JÖNKÖPING UNIVERSITY
Jönköping International Business School

The consumer attitude towards AI in marketing

- *An experimental study of consumers attitudes and purchase intention*

Master Degree project
Thesis within: *Business administration (marketing)*
Number of credits: *30*
Programme of study: *Civilekonomporgrammet*
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Jönköping *May 2023*

Master Thesis in Business Administration

Title: The consumer attitude towards AI in marketing
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Date: 2023-05-22

Key terms: AI in marketing, diffusion of Innovation theory, consumer attitudes, Theory of planned behaviour, purchase intention, email marketing

Abstract

The use of AI has developed during the recent decades, and the application of it within different markets is continually growing. The application of it within marketing comes with different benefits that allow businesses to engage with the consumer and build a stronger relationship. The more AI is becoming applied in marketing, the more important it is to understand the consumers attitude towards its usage and effect of it on consumer purchase intention. The purpose of this study is to explore the effect of consumer attitudes towards AI-generated content within email marketing on purchasing intention. Theory of planned behavior and diffusion of innovations theory are applied to formulate the hypotheses. The research was conducted using a quantitative method in an experimental context. An online survey divided into two parts was developed and distributed to participants in Sweden in ages from 18 and above. A total of 114 respondents were recorded in the first survey and of those, 71 respondents were recorded in the second survey. The data was then analyzed in SPSS. The results from the survey showed the element of compatibility within the theory of diffusion of innovation having a significant and positive effect on consumers attitude towards AI-usage in marketing. The relationship between the observability element and attitude was found to be non-significant. Additionally, no significant difference was found when comparing the experimental group and the control group. Lastly, attitude towards AI was found to have a significant and positive effect on purchasing intention in the experimental group.

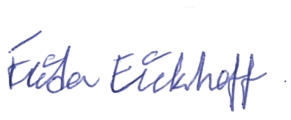
Acknowledgments

The authors of this thesis paper are forever grateful for the support and encouragement provided by different individuals that have been involved in the process of conducting this thesis.

First, we would like to express a thank you to our tutor and supervisor Ulf Aagerup, that have shown interest in our research and provided us with advice and thoughts that have contributed to the evolving process of the thesis. Continually are we also grateful for the support and advice provided by out seminar group, that has taken the time to provide deep and meaningful feedback during the semester.

Further on, we would like to thank all the participants in the survey, for giving us your time to conduct the survey and provide information valuable for the thesis.

Finally, we would like to express a thank you to our friends and family for giving us energy and support to write the thesis during the late-night study sessions.



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1.1 Background

This background section will start with an introduction about the foundation of Artificial intelligence (AI), and the developments towards the use of it within marketing today. Further on, the relationship between AI and the consumer will be investigated with regards to their attitude and behavior. The following paragraphs will provide you as a reader with the foundation of the concepts of AI, marketing, and consumer behavior.

The development of technology has evolved during the last decades and in the eyes of the broad public, the world as we know it today is driven by technological achievements. Among the achievements of the last century, artificial intelligence was developed as a way to mimic intelligent behavior (Forbus, 2010). The common definition of artificial intelligence (AI) is a machine acting as a human-like mind. Today AI can be observed in our everyday life in different ways (Boden, 2016). According to Forbus (2010), in the early 2000s, AI had only been applied to search engines for internet companies, computer gaming, data mining, and mobile robots like vacuum cleaners (Forbus, 2010). This provides an insight into the wide usage rate of AI, within different fields and processes with each having a specific end goal. The advancements of AI are wide and extensive, the global market revenue of AI is expected to rise to an estimated value of 800 billion dollars by 2028 and to over 1.5 trillion by 2030 (Thormundsson, 2022). The process of AI developments has been extensive within different fields and is now integrated in multiple ways in our everyday life through the internet. A study by Xu and Li (2022) indicates that AI technologies are able to have a relation-based interaction with a human being.

The theory of diffusion of innovation is applied in this study to investigate how individuals adapt to new technological developments like AI, and the elements of observability and compatibility will be investigated. Observability refers to how well the benefits and technological developments of AI are observed by and communicated to the individual, while compatibility is referring to how compatible the AI technology and its usage is with an individual's values and beliefs. The theory is used to understand how well the individual will adapt to and accept new technological achievements of AI (Rogers, 2003).

The development of the wide usage areas of AI within different fields, has according to Rust (2020) evolved AI to become a key part of marketing. As marketing is changing with technological, geopolitical, and socioeconomic trends, the direction towards which the marketing is transforming is changing with it. Technological trends and developments increase the ability for firms to communicate with their consumers, but also increase their capability to store, collect and analyze consumer data (Rust, 2020). AI is used in marketing for various tasks like forecasting, evaluation and comparison of different marketing channels, and personalization of promotional messages (Kulkov, 2021). Artificial intelligence in marketing is a beneficial tool for extending the understanding of consumers and thereby being able to better target the consumers (Ma & Sun, 2020). Furthermore, AI can be used to generate more personalized content that can help improve the consumer relationship and engage the consumer more (Campbell et al., 2020). AI can be used for content creation and marketing communications, to intersect with consumers and improve forecasting (Vlačić et al., 2021). According to Dwivedi et al. (2021), the primary advantages of using AI for various tasks is to increase the market position and sales promotion. The importance of researching this is thereby crucial to understand the role of AI in marketing, but also the way it intersects with the consumers. Using AI in marketing content can increase the personalization of the promotional message with consumers to increase the brand-consumer bond (Dwivedi et al., 2021). The development of chatbots has been used to provide this intersection and opened the technological function that provides this intersection. ChatGTP has from its release in the end of 2022 become a symbol for AI chatbot, and their achievements. The new robot has developed and opened up further achievements within content creation for marketing messages (Philipp et al., 2023).

AI chatbots and technological advancements are becoming a more integrated part of our everyday life. In the same pace as internet is becoming a bigger part of the normal day to day life, so is our integration with e-commerce. Growing demand by consumers for online services and their advantages has increased the companies' engagement in e-commerce (Klaus & Changchit, 2019). During recent years, e-commerce has become a critical component of the global retail industry and consumers with internet access from all over the world can go online to shop from wherever they are (Gielens & Steenkamp, 2019). In 2021, global e-retail sales exceeded 5.2 trillion US dollars, and this figure is expected to continue to rise in the years to come. Sales have increased from 1.3 trillion US dollars and are projected to increase to more than 8 trillion by 2026 (Chevalier, 2022). Further on, it can be stated that

users with higher levels of experience using the Internet with previously made purchases through e-commerce platforms, are more inclined to engage in online shopping (Hernandez et al., 2010). A marketing tool that can increase interaction with consumers and provide an increase in sales for e-commerce is email marketing (Dawson & Kim, 2010). The use of email-marketing has therefore become crucial in the essence of e-commerce, and the use of AI in email marketing can help to deepen the consumer interaction. E-commerce is developing and changing through new technological trends like AI. but also, through consumers behaviors because of the changing landscapes. A crucial part for marketers to understand is their consumers behavior. While AI to some extent can help trace their digital footprint, the consumers' responding behavior is crucial to understand to improve the relationship with the consumers (Dwivedi et al., 2021).

The importance of investigating and researching consumer behavior lies in helping to understand how individuals make decisions depending on the resources available to them at the time. This is crucial for marketers to better target their consumers, with regard to their preferences, needs and resources (Nair, 2009). The dynamics between the consumer, business and society have changed because of the development of technology and the internet. Consumers nowadays interact more with the website and online community of the company instead of physical stores. The way consumers behave has changed because of the shift in the environment and their attitude and beliefs towards the changing environment (Koufaris, 2002).

The consumers' attitudes are, according to Ajzen (1991) in the theory of planned behavior, a key indicator forming their behavior as a result, where individuals' unique ways of behaving in relation to their attitudes influences their relation towards marketing. The theory of planned behavior provides an explanation of how individuals behave in a given situation, based on their individual personality traits and attitudes. The theory can be used when trying to identify the relationships between beliefs, intentions and attitudes in human social behavior (Ajzen, 1991). Continually, it can be stated that the theory of planned behavior suggests that an individual's intention to pursue a behavior is not completely controlled by their will, but rather a result of planning (Liu et al., 2020). The theory of planned behavior developed by Ajzen (1991) differentiates the degree of intention to pursue a given behavior, and the actual behavior. The model is used in marketing and psychology to understand consumers intention to pursue a behavior in relation to their attitude, subjective norms and perceived behavioral

control (Mariani et al., 2022).

1.2 Problem

This section will provide an understanding of the importance in researching the consumers view and perception within the use of AI in marketing. The problem discussion will provide an insight on the current degree of research within the area and the importance to continuing to explore the relation of consumers adoption, attitude, and relation towards the use of AI in marketing. It will start with a discussion regarding AI and its standing in society, how it has been applied within different markets and role of it within marketing specifically. Continually, the role of AI will be discussed in relation to consumers in the changing market environment.

Artificial intelligence (AI) was in the past only used in data-based sciences, but developments within data and programming has made AI useful in more complex systems and markets (Leitao, 2013). Nowadays, artificial intelligence machines of different models and algorithms are integrated in numerous ways in consumers everyday life, within smart homes, cars, computers and online services (Kreutzer & Sirrenberg, 2020). This development of AI in numerous markets and functions is a result of the advancements in computer science, and the availability of big data. These accomplishments have influenced the development and the big role of AI within marketing communications. While AI is a scientific miracle, that provides an efficiency beyond human possibilities, the consumers attitudes towards AI within marketing is still a topic worthy of further investigation (Du & Xie, 2021). The changing environment to more technologically developed, has changed consumers behavior in their way to communicate and interact with businesses (Dwivedi et al., 2021). Due to the relevance of today's technological achievements and importance in the environment, the use of AI in communication is essential. Therefore, development of knowledge within this area is important. To the best of our knowledge, the research within AI-usage and its effect on consumer attitudes in the context of email marketing is limiting.

According to Mustak et al. (2021) there is a research gap within AI in marketing when it concerns consumers attitude towards it in relation to their purchasing intention. The subject is relevant and it is interesting to understand the implications of AI-usage regarding consumer relationships online (Mustak et al., 2021). Research shows that within information searching,

consumers´ changing behavior can be related to the adoption of AI, while this connection cannot yet be stated within other fields of marketing (Mariani et al., 2022). The relevance of this study is therefore based in providing an understanding of the casual relationship and effect of consumer attitude towards on their purchase intention, in the context of email marketing, using theory of planned behavior (Ajzen, 1991) and the theory of diffusion of innovation (Rogers, 1962). This study will thereby contribute to knowledge regarding the relationship between the variables, that will provide new knowledge in the field of AI and marketing.

1.3 Purpose & research question

The purpose of this study is to discover the effect of consumer attitudes towards AI generated content within email marketing. This study will more specifically investigate the relation between the consumers' attitude, what factors it is affected by, and its resulting effect on purchase intention. This research seeks to explain the AI usage within marketing and provide managers with valuable insights regarding the effect of AI usage on consumers purchasing intention.

- What is the effect of consumers attitude towards AI-generated content in email marketing, on their purchase intention?

1.4 Delimitations

The report will not investigate the use of AI within other fields than the use of it within generating content in email marketing. This report will further on not explore the attitude towards AI in other fields than what has been established in the purpose. In addition, this study will not investigate the purchase intention within other fields than email marketing and the consumer electronics e-commerce context. Further on, no established brands will be investigated, only the fictious brand developed in this study. Additionally, this study will not explore the research question within other nationalities than Swedish. Lastly, this research will not examine the full range of factors that could potentially influence attitudes towards AI or purchasing intention, but instead focus specifically on compatibility and observability.

1.5 Definitions

Algorithm: An algorithm is a finite set of instructions, rules or steps that are followed by a computer program or machine, to solve problems or perform tasks (Blass & Gurevich, 2003).

Prompt: A prompt is a specific instruction or suggestion that is given to a user or computer program to guide a specific action or response (Liu & Chilton, 2021).

2. Frame of Reference

This chapter will provide a comprehensive overview of relevant theories and research for this study. The coming part introduces the use of AI within marketing and furthermore, the key construct of generative AI. This is followed by the role of trust towards the AI technology and the diffusion of innovation theory, which will serve as one of two theories for explaining the relationship between the technology and human beings in this study. Thereafter, the characteristics of attitude in general are presented, followed by the theory of planned behavior, providing a theoretical basis for the relationship between attitude and a given behavior. The last part of this chapter investigates purchase intention both in general and in relation to the theory of planned behavior. In addition to the theories, this chapter presents relevant research studies with the aim of developing hypotheses that will guide the data collection and analysis in this study. By drawing upon these theoretical frameworks and previous research studies, this chapter sets the foundation for the subsequent chapters.

2.1 AI in marketing

In the context of marketing, Artificial Intelligence is employed for multiple purposes, including predicting future trends, assessing and contrasting various marketing channels, and customizing promotional communications (Kulkov, 2021). AI can automate the business process, provide insights based on past data, and generate consumer and market insights through the program-based algorithm (Davenport et al., 2019). The technology can serve various functions throughout the marketing process. In the first stage of the process, AI can be used to assist with data collection and market analysis. Further on, in the second stage, AI can

be applied within the process of segmentation, targeting, and positioning. In the third stage, AI can help with standardization, personalization, and relationship building (Huang & Rust, 2020). If supervised and instructed correctly, AI can perform specific marketing tasks more efficiently than humans. For example, consumer service chatbots that utilize AI technology, are able to either assist or replace human workers (Sheehan et al., 2020). Such improvements lead to enhanced effectiveness, reduced costs, and a higher return on investment. Furthermore, AI can conduct tactical data analysis quickly and use machine learning to make decisions based on campaign and consumer context. This allows the marketing team to allocate time for development of strategic initiatives, which can then inform AI-powered marketing efforts (Haleem et al., 2022).

In the digital context, marketing utilizes data, information, and communication technologies such as artificial intelligence as well as platforms like social networks, media, and search engines to expand marketing efforts. Its primary objective is to enhance consumer relationships through the provision of information, influence, empowerment, and engagement to consumers (Krishen et al., 2021). As technology advances, digital marketing is becoming more sophisticated and targeted, thanks to the use of artificial intelligence (Davenport et al., 2019). AI-technology can be used for advertisement optimization, lead generation, consumer support and content creation (Sarath Kumar Boddu et al., 2022). For example, chatbots used in costumer support being able to successfully solve requests and provide relevant information were found to have a positive influence on costumer experience (Nicolescu & Tudorache, 2022). Another example of artificial intelligence usage in digital marketing is recommendation systems within e-commerce. Through analyzing and interpreting data, the algorithms can create more personalized user recommendations through flexible adaptation, thus enhancing the quality (Bawack et al., 2022).

2.1.2 Generative AI

Generative AI utilizes a large corpus of data, including text, images, or other types of data, to create new variations of content in response to user demands (Euchner, 2023). According to Dwivedi et al. (2023b), the technological advancement of generative AI is that it can generate responses beyond its explicit programming. It can be defined as a technology which uses deep learning models to produce human-like content in response to a variety of prompts (Lim et al., 2023). Considered as an umbrella technology, generative AI is another step towards the

attainment of artificial general intelligence, enabling the technology to comprehend and learn any intellectual tasks like humans do. Today, generative AI is already capable of producing content such as text, images, programming codes, and even poetry. However, by its nature, generative AI is constrained to creating content by combining existing information (Dwivedi et al., 2023b).

Several studies have explored the public reactions and attitudes towards generative AI. A study by Wu et al. (2020) found that consumers in America perceived human generated poems and paintings more favorably when compared to AI generated ones, both implicitly and explicitly. This was in turn compared to results from the Chinese population, where results showed that AI-generated content was viewed more positively explicitly, but the implicit cues still indicated preference for human generated content (Wu et al., 2020). Individuals have a tendency to endorse explicit self-evaluations that are consistent with their cultural context at the present time, while their unconscious, implicit self-evaluations reflect their long-term interpretations and beliefs (Hetts et al., 1999). This phenomenon is called the bandwagon effect, which can be defined as the tendency of people to conform to the opinion of the majority, even if it contradicts their own viewpoints and beliefs (Bindra et al., 2022).

In the research conducted by Persson et al. (2021) between Swedish and Japanese population found that familiarity with AI-technology has a positive effect on attitude towards the technology. In addition, worry of artificial intelligence leading to loss of jobs was also found to correlate with a more negative attitude. Additionally, research conducted by Horowitz & Kahn (2021) revealed a positive relationship between self-reported familiarity with AI and approval of AI uses in a variety of areas, such as facial recognition, planning and surveillance, among local government officials in the United States. Familiarity was also suggested as a factor affecting the populations explicit attitude towards artificial intelligence in a study done by Wu et al. (2020), where the authors suggest that prevalence of artificial technology in the society and its promotion by the government may influence explicit attitude among the population.

2.2 Factors affecting attitude towards AI

There are numerous factors that have been shown to affect people's perceptions and attitude towards artificial intelligence technology, such as tech skepticism (O'Shaughnessy et al., 2022), trust (Shin & Park, 2019), and perceived credibility (Cukurova et al., 2020; Waddell, 2018). While these factors will not be measured as a part of this study, due to the effects already being proven by previous research, they are still included in the literature review section since their effects can help explain the results of this research.

Message credibility can be reflected by how accurate, authentic and believable a message is perceived by the reader (Appelman & Sundar, 2016). In connection to artificial intelligence, credibility pertains to the reputation of the algorithms and their ability to be believed (Shin, 2022). Trust, in turn, refers to the level of confidence and faith users have in algorithms to carry out actions that are advantageous to them (Shin & Park, 2019). Factors such as fairness, accountability, transparency and interpretability have been found to have an effect on perceived usefulness and trustworthiness of AI personalization in the form of algorithmic recommendations (Shin, 2020). Previous research discovered that users who do not view the information provided by a chatbot as credible are less likely to follow its recommendations (Shin & Park, 2019). On the other hand, users with a high level of trust were found to attribute a higher level of credibility to chatbots (Shin, 2022). Additionally, previous studies have found that educational research evidence was found as less credible when framed as research within the field of Artificial intelligence, when compared to neuroscience and education psychology (Cukurova et al., 2020). Another example is that news articles written by artificial intelligence were found to be perceived as less credible than the ones attributed to a human journalist (Waddell, 2018).

Previous research has shown skepticism to be negatively and significantly associated with people's perceptions and attitudes. Skepticism refers to the inclination of an individual to question and have reservations about different subjects (Obermiller & Spangenberg, 1998). In the media context, it has been observed that skepticism had a substantial and negative correlation with consistent approval of the media's predictions concerning election outcomes. (Tsfati, 2003). Furthermore, skepticism towards Corporate social responsibility (CSR) was

found to be associated with a negative attitude towards brands, with companies being viewed as not fully honest about their intentions with their CSR initiatives (Kwon & Ahn, 2021). In the context of advertising, skepticism was found to be correlated with less trust, lower perceived influence and a more negative attitude towards the advertisements (Obermiller et al., 2005). Additionally, technological skepticism has in previous research been found to be a strong predictor of attitudes toward Artificial intelligence technology, with higher levels tending to predict reduced support for AI use (O'Shaughnessy et al., 2022).

2.3 Diffusion of innovation

The Diffusion of Innovations theory was first introduced by Rogers in 1962 to explain the human adoption towards new technological developments in the agricultural context. Where each individual adopt to technological developments differently, depending on their social values and characteristics but also their communications behavior in the context of their own social system (Rogers, 1962). According to the theory, innovations is defined as object, idea or practice perceived by each individual, while diffusion is defined as the process of communicating the innovation in the social system (Ali et al., 2019). Further on, the diffusion of innovation theory seeks to explain how, why, and at what rate new ideas and technologies spread through society (Rogers, 2003). The theory has been applied in a wide range of contexts of innovations, including healthcare (Afraz et al., 2021), marketing (Lee et al., 2021), social media (Long et al., 2014), and education (Menzli et al., 2022). The theory proposes that the adoption of new technologies is influenced by five factors; including the characteristics of the innovation itself, the channels used to communicate the innovation, the social system in which the innovation is introduced, the degree of compatibility of the innovation with values and needs of the adopters and finally the time aspect. This suggests that the theory of diffusion of innovations provides an explanation of how innovations are communicated in different channels to the members of a social system (Rogers, 2003). Further on, social system in this context is defined as the social constructs an individual belongs to. One can belong to specific parts of the systems so called social subsystems (Lundberg et al., 2019). The position that the individual obtains in the social system refers to their experiences, action, values and social forces that impact an individual (Pieters, 2017). In this study, two elements in the diffusion of innovation theory are found relevant. Compatibility, which refers to how compatible an innovation is with the individuals' beliefs and worldview, and observability, as in how visible and observable an innovation and its benefits are to the individual.

2.3.1 Observability

Min et al. (2019) used the diffusion of innovation theory to analyze the impact of its different aspects on perceived usefulness and ease of use of the Uber app. In addition to the theory's traditional components, the authors introduced a "social influence" aspect to assess the extent to which members of a reference group affect one another's behavior. People´s ability and decision to adopt to new technology is influenced by their social context (Salancik & Pfeffer, 1978). Further on, observability has been defined by Rogers (2003) as a part of social influence, and is described as the extent of visibility of the innovation and the degree to which members of a social system can observe and communicate the benefits of it. Moreover, Park and Chen (2007) found that high degree of observability has a positive effect on user attitudes towards innovations. Similarly, Lee et al. (2021) identified observability as a significant factor influencing attitudes towards leisure agriculture digital marketing efforts. Another study demonstrated a positive correlation between self-perception of knowledge about AI and optimism towards the technology using theory of diffusion of innovation (Lund et al., 2020). In contrast, recent studies have also shown the observability attribute not having a significant effect on attitude. For example, a study has found that observability could not be used to predict attitude towards usage of virtual reality (Al Breiki et al., 2022). Similarly, a study found that observability did not significantly influence attitudes towards sustainable transportation. (Ahn & Park, 2022).

The first hypothesis in this paper is based on the concept of observability, a factor in diffusion of innovation theory, that is defined as the degree of visibility and ability for individuals in a social system to communicate the benefits of an innovation (Rogers, 2003). While the evidence on Observability influencing attitude is mixed, much of previous research has shown observability having a significant and positive effect on attitude towards innovations. With the help of literature and previous research presented above, the first hypothesis is formulated as following:

H1: High degree of Observability in AI technology has a positive effect on the individuals´ attitudes towards AI generated content in marketing.

2.3.2 Compatibility

Compatibility in the theory of diffusion of innovation refers to how well a new idea, product or technology aligns with existing social values, beliefs, experiences and needs of potential users. The more compatible an innovation is, the more likely it is to be accepted by potential users, as it reduces uncertainty. There is also a direct relationship between compatibility and the rate of adoption, as people are more willing to adopt innovations that are perceived to be compatible with their own social system (Rogers, 2003). According to Nordhoff at al. (2021), compatibility is expected to have a positive relationship towards behavioral intention, indicating that the innovation in question is in line with the individuals values, needs and experiences in the social system of the individual. Previously, researchers have found that a high degree of compatibility has a significant and positive effect on attitudes toward adopting and using technologies. For example, compatibility was found to significantly influence attitude, which in turn was found to lead to behavioral intention of adoption and continuation of usage of mobile banking (Lin, 2011). In a study done by Ahn & Park (2022), compatibility was found to influence perceived usefulness, which in turn was found to have an effect on attitude in the context of sustainable transportation. Similarly, compatibility was found to have a statistically significant effect on attitude towards anti-spyware adoption (Lee & Kozar, 2008). There are also instances where the compatibility factor of diffusion of innovation theory was found not to have a significant effect on attitude. For example, compatibility has previously been found to have an insignificant effect on attitude in the context of information technology usage (Taylor & Todd, 1995).

While existing literature on diffusion of innovation theory showcases mixed results regarding the effect that compatibility may have on attitude, much of previous research has found the relationship to be positive and statistically significant. The second hypothesis is based on the compatibility concept in the diffusion of innovation theory. Compatibility refers to how well the innovation aligns with the individuals' social values, experiences, beliefs, and needs. The degree of compatibility indicates how well the innovation is received by the individual (Rogers, 2003). With the help of previous research presented above, the second hypothesis is developed:

H2: High degree of Compatibility in AI technology has a positive effect on the individuals´ attitude towards AI generated content in marketing.

2.4 Attitude

2.4.1 Attitude Definition

Attitude is, according to Bohner (2002) considered a central part of the human individuality, that is defined by Spears and Singh (2004) as a summary of a single individuals´ evaluations. Continually, Cooper et al. (2010) states that attitude influences our perceptions and provides guidance in the human behavior. Further on, our attitudes are formed by social experiences that are mentally represented, and give rise to a specific behavioral outcome (Cooper et al., 2010). The individuals' attitude represents their evaluative response towards a specific objective, where a single attitude can give rise and encompass behavioral, cognitive and affective responses (Bohner & Wanke, 2002). Additionally, the stability of information provides a rise in attitudes, which can increase the correlation between attitude and behavior. Thereby, the initial information guiding an attitude is highly relevant in the essence of the behavioral outcome of the attitude (Glasman & Albarracín, 2006). Attitude can finally be defined as an individualistic and intrapsychic concept of characteristics that only appears to the individual self, according to Cooper et al. (2010).

Within social psychological casual relationships, values can according to Boer and Fischer (2013) help predict attitudes and behaviors, higher level of cognitive presentation in human behaviors and lastly, life orientations. Further on, values are a basic motivation guiding the actions and evaluations within both social attitudes and behaviors. In addition, social attitudes are connected by individuals' values, which are formed by their moral and social relations within the specific cultural and social context. Continually, according to Roos and Hahn (2017) the concept of values is a relatively stable factor of distal behavior that develops slowly during a long period of time, mediated by factors of proximal behavior of personal norms and beliefs regarding responsibility and consequences. The role of consumer attitudes is defined by Hansen (2008) as a mediate link between consumer behavior and values, indicating further on a weaker direct link between only values and behavior. This in turn indicates that the relationship between the concepts is hierarchical with values at the lowest level, attitude at the middle level and behavior at the top, indicating the way from forming to performing the outcome.

2.4.2 Consumer Attitudes

Consumers attitudes can be defined to be either positive, negative, or neutral regarding a specific object, formed by experiences and the perceived use of it. Attitudes are viewed as consumers preferences or identification in regard of the object in relation to other alternatives (Amoroso & Lim, 2017). Consumers are, according to Rajagopal (2022), part of different groups that share experiences in products, innovations, values, and views on societal development. Thereby, the collective attitude of a consumer group can influence purchases and the view of society in relation to meeting their needs (Rajagopal, 2022).

The personality traits of the brand associated with the product plays a central role in regards to consumers attitude and thereafter also their behavior towards the brand in the given context (Shobeiri et al., 2015). Marketers are expected to understand that individuals attitudes can impact their purchasing behavior (Cooper et al., 2010). Therefore, assessing and understanding consumer attitudes can provide an extended point of view into consumers intonation, in regards to better help predict the consumers´ behavior (Boostrom et al., 2013).

Technological advancements influence consumers complex behavior and their relation to the company, resulting in a more complex relationship that is difficult to measure. Trends in consumer behavior towards communication and information technology are shaped by their adoption, diffusion and application, but also by attitudes and beliefs (Shareef et al., 2016). Within email-marketing, the consumer attitude is considered to be based on content, similar to a website. This is only valid under the circumstance that the consumer agreed upon receiving an email in the email-marketing campaign (Cases et al., 2010). Further on, trust is one of the main factors influencing consumers attitude in the online environment, and moreover, trust can also impact the attitude in a way that influences the consumers purchase intention (Elliott & Speck, 2005). Attitudes within e-mail marketing are, according to Hsin Chang et al. (2013), linked to beliefs about the consequence of providing permission to receive the email marketing, indicating that the attitude towards the email can be both negative and positive. The degree of attitude and the tone of it can change when the individual receives the message, depending on whether their beliefs and values are aligned with the email message (Hsin Chang et al., 2013).

2.4.3 Attitudes Towards a Given Behavior

According to Akroush and Al-Debei (2015), an individual can have attitudes towards a specific object or a specific behavior. The later one can be defined as individuals' attitude towards engaging in a given behavior, but also their attitude towards the intention to perform the given behavior. When the individuals' attitude towards the given behavior is favorable, this indicates a positive evaluation to performing the action. In contrast, one can also have an unfavorable attitude, indicating a negative evaluation of the action and thereby not being likely to perform it (Akroush & Al-Debei, 2015). The role of attitudes in a behavioral context is a key subject in Ajzen (1991) study of theory of planned behavior. The effects of personal and external factors on attitudes towards a behavior can be either positive or negative. Further on, the behavioral outcome is based on the individuals' personal potential benefits and consequences associated with the behavior. One is not likely to pursue a given behavior, if the consequence of the behavior is considered unfavorable for the individual (Ajzen, 1991). Consumers attitudes and their emotions toward a purchase-related action form their behavior to some extent, together with their beliefs and values. Positive attitudes can impact the purchasing intention positively while a negative attitude can have a negative impact on their purchasing intention (Smith et al., 2008). The following part of this chapter will go into more depth of the theory of planned behavior regarding attitude and behavior, followed by the specific behavior of purchase intention.

2.5 Theory of planned behavior

The theory of planned behavior is based within the social psychology field and aims to explain an individual's behavior in relation to attitude and personality traits (Ajzen, 1991). According to Ajzen (2011), it has been developed to be one of the most commonly used social psychology theories. It is used to predict human behavior within different departments like business, medical sciences, management and accounting (Ajzen, 2011). The theory founded by Ajzen (1991), builds on the single individuals' intention to perform a given behavior, regarding the level of willingness to pursue the action in relation to their effort to fulfill the behavior. Further on, the author states that individuals themselves only have the control to decide whether to perform the given behavior or not, in relation to their opportunities and resources to complete it. The capacity to pursue the given behavior depends on one´s

motivation, indicating the intention, and the ability for the behavioral control (Ajzen, 1991). Further on, Bosnjak et al. (2020) states three types of considerations guiding human behavior according to the theory of planned behavior; first one being the behavioral beliefs referring to the beliefs of likely consequences of the given behavior, secondly the normative believes regards the normative expectations of the common public, and lastly the control beliefs about the presence of factors that may impact the performance. With regards to this it can be established that behavioral beliefs help produce both favorable and unfavorable attitudes, while normative beliefs influence the subjective norm and control beliefs, that can provide a rise in perceived behavioral control (Bosnjak et al., 2020).

Attitude, according to Ajzen (1991), concerns whether individuals have a favorable or unfavorable appraisal of the given behavior, while the second factor of subjective norms refers to the individuals perceived social pressure on whether to pursue the behavior. The last factor refers to the perceived behavioral control, which indicates one´s perceived difficulty to the given behavior. Further on, a key factor in the theory of planned behavior is the role of behavioral beliefs which is defined to be the individuals inner beliefs regarding the consequences of preforming a given behavior that influence their attitude (Ajzen, 1991).

According to Prodanova et al. (2021), the elements of attitudes which are subjective norms and perceived control, are considered to have a positive effect on an individual's behavioral intentions and their actual behavior. Further on, Buchan (2005) states that favorable attitudes and positive social norms towards the behavior, can be insufficient to impacting one's perception of incomplete control. While Bosnjak et al. (2020) decompiles this to some extent, by indicating that the effect of attitude and subjective norm are moderated by perception of behavioral control, suggesting that a rise in the two elements provides a stronger perceived control. Lastly, Lim and An (2021) state that individuals are prone to perform in a specific way, if they believe that the behavior will generate an outcome in line with their values.

Furthermore, a study by George (2004) on purchase intention within the theory of planned behavior clarifies a direct link between perceived behavioral control and achievement, regarding the individual's intention to purchase. The same study states the usefulness of the theory concerning consumers purchase intention in the online environment, in relation to their own personal beliefs, norms and values (George, 2004). Hansen (2008) adopted the theory of planned behavior in the context of online shopping behavior, through investigating the role of

consumers values, attitudes, and behavior in relation to their grocery shopping online. This to further understand consumers behavior in a purchasing environment online, and what factors that influence their behavior (Hansen, 2008).

2.6 Purchase intention

Vuong and Khanh Giao (2020) state that the role of purchase intention in marketing is assisting to understand consumer behavior. Purchase intention has become a key part in consumer behavior for the vendor to understand their consumers in their unique purchasing behavior (Chen et al., 2010). The concept of purchase intention is complicated in its process, according to Vuong and Khanh Giao (2020), since it is considered being connected to the individuals' attitudes, behavior and perceptions. The individuals' attitude and perceptions they have towards the product in question can influence their degree to which they are willing to fulfill the purchase in the future. Marketers believe that a positive attitude and perception towards the product result in a higher chance for the consumer to plan a purchase and thereby also a higher chance of an actual purchase.

The perceived values the individuals obtain can be founded independently of participation in the transaction, while purchase intention is formed under the construct that there is a pending transaction, that can impact the outcome of an actual purchase (Chang & Wildt, 1994). Referring to Murat (2021), the individuals´ identity and lifestyle choices affects their own consumer purchasing behavior in regard to perceived product values and perceived brand values. The study by Spears and Singh (2004) compliments the definition of purchase intention by addressing the value of brand in relation to the individuals' plan to pursue the purchase. Spears and Singh (2004) strengthen the degree of which attitude and behavior correlates in the individuals purchase intention. The individuals' attitudes form the behavior which is predicted and to some extent formed by their specific purchasing intention (Spears & Singh, 2004). Further on, according to Wu (2003), it can be stated that consumers purchasing decisions are strongly influenced by their social, psychological, cultural and personal traits, which are factors that can be considered difficult for markets to impact. Whilst the external factors that influence the behavior consists of demographics, situational, technological, social, and economic ones, where everyone has their own unique blend. The same can be stated by the internal factors that influence consumer behavior, indicated to be beliefs, learning,

motives, attitudes, personality, needs, values, and perception. Lifestyle is considered to be somewhere in between the external and internal factors, where both parties influence the consumers´ behavior in regards to purchasing intention (Wu, 2003).

Personal attitudes towards a specific objective can influence an individual's behavior (Cooper et al., 2010). Consumers can obtain positive attitudes towards an objective or towards a specific behavior. The importance and role of attitude in regard to future behavior is explained in the theory of planned behavior by Ajzen (1991), where attitude is a key factor influencing the intention to pursue a given behavior. In a consumer context, a positive attitude can give rise and influence the degree of purchase intention for the consumer in regards to the objective in a given situation during a specific context (George, 2004). The third hypothesis of this study is based on how purchasing intention is influences by attitude, which in turn is affected by the first two hypotheses.

H3: Positive attitudes towards AI generated content in marketing has a favorable effect on consumers purchase intention.

3. Conceptual framework

The model below shows the relation between the different hypotheses.

Figure 1

Hypotheses

H1: High degree of Observability in AI technology has a positive effect on the individuals´ attitudes towards AI.
H2: High degree of Compatibility in AI technology has a positive effect on the individuals´ attitude towards AI.
H3: Positive attitudes towards AI generated content has a favorable effect on consumers purchase intention.

4. Method

The following section provides a comprehensive overview of the research methodology employed in this research paper, covering the research philosophy and approach, survey design, data collection procedures, and analysis techniques. The method section begins with an explanation on the research philosophy and approach, outlining the underlying assumptions and principles that have guided the research process. Next, the design process of the survey is described in detail. This part highlights the structure of the survey, explains the question types, and provides rationale for item selection. The data collection process is then described, including the methods employed to gather responses, the timeframe of data collection, measures taken to ensure quality and ethical considerations. Lastly, the approach for data analysis is clarified, shedding light on the statistical procedures and instruments used to process the data and extract findings.

4.1 Research Philosophy

The researchers of this study as well as in prior studies are guided by their philosophical view in research. The individuals assumptions implies a specific reasoning formed by one's beliefs, impacting the philosophical standing in ideas and truth (Žukauskas, 2018). The selected paradigm in this study is based on the way that one looks at the positions of theories and explanations provided by theories. Choosing the most applicable paradigm to investigate the phenomena in the study, is essential to analyze the phenomena in a credible and trustful way (Kankam, 2019).

Each unique study is formed by different assumptions as already stated, that together form research paradigms. The paradigm in this case is built on the epistemology approach that is grounded in general assumptions and parameters that are connected with excellent standing to explore the nature of the world. Further on, each philosophical paradigm is coordinated with a specific way to view the world, in this case this is the positivistic approach. The philosophical standing in accordance to the positivistic approach in this research implies an objective way to view the world and the research conducted, by distancing the researchers personal values and beliefs about the subject that has been investigated (Žukauskas, 2018). Further on, the focus within the applied approach has been to obtain objective results through hypothesis testing

and empirical evidence. Fundamental laws and the casual relationships are the main characteristics of the positivistic approach in this study (Goles & Hirschheim, 2000). The hypothesis and relationships that have been established in this study are according to the positivistic approach derived from theories and the developed framework, that have been tested with empirical evidence based on large data sets from the primary data collection. Where the objective truth in regards to the hypothesis and the evidence is the main interest for the researchers (Della Porta & Keating, 2008).

In addition to the epistemology standing defined as the acceptable knowledge of this study, based on general assumptions that have been tested in a way that provides credible data and facts, in an empirical manner, the ontological standing, defined as the nature of reality within the positivistic approach of this study, indicates that the nature of the research is external of the personal values and obtains an objective standing that has been distanced from the researchers' personal view of the reality. Further on, the ontology characteristics of this study are independent of social factors that can implicate the objective standing (Mukhles, 2020). The research approach associated with this philosophical standing will further on be discussed in the next part regarding the research approach.

4.2 Research approach

This study is conducted using a quantitative research strategy to help explore the relationships and fundamental grounds of the consumers attitudes towards artificial intelligence in marketing regarding purchasing intention. The hypothesis developed in the conceptual framework is based on the theories diffusion of innovation and the theory of planned behavior. Further on, quantitative research has been established to be a controlled way to test the hypothesis in a credible manner that is easy to verify in accordance to the philosophical standing (Della Porta & Keating, 2008). The paradigm belonging to quantitative research design is the quantitative paradigm, through an objective approach seeking to understand the causes and facts of social phenomena. Further on, the quantitative paradigm empathizes on the reliability of the data and the resulting outcome (Goles & Hirschheim, 2000).

The structure of this study has followed a strict order in accordance with a deductive approach, where the theories of diffusion of innovation and theory of planned behavior were

first introduced and explained based on their fitness with the subject researched. The theories introduced was applied to find a possible explanation to the research question. Based on the research question and the theories, multiple hypotheses where developed, which are used to investigate the relationships between the concepts (Della Porta & Keating, 2008). While this is a structured process that is typically defined as deductive, the theories applied in this deductive research are applied from both a social science approach (theory of planned behavior) and a more technological approach (theory of diffusion of innovation). Further on, the more common view characterizing deductive research is the process main aim of moving from a more general view to a more specific outcome. The steps of moving from general to particular is the main characteristic in a deductive approach. In this study and the process described earlier, theory is applied to a unique case to obtain results (Woiceshyn & Daellenbach, 2018).

4.3 Research Strategy

4.3.1 Survey design

In order to investigate consumers' attitudes towards Artificial Intelligence and their online purchasing intentions, a web-based survey was created using Qualtrics. The survey was designed using a multi-item approach. To enhance the validity and reliability, multiple items were used to measure each construct. Items for the variables were adapted from existing literature. There are three types of questionnaires used for data collection, including dichotomous (yes/no questions), questions based on levels of measurement (nominal, ordinal, interval, and ratio), and filter or contingency questions (asked only if the respondent provides a specific answer to a previous question) (Trochim & Donnelly, 2007). The survey employed in this study can be considered a combination of all these types. All the variables were measured using a 7-point Likert scale. A total of 20 questions were included in the final version of the survey, including 9 items measuring observability, compatibility, attitude and purchasing intention, 7 questions regarding GDPR, demographics and contact information about the participants, 1 attention-check question and 3 questions connected to the presentation of the promotional message in both parts of the survey.

The first part of the self-reported questionnaire was developed having questions divided into five segments. The first segment consisted of a general description of the study and

information about GDPR and how the data collected as a part of this research will be used. The second segment collected information about the participants in terms of their age, gender, and E-mail address. The first measurement-section of the survey was dedicated to measuring Observability. The construct was based on the questionnaire by Moore & Benbasat (1991) and relevant items were selected and adapted to fit the context of this study. In the original questionnaire, the concept of observability is divided into "visibility" and "result demonstrability", with the latter presuming that the participant is also the user of the technology. Since it is not necessarily the case in this study, the items were selected from the "visibility" part of the scale. The result is a four-item construct with a bipolar seven-point Likert-scale ranging from "strongly disagree" to "strongly agree". The following segment of the survey measured Compatibility. The construct was built based on the same questionnaire as with Observability and consisted of three items that were adjusted to fit with the study. Lastly, the participants were asked to self-evaluate their attitude towards AI-technology, which marked the end of the first part of the survey.

The second part of the survey consisted of two segments, a general information segment and a segment for measurement of purchasing intention. The participants were randomly assigned a promotional message generated using the ChatGPT 4.0 language model, with the prompt describing the name of the fictitious company, the product and that the text will be used in E-mail marketing (see figure 3). The description said that it is either authored by a human, or by an AI-robot, depending on which group the participant got assigned to. The time span between the two surveys varied between six to eleven days depending on when the first survey was answered. The participants received the invitation to the second part of the survey by email.

It is recommended to use validated instruments and translate them into the local language in order to ensure reliable data (Abu-Shanab & Nor, 2013). All the constructs and items used in this study were translated into Swedish to increase likelihood of participation and ensure that all participants are comfortable with the language and can easily understand and respond to the questions.

Figure 2

Constructs and items of the questionnaire

Construct	Items	Source
Observability	• I feel that many people around me believe that AI is used in marketing • I have seen AI used in marketing on many occasions • I feel that AI in marketing is used to a large extent in my environment • To my knowledge, AI is not widely applied in marketing	Moore & Benbasat (1991)
Compatibility	• Using AI in marketing goes against my values • Using AI in marketing does not fit into the way I view the world • I don't think AI should be used for marketing purposes	Moore & Benbasat (1991)

4.3.2 Ensuring quality of the collected data

In order to avoid the consistency effect caused by the order of the questions, the survey was divided into two parts, with participants receiving the second part of the survey five days after they filled out the first. In this case, the risk was identified between the question measuring the participants' attitude towards AI and the question about their purchasing intention towards the product presented in the survey. To stay consistent, a participant might be compelled to report a higher level of purchasing intention, if he/she reported a positive attitude towards artificial intelligence in the previous question. This effect can occur due to participants feeling the need to be, or at least to appear, consistent in their answers (Schuman & Presser, 1996). Moreover, a validation question was used in the survey. An instructed response item was used to ensure that the participants pay attention to the questions. An instructed response item where the participant is instructed on how to answer. It is a tool used to ensure high response quality (Meade & Craig, 2012). Instructed response items are effective in identifying straightlining, speeding, item nonresponse, inconsistent answers, and implausible statements

(Gummer et al., 2021). The participants of this survey were asked to answer “Yes” if they read the item.

4.3.3 Fictitious brand

A fictitious personal electronics brand, INNOCELL, was created as part of the research process. Fictitious brands are used in research to prevent any brand-related associations that might influence participants' assessments due to prior interactions with actual brands (Paydas Turan, 2021). The decision to create a fictitious brand was made to eliminate any preconceptions participants may have had about a real brand, as well as to avoid potential ethical issues associated with using an existing brand. INNOCELL was designed to sell mobile phones directly to consumers through e-commerce. The personal electronics industry was selected because it is gender-neutral and appeals to a broad demographic in Sweden, since it is reported that 98% of the population use mobile phones and that the percentage does not differ between men and women (PTS, 2019). The promotional message included information about the option to order the mobile phones online. This detail was incorporated to prevent the exclusion or alteration of responses from participants who may not reside near a physical store location, ensuring a more representative and unbiased sample for the study. This is particularly relevant for consumers in Sweden, since over 70% of people between 18 and 85 reported that they shop online (SCB, 2021).

4.3.4 Promotional message

The text presented in the survey was generated by Open AI´s ChatGPT-4 language model and its purpose was to serve as content for email marketing for the fictitious company. The promotional message generated by ChatGPT can be seen in Figure 3. A description of the brand was provided to ChatGPT as a prompt in Swedish and it was tasked to create content for email marketing based on it. The output was translated to English and back-translated to Swedish by a bilingual person, before being included in this paper. The original text was then compared to the back-translated text to check for similarity. Back-translation was employed in order to assure the reader that the translation is correct (Maneesriwongul & Dixon, 2004).

Figure 3

Promotional message generated by ChatGPT

Hi!

We are proud to introduce INNOCELL ONE™, our groundbreaking and affordable mobile phone for the conscious consumer. INNOCELL™ is a Swedish startup company, founded by ambitious students from Jönköping International Business School. Our goal is to revolutionize the mobile phone industry by offering high-quality mid-range mobile phones at affordable prices, with a strong focus on sustainability and innovation.

INNOCELL ONE™ combines elegant design with function and style. Choose from five eye-catching colors - black, white, grey, cyan and red - to find the perfect device that matches your personal style and preferences. With our own e-commerce platform, it's easy to buy and have your new INNOCELL ONE™ delivered straight to your door.

But it's not just design and affordability that make INNOCELL ONE™ unique. We are deeply committed to protecting the environment and our planet. By using environmentally friendly materials and green manufacturing processes, we minimize our carbon footprint and create a more sustainable product. When you buy an INNOCELL ONE™, you can feel satisfied that you are supporting a brand that values both the planet and its people.

Do not hesitate to explore our e-commerce platform and discover INNOCELL ONE™, the mobile phone that combines quality, style and environmental concern in a unique way. Make a smart investment for both you and the planet - become part of the INNOCELL™ family today!

Sincerely, The INNOCELL™ Team

The use of large generative artificial intelligence models (LGAIMs), refers to algorithms that generate new data which resembles human-generated content, including audio, code, images, text, simulations, and videos. An example of this is ChatGPT, which is a chatbot developed by the company OpenAI. It is based on a family of large language models and has been refined using both supervised and reinforcement learning methods (Philipp et al., 2023)

Email as a communication tool is more time effective and accessible for both the marketer and the consumer (Chittenden & Rettie, 2003). Email marketing is further on used by companies to connect, provide and receive valuable costumer information that helps companies identify their consumers' needs better (Coussement & Van den Poel, 2009). Marketers use email-marketing in different ways depending on the consumer, where push emails are sent out to multiple consumers to achieve a specific objective. The other type of email marketing is automated emails, that are triggered to specific actions or events by the

consumer (Hannah et al., 2016). Email-marketing is a common communication tool for e-commerce, where the interaction between the consumer and the company is limited. Moreover is email marketing beneficial for the company to help improve and deepen the consumer relationship, because it is considered more personal (Reimers et al., 2016). Further on, research also shows that e-mail marketing interaction with consumers can help increase sales for e-commerce businesses (Dawson & Kim, 2010).

4.4 Data collection

4.4.1 Sampling technique

Due to access, time and financial constraints, a non-probability sampling strategy was applied in this study, which means that the probability of any member of the population being included in the sample is unknown (Saunders et al., 2016). Convenience sampling was used, meaning that the sample is selected based on how easy it is to gain access to the potential participants. This sampling method decreases the probability of data to be representative of the population (Gillham, 2007).

The web-based questionnaire was distributed first by sharing the link on Facebook and through email. There are advantages to using web-based surveys which, considering the time and economic limitations of this study, outweigh the disadvantages. These include for example low cost, both in terms of time and money and quick access to bigger samples (Gillham, 2007). On the other hand, acquiring responses through posts on social media may lead to sample bias and over-representation of a particular viewpoint if, for example, participants invite their peers with similar interests to the survey (Ball, 2019). To combat that, the survey was shared in social media groups disconnected from the research topic. For instance, groups providing general information and news about the participants' local areas.

The answers for the first part of the survey were collected between the 24th and 30th of March, and the answers for the second part between 5th and 11th of April. The distribution strategy consisted of posting the survey in various Facebook-groups and collecting participants' email addresses to send the second part of the survey. To avoid making the sample too homogenous, the groups in which the survey was promoted were selected based

on factors that are unrelated to the topic of this research. For example, groups with general information and news about the local area where the participants live, were used in multiple instances. This was done to capture the widest range of perspectives possible. In addition, the survey was sent to friends and acquaintances of the researchers.

A total of 114 participants successfully completed the first part of the survey. The age distribution of these participants was as follows: 28 participants were aged between 18 and 30 years, 16 were between 31 and 43 years, 27 were between 44 and 56 years, 6 were between 57 and 59 years, 27 were between 60 and 72 years, and 10 were above 73 years. Regarding gender identification, one participant identified as non-binary, 47 as women, 65 as men, and one as "other." The choice of not focusing on a particular age group was made to capture the widest range of perspectives possible.

Out of 324 individuals who initially started the survey, 210 were removed from the analysis due to incomplete responses, failure to provide valid email address, failure to pass the validation question, or not accepting the GDPR-terms. This concludes to 114 respondents that were accounted for in the statistical analysis of the first part of the survey in this study. In the second part of the survey, 109 participants completed the survey; however, 38 of them were removed from the analysis as they either did not finish the first part or provided an incorrect email address in the first part and did not receive the invite for the second. Consequently, a total of 71 participants completed both parts of the survey and were included in the analysis for the second part of the survey. It is recommended that at least 15 completions are collected for every independent variable in the questionnaire (Stevens, 1996). In the case of this study, there are 2 independent variables in the first part of the survey, and one in the second. That means that at least 45 completions are required, which was fulfilled. The first questionnaire did receive feedback from people that did the survey through the link published on the social media app Instagram that had problems with Instagram’s web browser where they tried to complete the survey, this could be the reason for some of the respondents that did not complete the survey.

4.4.2 Primary data

In this research, the survey strategy is employed. It is commonly used for exploratory and descriptive research and is usually associated with a deductive research approach. This

strategy is prevalent in business and management research and is often utilized to examine the thoughts or behaviors of a population concerning a specific issue (Saunders et al., 2016). As this study is quantitative, deductive, and falls within the scope of business research, the use of this approach is deemed appropriate. The quantitative method used in this study in the second part of the questionnaire is of experimental design, to test the variables and the relationship between attitude towards AI in marketing and purchase intention. In accordance with the factors that signatures an experimental study, of true character there must be a treatment, a control and measured and obtained under random assignment. Where the treatment group was the ones that were told it was AI indicated as the treatment while the group that were told it was copywriter who written the text was a control group indicated as control. Where each participant where randomized into which group, they would belong to. This was then measured and analyzed based on the attitude that was measured in the first questionnaire, to investigate the third hypothesis (Coleman, 2019). The choice to do an experimental study in the second questionnaire was to investigate the treatment (AI) if that would impact the purchase intention, and thereafter test the results in relation with the attitude towards AI from the first survey.

The questionnaire, a widely used data collection technique within the survey methodology, is employed in this study. This method is effective for gathering data suitable for quantitative analysis. In this research, self-completed, web-based questionnaires are used. In self-completed questionnaires, respondents record their own answers (Saunders et al., 2016). Participants in this study accessed the survey digitally through a link that was included in the social media posts.

There are disadvantages connected to web-based surveys. For example, inadequate attention to detail of the questions can lead to them being misunderstood, which cannot be corrected after the participant finishes the survey (Gillham, 2007). Therefore, piloting was employed in this study to pick up questions or wordings that are misleading or hard to understand. This allows researchers to increase validity and reliability of the questionnaire (Saunders et al., 2016) as well as detect and correct mistakes (Gillham, 2007). Before the participants were invited to partake in the survey, a pilot survey was sent out and completed by 15 participants. After receiving feedback, some minor changes were made to the questionnaire in terms of wording, spelling errors and measurements. When the corrections were done, the survey was distributed through posts on social media.

This study involved usage of multiple software tools to analyze the survey data. A cloud-based survey tool Qualtrics was used to create the questionnaire, and once the data was collected, it was exported to SPSS, a data analysis software. To match responses from the first and second part of the survey, Google Sheets was used, and matching was based on the participants' email addresses provided in both parts of the survey.

All of the tables, labels and content developed in the process of data analysis were translated to from Swedish to English when pasted into this paper. Forward-only translation method was applied for translations of the tables, which in theory could have an impact on translation adequacy (Maneesriwongul & Dixon, 2004). Since both researchers in this study are proficient in English, it was still deemed as suitable to use forward-only translation for output of data analysis.

4.5 Ethics

4.5.1 Research ethics

Ethical considerations in scientific and quantitative research, concerns the researcher's honesty and competence but not concludingly. Within quantitative research according to Panter and Sterba (2011), there are five ethical standards of beneficence, doing no harm, justice, integrity and confidentiality that give guidance on how to obtain ethical standards in accordance to ethical norms within social sciences. Similar ethical behavioral guidance have been developed in another study to obtain the ethical conduct and norms developed within the field of social sciences in western countries (Bhattacherjee, 2012). Where voluntary participation and harmlessness have been established as ethical behavior, indicating that participants are aware of that the participation is voluntary in the questionnaire and that they can withdraw their participation at any time without consequences or harm. In addition, it can be of unethical guidance if the participants received advantages if participating in the study that would have implemented their own free will. This standard of voluntary and harmlessness has also been applied in GDPR 2017 (Team, 2017), in the sense of individuals free will to give consent on handling their data, and that there is an option to refuse participation with no repercussions. Further on must the information regarding what the consent obtains be exact and clear for the participants. This has been applied and established

in a trustful manner in this study by having one question with information regarding information of why to collect the data, one for giving consent of processing it and one regarding that the participation is of their own free will. This to ensure that the participants understand and are aware of what they are giving consent for and under what circumstances. This has been defined by Bhattacherjee (2012) as important to disclose the purpose of the study, outcomes and possible benefits obtained from the result.

Continually, ethical behaviors regarding anonymity and confidentiality are of importance according to Bhattacherjee (2012), where anonymity enquires that the readers of this report cannot identify responses with a specific participant of the study. Confidentiality, privacy and self-determination, that has been applied when conducting the survey by providing the participants with information and not disclosing the personal information in the study connecting the data to an individual (Panter & Sterba, 2011) .In addition, is confidentiality of high importance when anonymity is not achievable, for example in this study to send out the second part of the questionnaire to the participants their email addresses were collected in the first survey. Thereafter were the answers traced and matched based on email addresses, to connect their standing of attitude in the first questionnaire with regards to their resulting purchase intention tested in the second questionnaire. Where email addresses according to GDPR is defined as personal data since is can be used to identify a natural person. To ensure confidentiality when processing personal data and to inform the participants on how to ensure a secure data protection when processing personal data, has the data only been available for the researchers and the participants were informed that the data wad to be deleted when the research study is finished. In accordance to GDPR is not ethical or legal to obtain personal data outside the what concerns the consent or when the data is no longer of use in the study (Team, 2017). Indicating in this study that the personal data of email addresses is deleted when data is processed, applied and the study is finished. This in accordance with the positivistic approach where moral considerations guide, and the overall accepted code within ethics is based on informed consent, confidentiality, anonymity and accuracy (Perry, 2007).

In addition, have Bhattacherjee (2012) provided guidance in the importance of ethical and moral reporting and analyzing. That result needs to the accurate in accordance with the answers of the survey, indicating that the results should not be manipulated to fit the hypotheses, but rather be analyzed in accordance with the accuracy of the answers. Indicating that it is important to use the results in the accurate manner, to test the hypothesis this in

accordance with the positivistic approach. Further on is misrepresenting the results also considered unethical, and that the researcher of this study follows this and reports and analyzes the results in an open and honest manner. This is also important to obtain the benefits of the research and developing the scientific community within social sciences. These ethical standards are according to Panter and Sterba (2011) judged by the data analytics and reporting standards of transparent, informative, accurate, grounded and precise. In this study these ethical standards are of high importance to incorporate a study of high ethical considerations to establish a trustworthy and that the researchers of this study can differ between ethical and unethical conduct when developing this study (Edwards, 2020). This research focused on applying and achieving these standards, and continually obtain a study characterized as true and valid with unbiased inferences in the representation of the sample. In quantitative research obtaining unbiased inferences is crucial to sustain trustworthiness.

In the sense of quantitative research, it is important to represent a sample population in the quantitative data collection that obtains to decrease the probability of bias data collection. This can be achieved by randomly assigning people to the study or assigning people in a randomized manner to experimental conditions (Zyphur & Pierides, 2017). In this study this has been achieved partly through assigning the population sample in the study to different experimental conditions randomly. Further on the researchers of this study has considered a large sample population regarding increasing the probability by decreasing false inferences and increasing the focus on trues. The large sample size was able to achieve through the internet and conducting a study independent of geographical location within Sweden increased the sample population and the diversity within on that department.

4.5.2 Ethical implications

The sample in this study was broad and accessed using a web-based survey. It was originally published within the networks of the researchers. This can according to Zyhpur & Pierdes (2017) impact the perceived ethical morality in regard to bias sample population and thereby impact the ethical standards applied during the data collection. The same study by Zyphur & Piereides (2017) considers the important ethical implications in quantitative research, such as uncertainty in sampling and measurements, followed by data analysis regarding parameter estimation.

In addition, by distributing this survey through the researcher's internet-based network online it became accessible beyond the established social network. While the distribution part concerns positive aspects, this survey also addresses the ethical consideration regarding privacy concerns. This type of ethical concern has been discussed more as more of our personal data is gathered on the internet and has become a concern for many people. This can impact the participation of online surveys, compared to face-to-face surveys (Evans & Mathur, 2018). In this study, the ethical concern in online surveys has been considered deeply in relation to offline. The data has been gathered accordingly to General data protection regulation (GDPR) and the participants are provided with information regarding why we need their email address, which is to distribute the second part of the survey. In this specific study, distributing the survey online provides a higher ethical standing than offline by the ability to reach a wider sample population and providing the participant with information.

4.6 Validity and reliability

The view of reliability in this study is formed to a high degree on the type of data collection selected to investigate the phenomena. In this study, a questionnaire is used and split into two different parts with a time frame in between to obtain a higher reliability standard. The first part of the questionnaire is focused on the factors that impact attitude and the second part is focused on the attitude in relation to a given behavior. This type of questionnaire, when it is developed into two different parts can be considered to be similar to what according to Kelley (1999) is explained as parallel forms. Parallel forms are characterized by when two different instruments are developed to be similar in the construct but different in what the questions are. In this type of parallel forms as well as in alternative forms, there are several days between them, generally between 7 and 14 days until the next instrument is studied. This is done to address the memory issues and ensure a high level of reliability (Kelley, 1999). While in our study the two instruments are more different to each other since the measuring is different in different stages. The two different questionnaires were sent out with several days apart to split the attitude construct from the purchasing intention construct to conclude that the answers are separated, which is done to ensure reliability and avoid consistency effect. The reliability level in this study has been tested with Cronbach Alpha to ensure internal consistency within the variables and an overall validity (Hair et al., 2011). The results of the tests are provided and interpreted in the following chapter.

This research has provided robust and replicable results by obtaining internal validity, which required simplification and abstraction to increase the tractability of the research (Schram, 2005). In this research, internal validity has been referred to the ability to draw confident casual conclusions from the research. In contrast, external validity has been defined as the ability to generalize from the research conducted, where the context is different from the current experimental research conducted (Loewenstein, 1999). This research is conducted in an experimental design within the economic department of social sciences. The notions of both external and internal validity have been defined in the last decades to be a central indicator of the worthiness of the experiment. If an experiment was not considered internally valid, then the treatment tested in the experiment would not be considered to have an impact on the effect of observation. Continually, if the experiment is not considered to have external validity, then the results are not considered to be applicable outside the unique settings of the experiment (Jiménez-Buedo & Miller, 2010). Further on, in this study as well as in earlier research conducted, internal validity has a higher importance within experimental research compared to external validity, that comes to be the cost (Jiménez-Buedo & Miller, 2010; Loewenstein, 1999; Schram, 2005). In this research, internal validity has been of importance and is demonstrated by, in accordance to Loewenstein (1999), randomly assigning the participants to different treatments for example. This tradeoff has been to some extent identified in this research as well at the cost of obtaining high internal validity has a lower external validity become the result. That has been applied at to some extent of the cost of external validity outside the study, that the findings are generalizable outside the context of this study (Jiménez-Buedo & Russo, 2021). It cannot be concluded that the outcome of this study regarding attitude of Swedes towards AI-usage in marketing, at this time can be considered applicable in a country with different political and technological standing and during a different time.

5. Results

This chapter contained a description of the data collected in the questionnaire and the resulted data analysis. The chapter started with descriptive analysis of the first questionnaire, then introducing the data of the hypotheses about compatibility and observability. This has been continued with hypotheses testing and introducing the second part of the questionnaire, with regards to the third hypothesis about the relation between attitude and purchase intention. The results have been investigated in relation to the hypotheses developed.

5.1 Descriptive statistics

The statistical results were introduced with a descriptive statistical analysis of the participants, to provide an insight of the participants. The first descriptive data where developed based on the first survey and the fourth question regarding age.

Table 1

Descriptive statistics- age

Age		Frequency	Percent	Valid Percent	Cumulative Percent
	18-30 years old	28	24,6	24,6	24,6
	31-43 years old	16	14	14	38,6
	44-59 years old	33	28,9	28,9	67,5
	60-72 years old	27	23,7	23,7	91,2
	73 years old and above	10	8,8	8,8	100
	Total	114	100	100	

The table above showed the age distribution between the 114 respondents, indicated that 24,6 % of the respondents where in the age of 18-30 years old and thereby the biggest age group of respondents in the first survey. Followed by the age groups of 60-72 years old and 44-59 years old. The age group of 73 and above only contained 8,8% of the total of 114 respondents indicating the smallest group.

Followed with descriptive analysis about the participants gender in accordance with what they identify with. This data was collected based on question five of the survey.

Table 2

Descriptive- gender

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Nonbinary	1	0,9	0,9	0,9
Woman	47	41,2	41,2	42,1
Man	65	57	57	99,1
other	1	0,9	0,9	100
Valid Total	114	100	100	

The biggest gender group in this study was men that obtained a total of 57% of the total 114 respondents. Followed by women that obtained 41,2% of the total 114 respondents. While only about 0,9% selected nonbinary being one participant and the same amount identified with others.

5.2 Reliability analysis

In this study, Cronbach Alpha has been used to ensure that the reliability level of each independent variable is in accordance with the recommended level. According to Hair et al. (2011) Cronbach alpha should be at least 0.70 to indicate a standard value of reliability, while values of 0.60 and lower is considered to indicate a lack of internal consistency and thereby reliability. In contrast, within some cases have lower values of Cronbach Alpha been sustained because of the items contribution to validity (Hair et al., 2011). The test of Cronbach Alpha has been widely used within organizational and social sciences research to measure reliability (Obermiller et al., 2005). Following tabels have been conducted to provide statistical data of the Cronbach Alpha of the first questionnaire. The Cronbach Alpha have been accompanied using a confidence interval of 95% (sig.=0,05) that have been applied as standard in SPSS statistical tests.

Table 3

Reliability analysis- Observability

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0,664	0,664	4

The above table showed the reliability statistics of variable Observability (α= 0,664) after the fourth item was reverse coded in SPSS. That according to, Hair et al. (2011) was below the acceptable level and indicated a low level of internal consistency and reliability, indicated that the variable needed to be overlooked for each item.

Table 4

Reliability analysis- Observability all items

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q1	12,0877	17,621	0,455	0,218	0,596
Q2	12,4035	13,376	0,607	0,548	0,472
Q3	12,2105	13,92	0,605	0,529	0,477
Q4	10,8772	19,649	0,172	0,039	0,767

The above table showed each items Cronbach Alpha within the Observability variable, and whether the Cronbach alpha for the variable would have improved if an item was deleted. The results showed that deleting Q4 item would have resulted in a higher value for the variable of (α=0,767). According to Hair et al. (2011), this indicated that the internal consistency of the variable would be higher if Q4 was deleted. Additionally, it was observed that for the Q4 item ($\rho_{XiR_{(i)}}$= 0,172), which was below 0,3 and was significantly lower compared to the rest, providing additional argument for its removal (Pallant, 2005).

The variable of Observability was adjusted, and the fourth item was taken away to obtain a higher Cronbach alpha and a higher level of internal consistency (Hair et al., 2011). After taken the fourth item away, the reliability analysis was performed once more and is presented below.

Table 5

Reliability analysis – Observability 3 items

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0,767	0,762	3

Table 9 presented the reliability statistics of the variable Observability analyzed using three items (α=0,767). The new value was according to Hair et al. (2011) considered to be an acceptable level that indicated internal consistency in the variable. The statistics show evidence that deleting the fourth item increased the reliability of the independent variable, and thereby the overall reliability.

Table 6

Reliability analysis - Compatibility

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0,895	0,896	3

The above table showed the reliability statistics of the independent variable Compatibility that contained three items in the questionnaire. The Cronbach Alpha of the variable Compatibility was (α=0,895) which according to Hair et al. (2011) indicated a high level above the acceptable one of internal consistency and reliability within the variable.

Table 7

Reliability analysis- Compatibility all items

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q1	6,8333	13,45	0,854	0,732	0,799
Q2	6,5614	13,558	0,776	0,642	0,864
Q3	6,8509	13,562	0,752	0,591	0,886

The above table represented the Cronbach Alpha for each of the three items in the compatibility variable and whether the overall Cronbach alpha would have been improved if an item was deleted. This compared with the Compatibility variable α=0,895 with all items, that deleting any of the three items would have resulted in a decrease in the Cronbach alpha value.

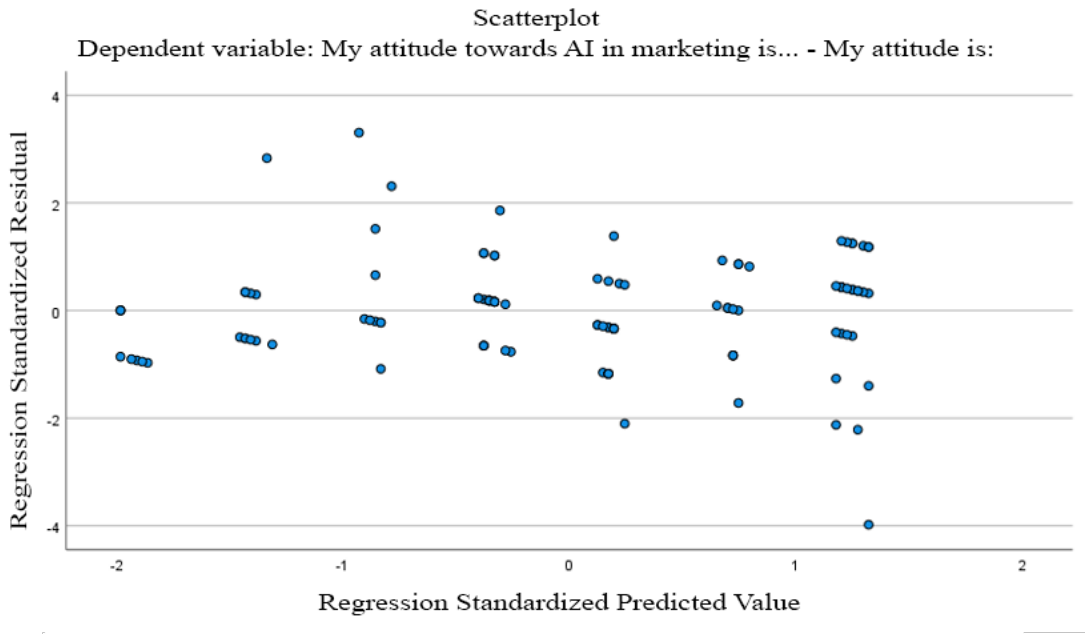
The following tables presented the reliability statistics of the independent variable Observability that contained four items. The last and fourth item was reverse questioned, which mean that the Likert scale in relation to the item was reversed. The values then had to be recoded to obtain the correct values in relation to the rest of the items in SPSS.

5.3 Homoscedacity and Multicollinearity

To assess goodness-of-fit of the linear regression model, the data was checked for linearity, normality, homoscedasticity, and absence of multicollinearity. The assumptions are required to be met for the model to produce reliable results (Casson & Farmer, 2014).

Figure 4

Regression analysis- Homoscedacity

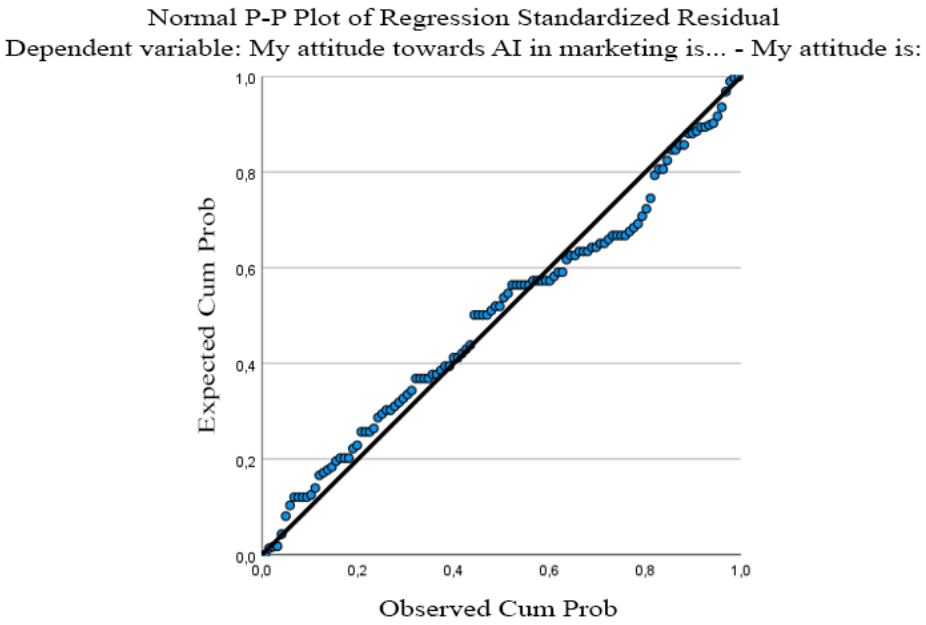


Linearity and homoscedasticity were checked by visually inspecting the scatter plot of the residuals. The scatterplot displayed no clear pattern, implying that the variance of the residuals is constant, or in other words, homoscedasticity. No curvature of the points on the scatterplot could be observed, meaning that the linearity assumption holds. (Pallant, 2005).

Multicollinearity was checked using VIF values that can be observed in Table 11. A value below 10 on all variables indicates that the assumption of absence of multicollinearity is met (Pallant, 2005).

Figure 5

Regression analysis- Multicollinearity



The normality assumption was checked using a P-P plot. It can be observed that the data points approximately followed the normality line, implied that the assumption was met (Pallant, 2005).

5.4 Hypotheses Testing H1 and H2 with Linear regression analysis

The multiple regression analysis was applied to investigated the relationship with independent variables and a dependent variable (Morgan, 2004). The regression analysis assumes that there was normality and a framework to be tested based on a theoretical basis. In marketing, the regression analysis has been applied to identify variables that are most impactful (Mesquita & Kostelijk, 2022). In the first questionnaire based on H1 and H2, the dependent variable was Attitude towards AI in marketing and the independent variables were Observability and Compatibility.

Table 8

Variance – Compatibility and Observability

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,690[a]	0,476	0,467	1,16253

Notes:
Predictors: (Constant), Compatibility, Observability
Dependent Variable: Attitude

The value (R^2=0,476) indicated according to Morgan (2004) that 47,6% of the variance in the dependent variable "Attitude towards AI in marketing" can be predicted and explained by the independent variables of Compatibility and Observability.

Table 9

ANOVA- Compatibility and Observability

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	136,477	2	68,239	50,492	<,001[b]
	Residual	150,014	111	1,351		
	Total	286,491	113			

Notes:
Dependent Variable: My attitude towards AI in marketing is….- my attitud
Predictors: (Constant), Compatibility, Observability

The above ANOVA table showed (F= 50,492), while (sig.=0,01) was below (sig.= 0,05) that according to, Mesquita & Kostelijk (2022) indicated that at least one of the independent variables was considered to have a statistically significant influence on the dependent variable attitude towards AI in marketing.

Table 10

ANOVA Coefficients and Collinearity- Compatibility and Observability

Coefficients

Model		Unstandardized Coefficients B	Coefficients Error Beta	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	VIF
1	(Constant)	6,022	0,334		18,012	<,001		
	Observability	0,026	0,063	0,029	0,418	0,677	0,982	1,019
	Compatibility	-0,579	0,059	-0,686	-9,892	<,001	0,982	1,019

Notes:
Dependent Variable: My attitude towards AI in marketing is….- my attitude is:

Table 12 showed the regression coefficient and the slope of the regression line, that indicated the correlation between the dependent and independent variable. The regression analysis predicted different variables, where (Sig<0,05) was considered to indicate that the independent variables predict the dependent variable (Morgan, 2004). The independent variable Observability obtained a (Sig.=0,677), which showed that the variable does not have a statistically significant impact on the dependent variable. Continually, the independent variable of Compatibility obtained (sig.< 0,001), indicated that Compatibility has a statistically significant effect on the dependent variable.

Based on the results presented the outcome in relation to the hypotheses tested are presented below.

H1: High degree of Observability in AI technology has a positive effect on the individuals´ attitudes towards AI generated content in marketing. - not supported

H2: High degree of Compatibility in AI technology has a positive effect on the individuals´ attitude towards AI generated content in marketing. – supported

5.5 Descriptive Statistics Second Questionnaire

The following tables investigated the third hypothesis regarding the dependent variable “Purchase intention” and the independent variable “Attitude towards AI in marketing". In the second part of the questionnaire participants were split randomly into two groups, one group

was told the advertising message was written by a human copywriter and the other half was told it was written by AI. In this part there is only one independent variable and one dependent variable, which implies, according to Mesquita & Kostelijk (2022), that a simple linear regression analysis is used.

Table 11

Descriptive

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound	Upper Bound	Minimum	Maximum
0	36	3,4444	1,68089	0,28015	2,8757	4,0132	0	7
1	35	2,9143	1,35845	0,22962	2,4476	3,3809	0	6
Total	71	3,1831	1,54282	0,1831	2,8179	3,5483	0	7

The above table showed the randomized split between the groups, (N=35) participants were told the text was written by AI, while (N=36) participants were told the text was written by a human copywriter. The mean values revealed that the purchasing intention, as measured on a seven-point bipolar Likert scale, (M=3,4444) for the AI group and (M=2,9143) for the copywriter group suggesting a minimal difference between the two groups concerning their purchasing intention.

5.6 Hypothesis testing H3

Table 12

One-way ANOVA – purchase intention

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4,988	1	4,988	2,129	0,149
Within Groups	161,632	69	2,342		
Total	166,62	70			

The table above displayed (Sig.=0,149), which exceeded (sig.>0,05), meaning that there is no significant difference in purchasing intention between groups after reading the promotional message (Morgan, 2004). Indicated that being told it was AI did not significantly impact participants' purchasing intention negatively compared to being told it was a copywriter.

Table 13

Variance- Attitude

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,446[a]	0,199	0,176	1,526

Notes:
Predictors: (Constant), Attitude AI

The adjusted R square according to Morgan (2004) showed how much of the variance in the dependent variable that was explained by the independent variable. Within the group that were told that the text was written by AI in the second questionnaire, 17,6% of the variance in the dependent variable of purchase intention can be explained by the independent variable attitude towards AI in marketing.

Table 14

ANOVA – purchase intention and attitude

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19,701	1	19,701	8,459	,006[b]
	Residual	79,187	34	2,329		
	Total	98,889	35			

Notes:
Dependent Variable: Purchase intention AI
Predictors: (Constant), Attitude AI

This result (Sig.=0,006) indicated, according to Mesquita & Kostelijk (2022), that the independent variable of Attitude towards AI in marketing does have a significant impact on the dependent variable purchase intention since (sig.<0,05) within the group that where told the text was authored by AI.

Table 15

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1,211	0,809		1,496	0,144
	Attitude-AI	0,499	0,172	0,446	2,908	0,006

Notes:
Dependent Variable: Purchase intention - AI

The table showed (B=0,499) indicated the expected change in the dependent variable purchase intention for each one-unit increase in the independent variable Attitude towards AI in marketing (Pallant, 2005). This showed that there was a moderately positive relationship between the participants' attitudes towards AI and their purchasing intention.

The (sig.=0,006) was lower than (sig.=0,05) indicated a statistically significant relationship between the dependent variable purchase intention and independent variable attitude towards AI in marketing. This mean that attitude towards AI in marketing was considered to have a favorable effect on purchase intention, indicated that the hypothesis can be supported (Morgan, 2004).

The above table and statistical results, show the outcome with regards to third hypothesis as presented below.

H3: Positive attitudes towards AI generated content in marketing has a favorable effect on consumers purchase intention - supported.

6. Discussion

In the discussion part of this paper, the findings are discussed that was revealed in the analysis of the data collected in this research. The purpose of this study was to examine the potential relationship between the concepts of Compatibility, Observability, and attitude towards AI in marketing. The concepts were derived from existing and previous research, and evaluated using questionnaires from which the items were adjusted to fit the context. This chapter is divided into sections, focusing on each of the concepts Compatibility and Observability and their effect on attitudes. Further on, the impact of revealing the text's source (AI-generated vs. human-generated) on participants' purchasing intentions is investigated.

6.1 Observability

This section has focused on the findings related to Observability in the context of Diffusion of Innovation Theory, defined by Rogers (2003) as the degree of visibility of an innovation and the extent to which its benefits can be observed and communicated within a social system. The findings from the first part of the questionnaires showed that based on the significance value for Observability was (Sig.>0,05), the relationship that exists between observability and attitude towards AI in marketing is statistically non-significant. This was inconsistent with research done by Ahn & Park (2022) and Al Breiki et al, (2022), in which observability was found to have a significant effect on attitude in both cases.

The lack of a statistically significant effect indicates that the mere visibility of the benefits and usage of AI in the context of marketing was not a strong determinant for forming positive attitudes in the public. In other words, whether usage and benefits of AI in marketing could be observed or not, had no effect on their attitude towards the technology. Individuals' attitudes are formed by their values, beliefs, and experiences (Smith et al., 2008), which in this case, are affected by what has been communicated in the sense of benefits of applying AI in marketing. While the use of AI in marketing can be visible, it does not mean that the benefits have been observable or clearly communicated within the social context of the consumer to the extent that it can be considered observable. Additionally, it could be possible that even if the technology would be visible and present in the public discourse, media and advertising,

the benefits and implications of its use may be hard to comprehend. This could potentially explain why increased level of Observability does not lead to a more positive attitude as demonstrated in this study, since the public may not understand what usage and benefits of the technology means.

Observability has in this study been found to have a non-significant relationship with attitude towards AI-usage in marketing. This result can potentially be explained through the concept of technological skepticism. Previous research has found statistically significant relationships between skepticism and attitude (Kwon & Ahn, 2021; Obermiller et al., 2005; O'Shaughnessy et al., 2022). Skepticism refers to the inclination of an individual to question and have reservations about different subjects (Obermiller & Spangenberg, 1998). It could be the case that individuals with high levels of tech skepticism have already formulated a somewhat fixed attitude towards AI, and this predetermined attitude could be somewhat resistant to change, regardless of the visibility and demonstrated benefits of the technology in society. Essentially, their skepticism might overshadow the observability of AI. Hence, the role of tech skepticism could potentially mitigate the impact of observability, which provides arguments for investigation in future research. Furthermore, individuals tend to endorse explicit self-evaluations that are consistent with their cultural context at the present time, while their unconscious, implicit self-evaluations reflect their long-term interpretations and beliefs (Hetts et al., 1999). This phenomenon is called the bandwagon effect, which is defined as the tendency of people to conform to the opinion of the majority, even if it contradicts their own viewpoints and beliefs (Bindra et al., 2022). Potentially, if an individual has the perception that most of the society are skeptic to technology, he or she might report a more negative attitude, even if it is not consistent with their own personal views and their reported score on observability, thus affecting the results.

Additionally, the nature of AI as an innovation could also contribute to the lack of a significant relationship between the concept of observability and attitude towards artificial intelligence. AI is often embedded in different applications and systems, working in symbiosis together with other types of technologies, which makes a direct observation more challenging. The participants in this study could, because of the lack of clear observability in AI, have a hard time identifying it compared to other technological developments, that in accordance with the history was easier to identify. In the past, the benefits of agricultural technological innovations were easier to identify and in many cases could be felt and touched

(Rogers, 1962). With a technological innovation that is not touchable but rather integrated within other technologies that an individual already is familiar and considers as advanced, observing the benefits of artificial intelligence specifically can be hard. When the obtained benefit of AI-usage is as observable as a technological innovation in agriculture, the effect on the individuals' beliefs and perceptions would potentially be higher. It could be the case that the benefits of AI-usage within marketing that an individual can experience today are not obvious or identifiable enough.

Commonly, the evaluation of Observability is focused on the end users of the innovation, who can observe and appreciate the direct benefits of the technology. This is exemplified in the research conducted by Min et.al (2019) where observability was shown to positively affect perceived usefulness and ease-of-use. In another study, observability was shown to positively affect medical doctors' and nurses' adoption decisions regarding smartphones (Park & Chen, 2007). Furthermore, as mentioned in the methodology part of this study, the questionnaire developed by Moore & Benbasat (1991) that the construct and the items in this research were adapted from, included questions that presumed that the participant is also the user of the technology. In contrast, this research focused on usage of generative AI in marketing, in the consumers sense, with email marketing being used as a marketing tool. This meant that the individual only observes the outcome of the AI-usage in marketing and not the process of it being used to for example, generate a promotional message. This could mean that the content of the message has an impact on the obtained visibility of the AI technology being used. If the content of the message included the benefits of the application of AI, then the observability for the innovation would be greater. This could then imply if the use of AI-technology was more identifiable, observability would have a positive impact on the individual's attitude. This would then be consistent with previous research that have found a positive and statistically significant relationship between the variables (Ali et al., 2019; Min et al., 2019; Moore & Benbasat, 1991; Park & Chen, 2007).

6.2 Compatibility

In this study, the effect of the compatibility element in the diffusion of innovation theory has been investigated regarding its influence on attitude. Compatibility refers to how well the technological innovation aligns with one's personal social values, experiences, and beliefs.

The theory suggests that the more compatible these are with the technological innovation the more accepted it is by the individual (Rogers, 2003). Previous research have found that the degree of compatibility obtained by an individual has a positive effect on the behavioral intention (Nordhoff et al., 2021) and attitude towards technological innovation (Lin et al., 2010). This formed the foundation of the second hypothesis of this study, that the more aligned usage of AI in marketing was with the participants beliefs and values, the more positive attitude they would display towards the technology.

Supporting evidence regarding Compatibility having a significant and positive effect on attitude towards AI in the marketing context was found in this study (sig.<0,05). The results are consistent with previous research where compatibility was found to have a positive effect on attitude in the context of mobile banking (Lin, 2011), and anti-spyware adoption (Lee & Kozar, 2008). The findings of this research imply that a higher degree of compatibility of usage of AI in marketing with the individuals' values and beliefs fosters a more positive attitude towards the technology. Therefore, an effort to associate usage of AI in marketing with values and beliefs commonly present in a society may prove useful in fostering a more positive attitude towards the technology in the eyes of the public. This result also suggests that individuals who appreciate the benefits of AI usage in marketing may perceive it as in line with their lifestyle and inclinations. This means that for instance, a company looking to engage and retain consumers could focus its communication on utilization of AI technology and its associated benefits in their marketing efforts.

Building on the theoretical ground that the attitude of an individual is formed based on his/hers values and beliefs according to Amoroso & Lim (2017), the results of this study further facilitate the compatibility element of the diffusion of innovation theory as an adequate concept to consider when developing new technologies. If the innovators are concerned with the public's attitudes towards their innovation, it may be of use to consider the compatibility of it with values and beliefs present in the society of the individual. The results of this research suggest that if the public are convinced that the innovation is compatible with their lifestyle and inclinations, their attitude towards it would improve, resulting in a reduced threshold regarding the adoption of the innovation. This in turn would potentially mean that the benefits of the innovation to the society would manifest quicker and at a lower cost for the innovator.

These findings provide support for the earlier developed research regarding the relationship between compatibility and attitude, previously displayed in the context of mobile banking sector (Lin, 2011) and anti-spyware adoption (Lee & Kozar, 2008).

6.3 Attitude and purchase intention

Attitude in this research has been defined through various research papers that have attempted to define the concept of attitude. What can be concluded to describe and form this paper is the definition that our personal attitudes have been developed by our values and beliefs developed during a long period of time (Roos & Hahn, 2017). The individuals' values and beliefs are to some extent influenced by the cultural and social context that they identify with (Boer & Fischer, 2013). In this study, Attitudes are measured towards the use of AI in marketing, influenced by the specific individuals' values and beliefs formed by their social and cultural construct.

The results indicate small differences with regards to the purchase intention between the groups of those that were told the marketing text was generated by AI and those who were told it was a copywriter. Continually, it can be stated that when comparing the groups of AI and Copywriter, the difference between the groups in their purchase intention were not statistically significant. This can indicate that consumers do not think or are influenced by who or what writes the marketing campaign if it is AI or a copywriter. The individual consumers purchase intention can in accordance with the argument indicate that the purchase intention is not influenced by how the promotional message is generated by but rather the quality of it in the eyes of the consumer. The goodness of fit with the message with regards to the individual values and beliefs could according to Roos & Hahn (2017) influence the attitude, in this case towards the use of AI in marketing. The result of this study shows that level of attitude has a positive and statistically significant effect on purchase intention (sig.<0,05) within the context of AI in marketing using email marketing as the marketing tool. This was demonstrated by examining data provided by the group of participants that was told that the marketing message was generated by AI.

The theory of planned behavior can imply that when an individual has a positive purchase intention then the chance of actually pursuing the given behavior is greater, indicating a

bigger chance of purchasing the product (Ajzen, 1991). Attitude can influence the intention to pursue a specific behavior and thereby also the chance of engaging in the given behavior (Smith et al., 2008). As investigated in this study, the role of attitude regarding purchase intention when AI is applied in marketing. The attitude is personal since it is influenced by ones' own values formed by social experiences, indicating that attitudes can be positive while based on different backgrounds. This implies that consumers can have different experiences with regards to marketing in different context that has influenced their attitude about this case. Where even if the age gap between the participants where wide and the extended experiences and knowledges within AI where different, the attitude towards it can be different depending on the context of it. Indicating in this case that the attitude of applying AI in marketing can be different based on the marketing tool that is applied and how the participants view it but also the product of service that the promotional message regards.

Credibility was in this study considered to be absolute and obvious when regarding AI and attitude, to believe in a promotional message and its creator. Credibility is considered essential to be able to obtain an attitude, and especially a positive attitude. The significant relationship that was established between a positive attitude towards the use of AI in marketing had favorable effect on purchase intention. Indicating that credibility had to be obtained to achieve this. That the role of high perceived credibility and trust of the text lead participants to subconsciously associate generative AI technology with the ability to produce accurate, authentic and trustworthy content that is essential for the experiment to test only their attitude (Cukurova et al., 2020; Shin & Park, 2019).

In this study this relation between attitude and purchase intention been investigated in the specific context, of that a positive attitude towards AI generated content has a positive impact on the individuals purchase intention in regards the product of a smartphone developed by a fictious brand. The use of fictious brand may have impacted the purchase intention to a more positive standing because their where no prior experiences that could have influenced the standing towards purchase intention. On the other hand, it could also impact purchase intention negatively since the participants have no prior experience or knowledge regarding the brand. To exclude the factor of past experiences and brand related implications, a fictious brand was developed to only investigate the attitude and purchase intention. The brand was implied with characteristics that to different extent influences the participants purchase intention regarding their values and beliefs regarding the email-marketing message.

In addition, this relation has between attitude and purchase intention only been investigated with email as the marketing tool, indicating that the results of this relation could be different in other marketing tools. Smith et al. (2008) could conclude in their study that the same relationship could be identified within internet purchasing behavior, and through this study the same can be applied within email marketing. It can be observed that the relationship between attitude and purchase intention is favorable within an internet-based tool. An explanation of this phenomenon could be that as internet-usage gets more and more prevalent in people's lives, they are more inclined to be receptive towards new technologies within that field.

The results indicate that the third hypothesis was supported, implying that a positive attitude towards AI-usage in marketing has a positive impact on the purchase intention when the individual is aware that the message is AI-generated. However, the results also show no statistically significant difference in purchasing intention between AI and copywriter groups, meaning that disclosing the author of the text does not matter in the context of marketing messages within email. This can imply that having an AI producing the text does not have a negative effect on the consumers purchase intention, but rather a slightly positive impact if the consumers attitude towards AI is positive. This is consistent with the theory of planned behavior and prior research where the theory has been implied and indicates that this study adds the support with this correlation when it concerns new technological developments. The use of AI in marketing can based on the results, which indicate that it can be applied and communicated to a wider extent with a positive influence on purchase intention within the context of commercial electronics.

7. Conclusions and recommendations

The purpose of this chapter was to provide a summary of the key finding, strengths, and weaknesses in this research. This section consists of several subsections, including the conclusion, theoretical contributions, managerial implications, limitations, and future research recommendations. It presents a clear and concise overview of the research outcomes, while highlighting the study's contributions to the existing theory, practical applications, limitations, and areas where further investigation could be useful.

7.1 Conclusion

The purpose of developing this research paper was to investigate the relation and effects between attitude and purchase intention within the context of using AI in marketing. Compatibility was shown to have a positive relation with the individuals´ attitude towards the use of AI in marketing. With regards to the research question and the results of the study, it shows that consumers positive attitude towards AI in marketing have a positive effect towards their purchase intention. In contrast, results showed that whether a company´s content is created with AI, or a human does not have a significant impact on consumers purchase intention. This concludes that consumers are open for a wider use of AI in marketing with regards to their purchase intention.

7.2 Theoretical contributions

The theory of planned behavior developed by Ajzen (1991) has been used in this study, to explain the relation of attitudes and intention. This study has confirmed in accordance with the theory of planned behavior that attitude has a significant impact when predicting the intention to precede a given behavior. The same confirmation of this relationship has been proven in earlier research conducted within the theory of planned behavior in different contexts (Bosnjak et al., 2020; Hansen, 2008; Lonsdale, 2017). Prior research has extended the theory in regards to the given behavior of purchase intention within online grocery shopping (George, 2004). This definition of purchase as the given behavior has been applied in this study as well, in a different context. The theory was applied to understand the attitude towards the application of a technological innovation in marketing and its implication on

consumers purchase intention. This study contributed to extend the theory of planned behavior, to regarding the application of technology in relation to the human behavior. The theory has now been proven too been applied within a wider context that goes beyond the socialist constructs.

In addition to prior research, this study does not only extent the application of the theory of planned behavior within technology. It provides more evidence that the theory is applicable within a wider extent of context in contrast to what has earlier been established. The theory is applicable within online behavior but also investigating the attitude of a new technology, and the use of it within marketing. The theory of planned behavior was in this study applied in addition to the diffusion of innovation theory, providing significant evidence that the theory of planned behavior as a sociologist theory can be complemented with theories within different sciences.

Further on, the elements of observability and compatibility within the theory of diffusion of innovation, developed by Rogers (1962), were applied in this study. The element of compatibility was considered to influence attitude, providing evidence based on this research that the theory of diffusion of innovation to some extent can be applied to measure factors of attitude. Further on, the theory has been developed in the application of it within not only the end user experience (Rogers, 2003) but the individuals thoughts and feelings when experiencing the use of new technological innovations.

This study also showed that the construct of observability did not significantly affect attitude when it concerns consumers. This implies that the theory can be divided and that the elements have different standings. This provides theoretical limitations of the theory of diffusion of innovation and at the same time evidence that the theory at least partly can be applied in contexts that complies with theories beyond technological innovations. This results in that this research provided evidence of that the theory can be applied within a marketing and consumer context together with theories of different scientific areas.

7.3 Managerial implications

The findings of this study offer valuable insights for marketing managers and decision-makers, particularly those who want to use artificial intelligence technology in their

marketing. The results showed statistically significant relationships between the concepts of Compatibility and attitudes towards AI, as well as the impact of attitude on purchasing intention when users know that the content was authored by AI. Understanding the factors that affect users' attitudes towards AI and its effect on their behavior can inform the development and implementation of the technology within the field of marketing.

One finding is that the nature of the text (AI-generated vs. human-generated) did not significantly impact users' purchasing intentions. This suggests that the quality and relevance of the content is more important to them than its origin. As a result, marketing managers can implement AI technology in their practices without worrying that it might negatively affect purchasing intention if consumers become aware of its use. In addition to the conclusion that a positive attitude towards AI in marketing has a favorable effect on the purchase intention, this can be applied in future marketing dilemmas. When trying to implement AI in marketing the managers need to know that their consumers obtain a positive attitude towards the innovation to acknowledge that there will be a positive effect on purchase intention. Managers can therefore focus on the process of producing high-quality content that is relevant and addresses users' needs and preferences as effective as possible.

The positive effect of Compatibility on attitude towards AI, which in turn was found to positively affect purchasing intention, could also be leveraged by marketers to increase the level of compatibility and change consumers' beliefs about the technology for the better, marketing managers and other decision-makers could communicate the societal benefits of using AI technology to consumers. For instance, they could explain that AI makes processes more efficient, saving time for employees and reducing their workload.

Although Observability did not have a significant effect on attitudes towards AI in this study, it is important to not overlook its potential implications. The lack of a significant relationship could be attributed to various factors, such as the study's specific context or the fact that participants were not the end-users of AI technology. Observability has previously been demonstrated to influence attitude. Therefore, despite it not having an effect in this study, marketing managers who work with targeting the end user of a particular innovation, should not overlook observability and incorporate the concept in their marketing efforts. For example, managers could incorporate explaining how and why AI-tools such as chatbots, Generative-AI or AI-driven product recommendations are used in their business and how that

benefits the consumers in their marketing strategy. This would increase the overall observability of AI in the context of marketing, and potentially lead to improved attitude towards the technology. Nevertheless, Observability remains an essential concept in the diffusion of innovations theory, and understanding its potential impact on consumers' attitudes can assist managers and improve the quality of their marketing efforts.

7.4 Ethical and societal implications

The authors of this study have identified ethical and societal implications related to the findings of the thesis. The first identified implication showed in the results is that people do not care that much about who or what generates the marketing content. This could concern copywriters that have studied and are experts on developing marketing texts, and that the consumers in accordance with this study react the same regardless. The challenge of applying AI in this is the lack of or limited ethical codes that humans obtain in relation to AI, and that the outcome of not having a human being controlling it, could come at the cost of the consumers. Further on, the problem of transparency, moral judgement and privacy concerns have been considered a risk, as more of the personal life comes online (Dwivedi et al., 2023a). AI robots such as ChatGPT today in the beginning of 2023 do not have a clear moral and ethical coding of what is wrong and right, which is something that each company must take into standing when reviewing the content created by AI. While ethical guidelines within EU has been established, these are more focused on the user of AI and not consequently what is right or not (Rochel, 2023).

In addition, there are both ethical and social implications of that AI is starting to provide results in digital marketing that are beyond the human capability and obtain the same level of purchase intention in relation to the attitude. It could be considered unethical to develop AI robots that take the jobs away from people that have put money and time into becoming educated within their fields, for example copywriting, indirectly taking away jobs or changing the characteristics of it because it is more efficiently done by an AI robot. While having humans work in marketing is important, the role of generating marketing text will be changed into being more focused in directing the AI robot to do it (Mahmud et al., 2022). This indicates that the marketing teams that include copywriters will focus more on the interplay and collaborations between humans and AI, and thereby limit the social interplay between colleagues (Arslan et al., 2022).

7.5 Limitations

One of the limitations of this study is the sample. Due to time and resource constraints, a convenience sampling strategy was used, which is highly prone to bias. The study's sample may not fully represent the target population, potentially limiting the generalizability of the results. The participants were drawn from a broad population, which can for example mean that their exposure to and understanding of AI technology can vary. This could also affect the generalizability of the results.

The population and sample were broad in this study since it focused on the consumers in Sweden, and it is likely that the participants had encountered the end results or output of AI, such as content produced by AI, rather than the process of generating it. This could have led to a limitation of reduced ability to observe the benefits of AI usage in marketing, as they may not have been directly involved in using the technology or experiencing its advantages from the users' point of view.

Another limitation of this research is related to the measurement of latent variables in the questionnaire. Since all the constructs in our model were assessed through rating questions, the wording of these items might affect participants' comprehension and responses. While most of our items were adopted from previous research, meanings could potentially be lost in translation. This is because the questionnaire and all the items were translated to Swedish before distribution. The items were also adjusted to fit the context of this research, which could influence how the participants interpret them. For example, finding the right word for "accurate" in Swedish was challenging.

Furthermore, the use of self-reported questionnaires as a data collection method inherently carries certain limitations. Self-reported data may be affected by recall errors if participants are asked about past events or experiences, which affects the quality of the responses. Additionally, the wording of the questions and the response scales can influence how participants interpret and respond to the items, and since they cannot ask the researchers to clarify, this could potentially lead to measurement errors. Furthermore, self-reported data may not capture the full complexity of the constructs being studied, as the responses are limited by

the participants' self-awareness. Visual cues cannot be observed when data is collected in this manner.

7.6 Future research recommendations

This research found supporting evidence in a different context compared to prior research conducted. Based on this research did the element of observability in the theory of diffusion of innovation, not have a significant effect on the attitude towards the use of AI in marketing. A possible focus for future research could be to investigate this in a different context, where AI is more visible, and where the benefits are communicated better and easier to observe for the user of it, considering that earlier research has found observability to have an impact. The element could be tested within the context of AI-usage in marketing with focus on the marketing manager as the user of the innovation.

The application of diffusion of innovation should be applied more in future research as technological innovations are becoming more influential in our personal and consumer life. For example, a possible direction could be to investigate the extent to how widely AI can be applied in various sectors and still obtain positive attitude towards AI by the consumer public. For example, whether people would still have a positive attitude if they knew that their medical problems or physical problems were handled by AI. This with the elements of observability, compatibility, and the concept of credibility to further understand if people perceive it as credible, complying with, and observable with an AI giving recommendations on physical problems of the consumer. This could further on be tested in relation to purchasing intention when concerning physical help from an AI bot.

Through usage of theories, this study contributed to the body of knowledge regarding the applicability of them in the context of marketing and how theories can be combined. This research demonstrated that the theories are useful, applicable and can be used in the future to explore and explain the usage of AI and its effect on consumers, which is becoming more and more relevant as the development of the technology continues. This context has been tested only within the Swedish society, and that future research could add to this by investigating the relationship between attitude and purchase intention in the context of AI within a different societal or cultural context, where values and opportunities are different. There is a growing

number of potential topics for future research within this field, given the rapid pace of technological innovation and its increasing integration into the daily lives of the public. As technology continues to evolve, exploring subjects such as the impact of AI on consumer behavior or the ethical implications of AI-usage in marketing become increasingly important.

Future research could focus on examining consumer attitudes towards AI and its effects in marketing contexts beyond email marketing, which has been the focus of this study. Where research can continuously focus on exploring consumer perceptions and responses to AI-generated content in marketing context in social media, search engine optimization, personalized recommendations, and printed advertisement. This to achieve a comprehensive understanding of how to integrate the use of AI to produce content that influences consumer behavior and attitudes. Another area worthy of investigation is if the effect observed in the context of this study also applies in other areas where generative AI can be used, such as images and videos. Additionally, examining if the observed effects remain consistent across different products or industries would contribute to a deeper understanding of the generalizability and applicability of the findings.

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