**************************************************************************
OUTCOME VARIABLE:
 BP_AH

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .0057      .0000     2.1630      .0447     1.0000  1368.0000      .8327

Model
             coeff         se          t          p       LLCI       ULCI
constant    3.5539      .0573    62.0321      .0000     3.4415     3.6663
Ad_Type      .0168      .0795      .2113      .8327     -.1392      .1728

**************************************************************************
OUTCOME VARIABLE:
 PI

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3461      .1198     1.8883    23.1524     8.0000  1361.0000      .0000

Model
             coeff         se          t          p       LLCI       ULCI
constant    1.4475      .2010     7.2011      .0000     1.0532     1.8418
Ad_Type     -.0147      .0991     -.1483      .8822     -.2090      .1797
BP_SA        .1467      .0334     4.3921      .0000      .0812      .2122
BP_SH       -.0519      .0395    -1.3132      .1893     -.1293      .0256
BP_AH        .4085      .0339    12.0463      .0000      .3420      .4751
W1           .0065      .1330      .0489      .9610     -.2544      .2674
W2          -.1545      .1396    -1.1068      .2686     -.4284      .1193
Int_1        .2277      .1871     1.2170      .2238     -.1393      .5947
Int_2        .2265      .1884     1.2024      .2294     -.1431      .5961

Product terms key:
```

```
 Int_1    :        Advertisement_Type  x        W1
 Int_2    :        Advertisement_Type  x        W2

Test(s) of highest order unconditional interaction(s):
       R2-chng          F        df1        df2          p
X*W      .0015     1.1448     2.0000  1361.0000      .3186


****************** DIRECT AND INDIRECT EFFECTS OF X ON Y *****************

Conditional direct effects of X on Y
    Content     Effect         se          t          p       LLCI       ULCI
     1.0000     -.0147      .0991     -.1483      .8822     -.2090      .1797
     2.0000      .2130      .1587     1.3421      .1798     -.0983      .5244
     3.0000      .2118      .1603     1.3216      .1865     -.1026      .5263

Indirect effect(s) of X on Y:
          Effect     BootSE   BootLLCI   BootULCI
TOTAL     -.0085      .0270     -.0621      .0455
BP_SA     -.0161      .0133     -.0442      .0083
BP_SH      .0007      .0042     -.0074      .0105
BP_AH      .0069      .0324     -.0579      .0703

********************** ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
  95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

------ END MATRIX -----
```

Appendix H: Main Survey Questionnaire

Question no.	Survey	Question type
F1	**When was the last time you purchased a smartphone? (Purchase under subscription model counts as well)** A: In the past 12 months B: More than 1 year ago C: More than 2 years ago D: More than 3 years ago E: I never purchased a smartphone but want to purchase one in the future. F: I never purchased a smartphone and do not plan to purchase one in the future. (EXIT Survey)	Single Choice
Info 1	**On the following page, you will see an advert. Please look at it attentively.**	Info box
Info 2	**Please look at the advert carefully.** MEDIA/IMAGE	Info box
F2	**Please click on the part of the advert, that immediately caught your attention.**	Heatmap
F3	**The advertisement shows an advertising image.** A: Yes. B: No.	Manipulation check (order randomized)
F4	**The advertisement shows an advertising text (the brand logo does not count as text).** A: Yes B: No	Manipulation check (order randomized)
F5	**How much do you agree with the following statements about smartphone brands?** **The following mentioned brands refer to the product category of smartphones.** Strongly disagree.-Strongly agree. Items: A: I like Samsung smartphones better than Apple smartphones. B: I would use Samsung smartphones more than I would use Apple smartphones. C: Samsung is my preferred brand over Apple. D: I would be inclined to buy a Samsung smartphone over an Apple smartphone.	Matrix
F8	**How much do you agree with the following statements about smartphone brands?** **The following mentioned brands refer to the product category of smartphones.** Strongly disagree.-Strongly agree.	Matrix

	Items: A: I like Samsung smartphones better than Huawei smartphones. B: I would use Samsung smartphones more than I would use Huawei smartphones. C: Samsung is my preferred brand over Huawei. D: I would be inclined to buy a Samsung smartphone over an Huawei smartphone.	
F9	**How much do you agree with the following statements about smartphone brands?** **The following mentioned brands refer to the product category of smartphones.** Strongly disagree.-Strongly agree. Items: A: I like Apple smartphones better than Huawei smartphones. B: I would use Apple smartphones more than I would use Huawei smartphones. C: Apple is my preferred brand over Huawei. D: I would be inclined to buy a Apple smartphone over a Huawei smartphone.	Matrix
F10	**How much do you agree with the following statement?** **It refers to the brand that you have just seen the advertisement of.** Strongly disagree.-Strongly agree. Items: A: It is very likely that I will buy a *brand* smartphone B: I will purchase a *brand* smartphone the next time I need a smartphone. C: I will definitely try a *brand* smartphone.	Matrix
F11	**What is the highest degree or level of education you have completed? If currently enrolled, choose your highest degree received.** A: No schooling completed B: Highschool, no diploma C: Highschool graduate with diploma D: Technical training E: Bachelor's degree F: Master's degree G: Doctorate degree H: Other (Freetext)	Single Choice
F12	**Please indicate your current professional or employment status.** A: Employed B: Self-employed C: Unemployed D: Student E: Retired F: Unable to work G: Other (Freetext)	Single Choice