

Technical University of Applied Sciences Würzburg-Schweinfurt
Faculty of Computer Science and Business Information Systems

Bachelor's Thesis

The Impact of AI Transparency on Advertising Credibility

**Submitted to the Technical University of Applied Sciences Würzburg-Schweinfurt
at the Faculty of Computer Science and Business Information Systems
for the completion of the degree program in E-Commerce.**

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Submitted on: November 23, 2025

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Abstract

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1 Introduction

This introductory chapter establishes the context and framework for the entire study.

It begins with Section 1.1, which provides the background and motivation for the research, situating the topic within the current landscape of digital advertising. Section 1.2 then narrows this focus, identifying the specific problem statement and the corresponding research gap in the existing literature.

Following this, Section 1.3 formulates the formal research question and outlines the primary objectives of the thesis. Finally, Section 1.4 presents a comprehensive outline, detailing the structure of the subsequent chapters.

1.1 Background and Motivation

Artificial Intelligence (AI) has become a central topic of discussion in recent years. In marketing, especially, AI is being applied in an increasing number of processes. Sufficient computing power, affordable technologies, and extensive data allow AI to unfold its potential. Through correct implementation, human capabilities can be surpassed, and data can be analyzed faster and more efficiently, leading to a decisive competitive advantage [1].

In particular, AI-generated content (AIGC) has moved into the focus of the general public. More and more people are using products from large technology companies to generate AI content. The most well-known are pioneering AI models like ChatGPT and DALL·E, developed by OpenAI [2]. In 2022, OpenAI released ChatGPT, an AI language model that understands human language and responds meaningfully [3]. DALL·E is another generative AI model that creates unique, high-quality images from text descriptions in a very short time [2]. In the time since, a large number of providers have emerged offering similar technologies, and the options for applying AI continue to grow [4].

Companies, individuals, and marketers are using AIGC to automate and optimize business processes [5]. AIGC is applied as a new approach to content creation, supplementing

traditional methods like professional generated content and user generated content. Unlike human-created content, AIGC is developed using generative AI techniques, allowing large volumes of content to be created and automated quickly. Key technologies such as machine learning and neural networks have drastically improved the precision and effectiveness of AI in content creation [6]. This rise of AI offers new opportunities and challenges for marketing. Research in this area is evolving rapidly, meaning current studies can quickly become outdated as attitudes toward AI continue to develop [7].

1.2 Problem Statement and Research Gap

The rise of AI has led to an increasing volume of AIGC, as its generation has become simpler and more accessible. This presents a challenge, as content generated by humans can no longer be reliably distinguished from that generated by AI [5].

This ambiguity is being countered by policy. In the near future, transparency in the use of AI must be ensured, especially as regulations like the EU AI Act are implemented, making AI transparency a legal obligation in many countries [8, 9]. Consequently, negative consumer perceptions of AI can become a critical issue for companies that have heavily integrated AI into their activities, such as content creation for websites and social media. It is therefore essential for these companies to understand how to avoid negative perceptions and how to use AI transparently while receiving positive feedback from consumers [6].

As transparency becomes more relevant and AI becomes an integral part of digital strategies, there is a growing interest in understanding how consumers judge the use of AI in advertising. The influence of AIGC on perceived credibility is particularly interesting [1]. However, based on the author's synthesis of current research in Section 2.4, there is a significant gap in the literature regarding the influence of knowing (versus not knowing) that an advertisement was generated by AI on brand credibility. Furthermore, the impact of a consumer's general attitude toward AI on this credibility perception has not been sufficiently investigated.

1.3 Research Question and Objectives

Based on the identified research gap, this thesis aims to answer the following research question:

To what extent does the transparent disclosure of AI-generated content in advertising

impact its perceived credibility?

The primary objective of this thesis is to investigate how the knowledge of AI use in advertising influences the perceived credibility of the advertisement. It will be examined whether the credibility assessment of an advertisement differs when its AI origin is known versus when it is not. A secondary objective is to analyze the role of the consumer's general attitude toward AI as a potential moderator of this effect.

This study seeks to close the identified knowledge gap in the current research on AI and the credibility of advertising content. By doing so, it aims to provide a basis for further research and contribute to the marketing literature. The findings are intended to provide implications for marketing managers, deepening their understanding of how AI in advertising influences credibility and, consequently, brand perception and image. This should help companies optimize their marketing strategies with AI while still addressing consumer needs.

This thesis will not investigate the difference between transparent and non-transparent strategies, as regulations like the EU AI Act will soon mandate transparency. Instead, the focus is on whether an AI disclosure label itself has an impact on the credibility of an advertisement. This study differentiates itself from other research by not focusing on text-based content but specifically on the visual component of a complete advertisement.

1.4 Thesis Outline

The structure of this thesis comprises a theoretical and an empirical section.

Chapter 1, the present chapter, has introduced the research topic, established the background and motivation (Section 1.1), defined the core problem and research gap (Section 1.2), and formulated the guiding research question and objectives (Section 1.3). This section concludes the chapter by outlining the structure of the remaining thesis.

Chapter 2 builds the theoretical foundation for the study. It begins by defining AI within the context of digital advertising (Section 2.1). It then provides a detailed conceptualization of the study's dependent variable, perceived advertising credibility (Section 2.2), including the distinction between source and message credibility (2.2.1) and the multi-dimensional framework used for its measurement (2.2.2). Following this, the chapter reviews the literature on the independent variable, AI transparency, disclosure, and labeling (Section 2.3), and consumer responses to such content (2.3.2). A synthesis of the current research (Section 2.4) consolidates these findings, leading to the development of the conceptual framework and the formal hypotheses (Section 2.5).

Chapter 3 details the research methodology. It describes the experimental design (Section 3.1), the process for developing and pre-testing the stimulus material (Section 3.2), and the sampling and data collection procedures (Section 3.3). It then specifies the measurement instruments used to operationalize the independent, dependent, and moderating variables (Section 3.4), and concludes with the data analysis strategy (Section 3.5).

Chapter 4 presents the empirical results of the experiment. This chapter includes a profile of the sample characteristics (Section 4.1), the results of the manipulation checks (Section 4.2), and the formal hypothesis testing (Section 4.3), along with exploratory analyses (Section 4.4).

Chapter 5 provides a comprehensive discussion of the findings. This includes a summary and interpretation of the results (Section 5.1) and an exploration of their broader theoretical (Section 5.2) and managerial implications (Section 5.3).

Finally, Chapter 6 concludes the thesis with a concluding summary (Section 6.1) and a reflection on the study's limitations, which provides a basis for suggesting future research directions (Section 6.2).

2 Theoretical Foundations and Hypothesis Development

The following chapter establishes the theoretical foundation for the present thesis and summarizes the current state of research. The objective is to develop a comprehensive understanding of the central constructs, critically review existing knowledge, and identify the research gaps that necessitate this study.

First, the core concepts of AI are defined within the context of digital advertising (Section 2.1). Following this, a detailed conceptualization of perceived advertising credibility, the central dependent variable of this study, is provided (Section 2.2). Subsequently, the independent variable—AI transparency, disclosure, and labeling—is examined, along with current findings on consumer responses to such disclosures (Section 2.3).

A synthesis of current research (Section 2.4) will then consolidate relevant findings and highlight existing gaps in the literature. Finally, based on these gaps, the conceptual framework for the study is developed, from which the hypotheses, including the moderating role of general AI attitude, are derived (Section 2.5).

2.1 AI in Digital Advertising

The field of digital marketing is increasingly permeated by terms such as AI, Machine Learning, and Big Data Analytics. Despite their frequent use, the definitions of these terms are not yet standardized, and there is a lack of clear, universally accepted delineations.

AI is the central concept of this thesis. A universally valid definition remains elusive, in part because the concept of “intelligence” itself is not precisely settled [1, 10]. For example, the German dictionary Duden [11] defines intelligence as “the ability [of humans] to think abstractly and rationally and to derive purposeful actions from it” [author’s translation]. According to Amazon [12], AI is a field of computer science focused on solving cognitive problems normally associated with human intelligence, such as learning, problem-solving, and pattern recognition. A more functional definition considers

AI to be a machine employing algorithms or statistical models to carry out tasks associated with the human mind, including perception, cognition, and conversation [13]. This technology enables the development of self-learning systems that can interpret data to acquire knowledge, which can then be applied to solve new tasks. AI can, for example, respond meaningfully to human conversation, create images and texts, and make decisions based on real-time data inputs. When integrated into a firm, AI can improve business processes, optimize customer experiences, and drive innovation [12].

The concept of AI is not new; it has been in development since the 1950s [1]. Its “birth” is widely attributed to the “Summer Research Project on Artificial Intelligence” at Dartmouth College in 1956. While this conference established the field, it was followed by a period of stagnation in the 1980s, often referred to as the “AI winter,” as the technology of the time failed to produce tangible business success [1, 10].

Today’s AI boom is driven by a fundamental shift: the availability of abundant, low-cost computing power and the exponential growth of customer data available for marketing. While the world’s largest companies were once primarily in the oil industry, today they are organizations that possess and analyze massive data sets [1]. These companies collect customer data, image data, and purchase data, often leveraging sources like user-generated content [12]. In this environment, data quality is a primary driver of competitive advantage. AI provides the means to analyze this data faster and more effectively than humanly possible, making the combination of high-quality data and AI a significant competitive tool [1]. This growing volume of data, in turn, fuels the development of larger and more capable models, making their outputs increasingly realistic and sophisticated [2].

From an economic perspective, AI can be seen as a contributor to the productivity of the classical production factors of labor and capital, or even as an independent production factor in its own right, leading to new growth effects [14]. However, the full extent of AI’s impact on economic growth remains unclear, with different research findings pointing to varied outcomes [10].

According to Bünte, marketing and sales are considered primary beneficiaries of AI, as these departments focus on the often costly interaction with customers. As early as 2018, 80% of marketing managers recognized the enormous importance of AI for business success [1]. In marketing, AI can be used to reduce time expenditure and increase efficiency, particularly in creative endeavors like advertising, which traditionally requires significant human effort [15]. By enabling targeted customer engagement, AI can also foster long-term customer loyalty and in rapidly changing markets, AI allows for the cost-effective and rapid modification of products and campaigns [10].

A particularly transformative subset of AI is AIGC. AIGC utilizes generative AI techniques to create digital content such as images, videos, music, and natural language. In marketing, this is applied to create blog posts, articles, product descriptions, and other

materials efficiently and at high quality. [3]

This capability is primarily powered by Large Language Models (LLMs), such as the one underpinning ChatGPT, which can understand and respond meaningfully to human language [3, 16]. Users provide a prompt, and the system completes the request with a desired output. This process is continually refined through human feedback, which improves the quality of the output and its alignment with user intent. However, these models must be used with caution, as they are trained predominantly on internet data, which can lead to errors and biased information [17]. Simultaneously, generative image models like DALL·E allow users without specialized skills to generate unique images, or modify existing ones, in seconds [3]. For advertisers, this means that creating a new logo, poster, or campaign visual is no longer a bottleneck.

This shift moves AI from a background tool for data analysis to a visible, active participant in the creation of the advertising message itself. However, for this technology to be effective, its use must be aligned with the brand's values and personality. This alignment is essential for building a foundation of credibility, which in turn has a positive effect on brand perception [18, 19].

2.2 Conceptualizing Perceived Advertising Credibility

The credibility of advertising campaigns is of great importance for the success of a company. Consumers assess the credibility of advertisements by critically examining both the source and the message of the content. This perceived credibility ultimately affects the attitude toward the brand [7].

According to Lange, it is important to create a consistent and stable brand identity and perception. A clear and differentiated idea should be established in the minds of customers. A brand can be viewed from an internal perspective (the brand's self-concept) and an external perspective (perception by external reference groups). The brand identity reflects emotional and symbolic characteristics and consists of the brand's values and personality. Values are fundamental beliefs that the brand represents, while personality includes human characteristics attributed to the brand. In contrast, the brand image is the result of the subjective perception and interpretation of the brand identity by external target groups. The stronger the alignment between the self-image and the external image, the stronger the brand identity. A consistent brand image is crucial for the credibility of and trust in the brand [19]. Through this, the brand communicates continuity and individuality against competitors [7].

In the context of AI, companies must understand the needs and expectations of their stakeholders to create an unforgettable and credible brand experience. A consistent

brand identity and communication must be maintained when integrating AI into advertising to strengthen perceived credibility [7].

Credibility has been regarded as an essential factor in the persuasive power of a person and their message since antiquity. In the early 20th century, the concept of credibility was recognized as a scientific discipline in communication research [20, 21]. Research shows that no linear relationship exists between the perceived credibility of a communication source and its persuasive effect. “Credibility is a perceptual state, i.e. [sic] the outcome of an attribution process in which recipients of messages form judgments about their sources and therefore assess them as credible or not.” [22] How the credibility of a message is perceived depends on several interlocking factors. The person speaking is just as important as the message itself. Perceived credibility can vary from one recipient to another; one person may perceive it as very credible, while another finds it not credible at all. Therefore, all parts of the communication process must be considered [22, 23].

According to Eisend, a source is perceived as credible if the following aspects are met from the customer’s perspective: the company makes valid claims (competence), conveys information conscientiously (trustworthiness), and actively addresses the desires of consumers (dynamism). Eisend describes credibility as the customer’s assessment of received information and existing knowledge. [24]

The credibility of a media message is also influenced by factors unrelated to the source, such as the medium, the transmission channel, and the message itself [23]. In general, credibility exists on three different levels: the source level (source credibility), the media level (media credibility), and the message level (message credibility) [21]. At the source level, credibility refers to the sender of the information and interpersonal influence. Media credibility concerns the trustworthiness of the communication form and the channel through which the message is sent. Research on message-level credibility focuses on the characteristics and formulations of messages that make them more or less credible [23, 25].

2.2.1 Source vs. Message Credibility

This study focuses on message-level and source-level credibility. The media level is not considered, as the focus is not on the channels through which the AIGC is communicated.

Message credibility illustrates how the content of a message impacts the perception of credibility, both in relation to the source and the message itself. The two concepts, therefore, overlap. Message factors can often have a greater impact on credibility assessment than source factors. According to the Elaboration Likelihood Model, message factors, in particular, exert greater influence than source characteristics when consumers have

high personal relevance and knowledge regarding the message content. This is because such factors increase the motivation to analyze the content of the message. How credible information is perceived thus depends on the recipient's attitudes toward the relevant topics. While disinterested recipients primarily engage with the information superficially, highly involved individuals scrutinize the message more intensively. The former pay more attention to the credibility of the source, while the latter rely on the information in the message and often disregard source characteristics [22]. In situations where little information about the source is available, recipients must rely even more heavily on message factors to assess credibility [23]. Viewers then concentrate on the message level, while the source recedes into the background [22]. This is particularly relevant to the present study, as participants will not be aware of the advertising's origin.

The significance of source credibility, the second concept considered in this work, was demonstrated as early as 1951 by Hovland & Weiss. In their study, they had the same message disseminated by a well-known, credible expert and by a non-trustworthy source. The study showed that the credibility of a message depends on the trustworthiness of the source disseminating it [26]. Source credibility is understood as a multidimensional construct comprising at least two dimensions: competence and trustworthiness. Competence describes the perceived ability of a source to make valid and reliable statements. Perceived trustworthiness, on the other hand, assesses whether the source intends to communicate correct information. These source-level dimensions can also be expanded by other factors such as security, qualification, and expertise [20].

Institutions can also disseminate persuasive messages, and their perceived credibility can influence consumer attitudes. In marketing literature, the term “corporate credibility” is used to describe the trustworthiness of institutions. Corporate credibility defines how trustworthy and competent an organization is perceived to be. Organizational credibility shows that the source of a message is not an individual person but a complex institution with an established history. Studies show that the credibility of an organization has a direct influence on consumer attitudes [23]. In this thesis, however, the factor of corporate credibility is intentionally excluded to isolate the influence of AI transparency on credibility perception, independent of a specific company's reputation.

2.2.2 A Multi-Dimensional Framework for Credibility

While the distinction between source and message credibility is foundational, these concepts are themselves multi-dimensional. To create a robust measurement model for the specific context of AIGC, this thesis will adopt a framework based on recent research in this domain. Which, according to Huschens et al. [20], “was inspired by well-established questionnaires and measurement approaches in previous studies” [21, 23, 26, 27, 28, 29].

This model synthesizes the source and message levels into a single, four-dimensional framework for assessing content credibility. These four dimensions are:

1. **Competence:** This dimension reflects the perceived expertise and knowledgeability of the source, operationalized through items like “accurate,” “complete,” and “knowledgeable.”
2. **Trustworthiness:** This dimension captures the perceived honesty and reliability of the source, measured with items such as “honest,” “trustworthy,” and “reliable.”
3. **Clarity:** This dimension assesses the quality of the message itself, focusing on its comprehensibility. It is measured with items like “clear,” “confusing¹,” and “understandable.”
4. **Engagement:** This dimension measures the content’s ability to capture and hold the reader’s attention, using items like “interesting” and “maintaining attention.”

This model is particularly advantageous as it cleanly maps onto the foundational concepts discussed in 2.2.1. The **Competence** and **Trustworthiness** factors directly measure the classic components of source credibility. The **Clarity** and **Engagement** factors, conversely, provide a clear measurement of message credibility [20].

2.3 AI Transparency, Disclosure, and Labeling

As AI transitions from a background tool for data analysis to an active creator of advertising content, its use becomes a salient and potentially critical piece of information for the consumer. This creates a new strategic imperative for marketers regarding transparency. The decision whether and how to disclose the use of AI in creating an advertisement is a novel challenge. This dilemma is intensified by the fact that AIGC is now often perceived as having similar credibility to human-created content [20], placing the burden of disclosure entirely on the company. The following sections 2.3.1 and 2.3.2 will explore the theoretical mechanisms of how such transparency is defined and how consumers are likely to react to it.

2.3.1 Defining AI Transparency in Advertising

In the context of this thesis, AI transparency is defined as the deliberate and overt communication by a firm to inform consumers that a piece of advertising content was

¹Reverse-coded item.

generated or significantly assisted by AI. This act of disclosure is a specific form of informational “signal” sent by the company (the “signaler”) to the consumer (the “receiver”), who has less information [30].

This signal can be interpreted through multiple theoretical lenses. On one hand, transparency can be a core component of a brand’s identity, used to build trust and demonstrate a commitment to honesty [19, 7]. From this perspective, an AI disclosure label is a signal of forthrightness. This signal could positively influence perceptions of the source’s (i.e., the brand’s) credibility, specifically its trustworthiness dimension.

On the other hand, the signal also conveys information about the process of the ad’s creation. It explicitly states that the creative output is not the product of human endeavor but of an algorithm. This process-related information is what triggers a secondary, more complex set of consumer evaluations, which are explored in the following section 2.3.2. For the purpose of this study, this transparency is operationalized through a clear disclosure label, which serves as the primary independent variable.

2.3.2 Consumer Response to AIGC

The consumer’s response to the knowledge that content is AI-generated is theoretically complex and represents the central tension of this study. The literature suggests two conflicting potential outcomes: a negative reaction to the process and a positive or neutral reaction to the content’s quality.

The predominant view in behavioral science is that consumers often exhibit an “algorithm aversion” [31]. This is a documented cognitive bias where individuals tend to distrust, dislike, or penalize decisions and content made by an algorithm, even when its performance is equal to or superior to that of a human [32]. This aversion is often rooted in a perception that algorithms lack human intuition, empathy, “heart,” or genuine creativity. When applied to advertising, this bias would predict a negative outcome. Upon seeing an AI disclosure label, consumers may devalue the advertisement, perceiving it as less authentic, less creative, or less reliable. This would lead to a direct decrease in perceived credibility, particularly on the trustworthiness and engagement dimensions.

However, this negative bias is not the only possible outcome. Recent research comparing human- and AIGC has introduced a significant nuance. A study by Huschens et al. [20] found that while participants did not rate AI-generated texts differently on competence or trustworthiness, they surprisingly rated them as clearer and more engaging than the human-written equivalents. This finding suggests that consumers may, in some contexts, perceive the output of AI as being of higher quality on certain message-level attributes (like clarity), even if they are averse to the process.

This study is therefore positioned to investigate this critical trade-off: What is the net effect on overall perceived credibility when a consumer is explicitly told that an advertisement was created by AI?

2.4 Synthesis of Current Research

The research on the perception and credibility of AIGC provides varying and sometimes contradictory results.

For instance, Chaisatitkul et al. [15] examined attitudes and perceptions towards work created by generative AI compared to human-generated content. They analyzed ad scripts from ChatGPT and storyboards from DALL-E, surveying three groups: end-users, marketing professionals, and agency employees. The findings showed that end-users (Group 1) held a positive attitude towards the AIGC; interest in the script even increased slightly after its AI origin was revealed. The professional groups (2 and 3) also showed positive attitudes, particularly regarding the visual content, practicality, and brand trust. Notably, all groups preferred the first script and storyboard, which they knew was AI-generated, over the second, human-created one.

In contrast, other studies underscore the negative effects of AI. Haupt et al. [6] investigated the potential of human-AI collaboration in creating advertising copy, examining the impact of authorship on message credibility and brand attitude. Their study analyzed texts authored by: (1) a human, (2) a human with AI support, (3) an AI under human control, or (4) an AI alone. The results showed that AI-based texts are evaluated similarly to human-created texts as long as their authorship is concealed. However, with transparent AI use, consumer reactions varied. Ad copy created by an AI or by a human with AI support was perceived as less credible and had negative effects on brand attitude. Conversely, content written by an AI under human control had no significant negative impact. This suggests that negative perceptions—a phenomenon known as algorithm aversion—can be mitigated if human control is emphasized.

The study by Hofmann [7] examined how the use of AI algorithms in brand management affects brand credibility, focusing on the streaming industry, particularly Netflix. Netflix is transparent about its use of AI in data analysis and product management, a deliberate strategy to position itself as an innovator. The findings showed that the discussion of AI in brand management is relevant to the perception of brand credibility. The study concluded that AI integration must not only be technologically sensible but also align with the established values and personality of the brand to be effective.

Adding nuance, Huschens et al. [20] investigated the perceived credibility of content created by humans versus content generated by LLMs like ChatGPT. The results showed

that participants judged the credibility of both human and AI-created content to be roughly the same. Furthermore, no differences were reported in the perceptions of competence or trustworthiness. Notably, the AIGC was even rated as clearer and more engaging than the human-generated content.

Finally, research by Marsden [18] argues for the importance of transparent communication, suggesting that companies should clearly explain how AI is used to reduce skepticism and maintain trust. Marsden emphasizes that a company's persuasive power is a decisive factor in mitigating mistrust towards AI and fostering a positive attitude. Because credibility plays a crucial role in brand assessment, companies must understand their stakeholders' expectations regarding AI to create an authentic brand experience.

The existing literature, therefore, presents a mixed and incomplete picture. Although research on AI and marketing is increasing, there are still significant gaps concerning advertising, credibility, and AIGC. Conflicting evidence exists, and given the novelty of the topic for the general public, consumer perceptions are still in flux.

Several specific gaps emerge from this body of research, which the present thesis aims to address. First, while studies like Huschens et al. [20] compare AI vs. human content, the critical gap is the effect of disclosure itself. This study will, therefore, test the difference in credibility perceptions when the same advertisement is presented with and without an AI disclosure label. Second, much of the research has focused on text-based content (e.g., ad copy, news articles). This thesis will address a gap by focusing on the impact of disclosure on visual advertisements. Finally, this study will focus specifically on the end-consumer, providing clear managerial implications for how AI disclosure strategies directly impact brand perception.

2.5 Conceptual Framework and Hypothesis Development

Based on the theoretical foundations and the research gaps identified in the synthesis of current literature, this thesis proposes a moderated-mediation model. The central research question is:

To what extent does the transparent disclosure of AI-generated content in advertising impact its perceived credibility?

The conceptual framework posits that an AI disclosure label (independent variable) will have a direct effect on the perceived credibility of an advertisement (dependent variable).

This study will adopt the multi-dimensional credibility model from section 2.2.2, which breaks perceived credibility into four distinct dimensions: competence, trustworthiness, clarity, and engagement [20]. The hypotheses will therefore test the effect of the AI label on each of these four dimensions individually.

Furthermore, this relationship is not assumed to be uniform across all consumers. As credibility is a subjective “perceptual state” that varies by recipient [22, 23], this framework introduces a key moderator: the consumer’s general attitude toward AI. This pre-existing attitude is expected to influence the strength or direction of the consumer’s reaction to the AI disclosure label.

The following sections 2.5.1 and 2.5.2 will now formally derive the testable hypotheses from this framework [33, 34].

2.5.1 The Effect of AI Transparency on Perceived Credibility

As established in section 2.3.2, the literature presents a central conflict. On one hand, consumers exhibit a well-documented “algorithm aversion” [31], which suggests a negative reaction to content known to be non-human [32, 6]. This bias would predict that labeling an ad as AI-generated will harm its credibility. On the other hand, research has also shown that AIGC can be perceived as equal to or even better than human content on specific message-level attributes like “clarity” and “engagement” [20].

The experimental design of this thesis is built to test this exact question. It will compare consumer reactions to advertisements that include explicit AI disclosure labels against a control-group version of the same advertisement that has no label at all. This design isolates the specific, real-world impact of adding a transparency label to an otherwise standard advertisement.

The following hypotheses are posited, predicting that the negative effects of algorithm aversion will outweigh any potential perceived benefits of the content’s quality, leading to an overall negative impact on credibility.

Based on the four-dimensional credibility model [20], this leads to the following four hypotheses:

- **H1:** The presence of an AI disclosure label will cause consumers to evaluate an advertisement’s competence (accurate, complete, knowledgeable) more negatively than the same advertisement presented without a label.
- **H2:** The presence of an AI disclosure label will cause consumers to evaluate an advertisement’s trustworthiness (honest, trustworthy, reliable) more negatively than

the same advertisement presented without a label.

- **H3:** The presence of an AI disclosure label will cause consumers to evaluate an advertisement's clarity (clear, confusing, understandable) more negatively than the same advertisement presented without a label.
- **H4:** The presence of an AI disclosure label will cause consumers to evaluate an advertisement's engagement (interesting, maintaining attention) more negatively than the same advertisement presented without a label.

2.5.2 The Moderating Effect of General AI Attitude

As noted, perceived credibility is subjective and can vary significantly depending on the individual recipient [22, 23]. In the context of AI, one of the most salient individual differences is a person's pre-existing disposition or "general attitude."

It is logical to assume that the negative impact predicted in H1-H4 will not be universal. Consumers who already have a positive attitude toward AI (e.g., they find it useful, innovative, or exciting) may not experience algorithm aversion. For them, an "AI-created" label might be a neutral or even positive signal. Conversely, consumers who hold a negative attitude (e.g., they find AI threatening, inauthentic, or untrustworthy) will likely have their biases confirmed by the label, leading to a much stronger negative evaluation.

Therefore, the general attitude toward AI is hypothesized to act as a moderator, influencing the strength of the relationship between the AI label and the perceived credibility dimensions.

- **H5:** The consumer's general attitude toward AI has an influence on the perceived competence of the advertisement.
- **H6:** The consumer's general attitude toward AI has an influence on the perceived trustworthiness of the advertisement.
- **H7:** The consumer's general attitude toward AI has an influence on the perceived clarity of the advertisement.
- **H8:** The consumer's general attitude toward AI has an influence on the perceived engagement of the advertisement.

3 Research Methodology

This chapter details the empirical methodology used to test the hypotheses developed in Chapter 2. It provides a comprehensive overview of the research design, data collection, and analysis procedures.

The chapter begins by outlining the quantitative Experimental Design (Section 3.1), which forms the basis for this study. Following this, the process of Stimulus Material Development and Pre-testing (Section 3.2) is described, detailing how the advertisements for the experimental conditions were created and validated.

Next, the Sampling Strategy and Data Collection Procedure (Section 3.3) are explained. The subsequent section details the Measurement Instruments (Section 3.4) used to operationalize the study's core constructs, including the manipulation of the Independent Variable: AI Transparency (Subsection 3.4.1), the measurement of the Dependent Variable: Perceived Credibility (Subsection 3.4.2), and the measurement of the Moderating Variable: General AI Attitude (Subsection 3.4.3).

Finally, the chapter concludes by specifying the Data Analysis Strategy (Section 3.5), which outlines the statistical methods that will be employed to analyze the collected data and test the hypotheses.

3.1 Experimental Design

To test the hypotheses developed in Chapter 2 and answer the research question, a quantitative research method is conducted. Quantitative research methods allow for the investigation of complex structures and social phenomena. In this approach, theoretical hypotheses are translated into measurable dimensions using numerical values, and the relationships between variables are tested using suitable mathematical-statistical procedures. A formulated hypothesis is referred to as the alternative hypothesis (H_1), which represents a new thesis intended to expand the current state of knowledge. The existing theory is represented as the null hypothesis (H_0), which the alternative hypothesis rejects. The statistical analysis will test whether the null hypotheses can be rejected and the alternative hypotheses accepted. [33, 34]

The study employs a quantitative between-subjects experimental design. Data for this experiment is collected using a structured online survey. The advantages of this method include the elimination of potential interviewer influence, uncomplicated data collection, and the possibility for sophisticated questionnaire design [35].

3.2 Stimulus Material Development and Pre-testing

The stimulus material consisted of two distinct advertising campaigns, each comprising a high-quality promotional image, a brand name, and a slogan. To ensure high internal validity and control over the visual aesthetics, the content for these advertisements was generated exclusively using generative AI tools.

Two distinct product categories were selected to test the hypotheses across different contexts: a premium chocolate brand (hedonic) and a performance running shoe (utilitarian). All visual imagery was created using ChatGPT's integrated DALL·E 3 capabilities. To ensure that the advertisements differed significantly in their product type while maintaining a consistent level of professional quality, specific prompts were engineered and refined. While the AI generated the core visuals and text, minor typographic corrections and the final layout (including the placement of the AI transparency label for the treatment groups) were adjusted using the design software Figma to ensure perfect readability and consistency.

For the hedonic product, a premium dark chocolate brand was conceptualized. The AI was instructed with the following prompt: “A high-quality, photorealistic advertisement for a premium dark chocolate brand called ‘Noir Délice’. The image features a square of rich chocolate snapping open, revealing a smooth, silky truffle filling inside. The chocolate rests on a dark, luxurious satin fabric or dark slate stone. Dramatic, warm spotlighting highlights the texture and the shine of the chocolate. Cocoa powder is lightly dusted around. The atmosphere is indulgent and sensual. Include the brand name ‘Noir Délice’ in an elegant serif font on the packaging foil nearby and a small tagline ‘Taste the Forbidden’. Square aspect ratio (1:1).” The resulting image features a close-up of a rich chocolate square on a dark, luxurious background, accompanied by the brand name “Noir Délice” and the slogan “Taste the Forbidden.” This visual was chosen to evoke a strong affective response typical of hedonic consumption.



Figure 3.1: Stimulus Material 1: Premium Chocolate (Control Condition: No Label)

For the utilitarian product, a high-performance running shoe was selected to represent functional benefits and performance. The AI was prompted with the instruction: “A high-quality, photorealistic advertisement for a high-performance running shoe called ‘AeroStride’. The shoe is modern, featuring breathable mesh and a thick, advanced foam sole, colored in dynamic electric blue and neon lime. It is positioned dynamically on an asphalt running track or a clean city street surface, bathed in bright, crisp morning sunlight. The lighting emphasizes the technical materials and cushioning. The background is a slightly blurred urban cityscape, suggesting motion. Include the brand name ‘AeroStride’ clearly on the image and a clean, sans-serif tagline ‘Engineered for Speed’. Square aspect ratio (1:1).” The resulting image displays a modern, dynamic running shoe in a bright, urban setting, accompanied by the brand name “AeroStride” and the slogan “Engineered for Speed.” This visual aims to trigger cognitive evaluations regarding functionality and quality.

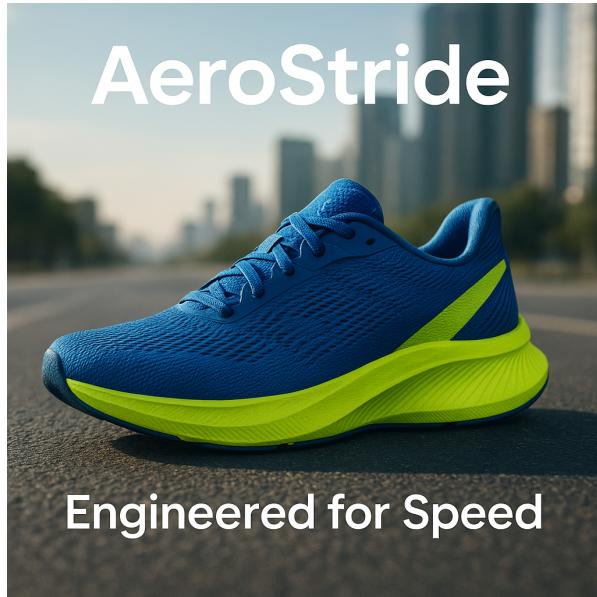


Figure 3.2: Stimulus Material 2: Running Shoe (Control Condition: No Label)

To test the effect of AI transparency, a manipulation was applied to these base images. For the treatment groups (Groups A and C), a disclosure label was added to the advertisements. Using Figma, a standardized badge containing the text “AI-generated” (German: “KI-generiert”) was placed in the bottom right corner of both the chocolate and the running shoe advertisements. Great care was taken to ensure that the label was legible and resembled realistic disclosure markers found on social media platforms (e.g., a semi-transparent background with white text, font size 32px), without obscuring the main product. The control groups (Groups B and D) saw the identical images without this label.

TODO IMAGES

3.3 Sampling Strategy and Data Collection Procedure

3.4 Measurement Instruments

3.4.1 Independent Variable: AI Transparency Manipulation

3.4.2 Dependent Variable: Perceived Credibility

3.4.3 Moderating Variable: General AI Attitude

3.5 Data Analysis Strategy

4 Results

4.1 Sample Characteristics and Descriptive Statistics

4.1.1 Sociodemographic Profile

4.1.2 Descriptive Statistics for Key Variables

4.2 Manipulation and Confound Checks

4.3 Hypothesis Testing

4.4 Exploratory Analyses

5 Discussion

5.1 Summary and Interpretation of Findings

5.2 Theoretical Implications

5.3 Managerial and Practical Implications

6 Conclusion

6.1 Concluding Summary

6.2 Limitations and Future Research Directions

Appendix

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